

Circular on the tasks of the Danish Health Authority and of the Danish Agency for Higher Education and Science concerning responsible and safe management of radioactive wasteⁱ

Chapter 1

Relevant competent bodies

§ 1. The Danish Health Authority under the Ministry of Health is the competent regulatory authority for safety and radiation protection and performs tasks prescribed in this Circular under the authority of Act No. 23 of 15 January 2018 on Ionising Radiation and Radiation Protection (the Radiation Protection Act).

(2). The Danish Agency for Higher Education and Science under the Ministry of Higher Education and Science prescribes general public service orders in relation to the governmental institution Danish Decommissioning and performs tasks stipulated in this Circular under the authority of the Circular on Danish Decommissioning (CIR No. 64 of 3 September 2012) within the frameworks of Parliamentary Resolution B48/2003ⁱⁱ on the decommissioning of the nuclear installations at the Risoe Site and Parliamentary Resolution B90/2018ⁱⁱⁱ on a long-term solution for Denmark's radioactive waste.

(3) The regulatory tasks prescribed in this Circular apply to all stages of radioactive waste management subject to the Radiation Protection Act, from generation to final disposal, including all radioactive waste resulting from the operation and decommissioning of nuclear installations.

Chapter 2

Purpose

§ 2. This Circular details tasks for the Danish Health Authority and for the Danish Agency for Higher Education and Science pertaining to responsible and safe management of radioactive waste for the purpose of:

- a) maintaining a high level of safety for radioactive waste management to protect workers and the general public against the dangers arising from ionising radiation;
- b) avoiding any undue burden on future generations; and
- c) ensuring the provision of necessary public information and participation in relation to radioactive waste management while having due regard to security and proprietary information issues.

Chapter 3

Definitions

§ 3. For the purpose of this Circular the following definitions shall apply:

- 1) 'disposal': emplacement without the intention of subsequent retrieval of radioactive waste in a natural or engineered barrier system, including in a facility, for the purpose of providing radiation protection;
- 2) 'closure': the completion of all operations after final disposal required to bring the facility to a condition that will be safe in the long term;
- 3) 'national policy': established national objectives and criteria for radioactive waste management implementing internationally accepted principles of safety and radiation protection;
- 4) 'national programme': an account of how national policy objectives are planned to be implemented, based on existing and expected waste types and volumes as well as existing and expected technical solutions, research and development activities, and with indication of milestones and timeframes for their achievement.
- 5) 'national framework': legislative, regulatory and organisational infrastructure to ensure that the national policy and the national programme are implemented as intended.

Chapter 4

The tasks of the Danish Health Authority regarding the maintenance of safety and radiation protection in radioactive waste management.

§ 4. As part of its implementation and maintenance of the national framework for radioactive waste management, the Danish Health Authority shall assist the Ministry of Health by:

- 1) contributing expertly to the design, evaluation and updating of a national policy for safe and responsible radioactive waste management comprising, as a minimum, the items set out in Annex 1 to this Circular;
- 2) contributing expertly to the design, evaluation and updating of a national programme corresponding to the national policy for safe and responsible radioactive waste management comprising, as a minimum, the items set out in Annex 2 to this Circular;
- 3) with contributions from responsible licence holders, undertaking the quantification and continuous updating of the national inventory of radioactive waste, including the expected future waste, with reference to international standards of classification and quantification of radioactive waste
- 4) maintaining and further developing expertise and qualifications related to safe radioactive waste management through training or other staff competence development arrangements corresponding to the requirements necessitated pursuant to the national programme for maintaining safety and radiation protection;
- 5) informing the Ministry of Health and relevant ministries and authorities of any concerns that might give rise to amendments in the Danish regulatory system or national framework, especially with a view to promoting the safety of radioactive waste management;
- 6) pursuant to the provisions of Council Directive 2011/70/Euratom, notifying to the European Commission the national programme, including any clarifications and subsequent amendments;
- 7) supervising reporting to the European Commission pursuant to the provisions of Council Directive 2011/70/Euratom and publishing of the contents of the national programme and peer reviews conducted concerning radioactive waste;
- 8) supervising reporting to the International Joint Convention of 5 September 1997 on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management under the IAEA, and publishing of the outcomes of the ensuing review meetings;^{iv}
- 9) periodically and at least every 10 years coordinating and contributing expertly to performance of self-assessments of the national framework, the competent regulatory authority, the national programme and its implementation;
- 10) assisting in inviting international peer reviews of the national framework, competent regulatory authority and/or the national programme with the aim of ensuring that high safety standards are achieved in the safe management of radioactive waste;
- 11) publishing reports compiled pursuant to Section 4, items 7) and 8), and the key outcomes of self-assessments and peer reviews carried out pursuant to Section 4, items 9) and 10).

§ 5. With the aim of protecting workers and members of the public and of preventing accidents and mitigating the consequences thereof, in its supervision of the licence holder the Danish Health Authority shall specifically oversee that:

- 1) safety, and documentation of safety by means of safety assessments, is maintained for all stages of a facility, including final disposal, including in the post-closure phase; and
- 2) physical barriers as well as administrative protection procedures (defence-in-depth) are applied where appropriate.

Chapter 5

The tasks of the Danish Agency for Higher Education and Science regarding the maintenance of safety and radiation protection in radioactive waste management.

