Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 58/2006 Coll. as amended by Decree No. 31/2012 Coll., Decree No. 102/2016 Coll. And Decree No. 155/2022 Coll.

Laying Down Details on the Scope, Contents, and Manner of Maintaining Documentation of Nuclear Installations Necessary for Individual Decisions (consolidated version)

The Nuclear Regulatory Authority of the Slovak Republic (herein referred to as the "Authority"), pursuant to Section 17 (3), Section 17a (4), Section 18 (5), Section 19 (9), Section 20 (10) and Section 22 (6) of the Act No. 541/2004 Coll. on the Peaceful Use of Nuclear Energy (Atomic Act) and on Amendment and Supplementation to Certain Acts (herein referred to as the "Act"), lays down as follows

Section 1
Subject

This decree lays down details on the scope, contents and manner of maintaining documentation specified in Appendix 1 to the Act.

Section 2

Reference safety report

(1) The reference safety report demonstrates the compliance of the construction with land use planning documentation pursuant to a special legislation.[1])

(2) The reference safety report also shall contain
   a) terms of reference for the nuclear installation project stemming from nuclear safety requirements,
   b) assessment of the building site from the viewpoint of nuclear safety,
   c) safety principles adopted for design of the nuclear installation, safety objectives and the method of their harmonisation with basic safety principles,
   d) the method of achievement of the safety objectives,
   e) detailed information on the nuclear installation and its operating conditions, supporting calculations enabling assessment as to whether a nuclear installation can be built and operated safely; when siting a repository, presumed properties of radioactive waste are taken into consideration as well as requirements of institutional control, engineering and natural barriers applicable to the given territory, geology, hydrogeology and geochemistry of the mineral environment, surface processes such as floods and erosion, meteorology and effects of extreme climatic conditions, human activity, population density, land use and forecast of the above properties for an adequate period of time.
   f) requirements for the quality of the proposed nuclear installation, including proposed quantification of nuclear safety parameters,[2]) reliability and operating life.

Section 3

Reference report on the decommissioning method

A reference report on the decommissioning method shall specify the expected state after the end of operation of the nuclear installation, and contain

a) the proposed method of decommissioning in line with fundamental safety principles,
b) a consideration of the requirements for decommissioning in the nuclear installation design,
c) a preliminary description of the basic decommissioning activities in relation to the proposed nuclear installation,
d) an estimate of the quantity of radioactive waste from decommissioning in individual categories, including an estimate of the quantity of materials that satisfy the requirements for introduction into the environment, and an estimate of the quantity of conventional and hazardous waste from decommissioning,
e) an estimate of the funds necessary for the decommissioning of the nuclear installation and management of radioactive waste from decommissioning.

Section 4

Project plan for physical and technical solution for a nuclear installation at the level of a reference design

The project plan for physical and technical solution of a nuclear installation at the level of a reference design shall contain
a) characteristics of siting the nuclear installation from the seismic, geological, hydrological and meteorological viewpoints, project criteria for siting, justification for their selection and assessment of their fulfilment,
b) assessment of nuclear installation siting for the envisaged number and maximum capacity of installations and determination of possible interaction with the surroundings reflecting the requirements laid down in special legislation,[4])
c) requirements for capacities of a nuclear installation to perform safety functions upon the influence of natural phenomena according to characteristics specified under item a), that were historically documented for the site and the surrounding area with a sufficient margin for the limited accuracy, completeness, amount and time period in which the historic data are obtained.

Section 5

Reference report on the method of handling radioactive waste and spent nuclear fuel

(1) The reference report on the method of handling radioactive waste and spent nuclear fuel contains a description of the activities in handling radioactive waste at a nuclear installation that demonstrates compliance with the nuclear safety requirements in handling pursuant to a special legislation.[5])
(2) The reference report on the method of handling radioactive waste and spent nuclear fuel covers all activities up to depositing radioactive waste or spent nuclear fuel or up to storage thereof in the event that they do not satisfy the conditions for acceptability for a surface repository.[5])
(3) The documentation pursuant to paragraphs 1 and 2 is submitted provided that formation of radioactive waste is envisaged at the nuclear installation as a by-product of commissioning of the nuclear installation and operation of the nuclear installation and provided that, according to the design, the nuclear installation is unable to modify such radioactive waste into a form suitable for depositing.

Section 6

Layout of nuclear installation boundaries

The layout of nuclear installation boundaries is determined for each nuclear installation separately, taking into consideration interactions, if any, with other nuclear installation and other neighbourhoods so that it is possible to determine an interface concept between systems, constructions and components of individual nuclear installation according to the level of plan development.

Section 7

Assessment of the nuclear installation's environmental impacts and assessment of potential influence of the environment on the nuclear installation

(1) Assessment of the nuclear installation's environmental impact is laid down by special legislation.[6])
(2) Assessment of the potential influence of the environment on the nuclear installation is within the scope of requirements laid down in Section 4 (b) and (c).

Section 8

Preliminary safety report

The preliminary safety report shall contain

a) analytical and experimental evidence that the nuclear safety requirements determined by the reference safety report have been complied with in the project design documentation,
b) requirements for the quality of the nuclear installation being designed, including proposed quantification of nuclear safety parameters,[2]) reliability and operational lifetime,
c) a preliminary schedule of inspections of classified equipments,
d) specification of information given in the reference safety report and justification of deviations from the original design of the nuclear installation,
e) for nuclear installations with nuclear reactors, draft methodology for probability assessment of safety and its justification, including preliminary assessment results,
f) a general preliminary assessment of nuclear installation design safety verified by an independent organisation.

Section 9

Preliminary plan for handling radioactive waste and spent nuclear fuel, including their transport

(1) A preliminary plan for the management of radioactive waste and spent nuclear fuel, including their transport, shall be a reference report, elaborated in more detail, on the means of management of radioactive waste and spent nuclear fuel.

(2) A preliminary plan for the management of radioactive waste and spent nuclear fuel, including their transport, shall contain

a) an estimate of the total inventory of radioactive waste and spent nuclear fuel that will be generated in the nuclear installation,

b) a plan for a system of collecting and sorting radioactive waste based on its further management,

c) a plan for the management of radioactive waste and spent nuclear fuel and their transport, with definitions of the activities to be carried out in the nuclear installation and the activities to be carried out at other permit holders, and an identification of such permit holders,

d) a description of the technologies to be used in the management of radioactive waste and spent nuclear fuel in the nuclear installation and an identification of the transport facilities for the individual types of radioactive waste.

(3) The plan referred to in Paragraph 2 (c) shall include all activities up to the disposal of radioactive waste and spent nuclear fuel, or up to their storage if they do not satisfy the requirements for acceptance into