§ 6. As part of its implementation and maintenance of the national framework for radioactive waste management, the Danish Agency for Higher Education and Science shall assist the Ministry of Higher Education and Science by:

- 1) contributing expertly to the design, evaluation and updating of a national programme corresponding to the national policy; see Section 1(2) for safe and responsible radioactive waste management, as set out in Annex 2;
- 2) ensuring that Danish Decommissioning assists the Danish Health Authority in quantifying and continuously updating Danish Decommissioning's inventory of radioactive waste, including the expected future waste;
- 3) maintaining and further developing expertise and qualifications related to safe radioactive waste management through training or other staff competence development arrangements corresponding to the requirements necessitated to maintain safety and radiation protection in accordance with the national programme;
- 4) ensuring that Danish Decommissioning maintains and further develops competence, systems and facilities for the decommissioning of the Risoe Site, the receipt of waste from users of radioactive sources and the contributing to a long-term solution for management and disposal of radioactive waste;
- 5) informing the Ministry of Higher Education and Science and relevant stakeholders of any concerns that might give rise to amendments in the Danish regulatory system or national framework, especially with a view to promoting the safety of radioactive waste management; and
- 6) contributing to self-assessments and peer reviews as well as reports to the European Commission, as stated in Section 5.

§ 7. In support of the national programme, the Danish Agency for Higher Education and Science shall:

- 1) ensure that the necessary information regarding radioactive waste management within the Agency's fields of competence is made available to workers and the public in accordance with national legislation and international obligations, provided that this does not jeopardise other interests such as, inter alia, security, recognised in national legislation or international obligations;
- 2) ensure that the public be given the opportunity to participate effectively in the decision-making process regarding radioactive waste management in accordance with national legislation and international obligations;
- 3) ensure that qualitative and quantitative performance indicators are established for monitoring the progress of the national programme, including operational, safety-related, environmental, democratic and economic aspects;
- 4) ensure that an assessment is made of the national programme costs and the underlying basis and hypotheses for that assessment, which must include a profile over time;
- 5) ensure reporting on the programme's current financing schemes;
- 6) ensure reporting on any agreement concluded with a Member State or a third country on radioactive waste management, including the utilisation of disposal facilities;
- 7) ensure that Danish Decommissioning facilitates and documents the management of radioactive waste, taking into account:
 - i. *internationally utilised management methods; and*
 - ii. *existing and planned management of existing or planned waste streams, including; a) existing technical solutions until disposal, b) future solutions to be developed before disposal and after closure, indicating the timeframes and significant milestones;*

- iii. the interdependencies between all steps in the generation and management of radioactive waste;*
- iv. plans for maintaining safety in the post-closure phase.*

§ 8. This Circular enters into force on 1 October 2020.

Ministry of Health/Ministry of Higher Education and Science, 18 September 2020

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National Policy – Contents

The national policy shall include all radioactive waste subject to the Radiation Protection Act and shall describe how internationally accepted principles of safety and radiation protection are implemented in the objectives for the management of that radioactive waste. The Policy shall be based on all the following principles that:

- a. the Danish Government has the ultimate responsibility for ensuring the establishment of safe waste streams, from cradle to grave, for all radioactive waste generated in Denmark;
- b. the Danish Government has the ultimate responsibility for the safe and responsible disposal of radioactive waste shipped for processing or reprocessing to another country, including radioactive waste as a by-product of such a process;
- c. the generation of radioactive waste shall be kept to the minimum which is reasonably practicable, both in terms of activity and volume, by means of appropriate design measures and of operating and decommissioning practices, including the recycling and reuse of materials;
- d. the interdependencies between all steps in radioactive waste generation and management shall be taken into account;
- e. radioactive waste shall be safely managed, including in the long term with passive safety features;
- f. implementation of measures shall follow a graded approach;
- g. the costs for the management of radioactive waste shall be borne by those who generated the waste;
- h. an evidence-based and documented decision-making process shall be applied with regard to all stages of the management of radioactive waste.

National Programme - Contents

The national programme shall account for the implementation of a national policy on the responsible and safe management of radioactive waste. The programme shall include all of the following:

- a. the overall principles and objectives of the national policy;
- b. a description of the national framework, as well as any needs for its enhancement;
- c. the responsibility for implementation of the national programme
- d. an inventory of all radioactive waste and estimates for future quantities, including those from decommissioning, clearly indicating the location and amount of the radioactive waste with appropriate classification of the radioactive waste;
- e. significant milestones in the national programme and clear timeframes for the achievement of those milestones in light of the overarching objectives;
- f. concepts or plans and technical solutions for radioactive waste management from generation to final disposal;
- g. concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;
- h. the research, development and demonstration activities that are needed in order to implement solutions for the management of radioactive waste;
- i. the key performance indicators to monitor progress towards implementation;
- j. an assessment of the national programme costs and the underlying basis and hypotheses for that assessment, which must include a profile over time;
- k. the financing scheme(s) in force;
- l. a transparency policy or process;
- m. the agreement(s), if any, concluded with a Member State or a third country on management of radioactive waste, including on the utilisation of disposal facilities.

i The circular contains provisions implementing parts of Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste

ii B 48, Bill for a parliamentary resolution on the decommissioning of the nuclear installations at the Risoe site, introduced by the Minister of Science on 28 November 2002 and passed by the Danish Parliament on 13 March 2003.

iii B 90, Bill for a parliamentary resolution on a long-term solution for Denmark's radioactive waste, introduced by the Minister for Higher Education and Science on 14 March 2018 and passed by the Danish Parliament on 15 May 2018.

iv IAEA, 1997: Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management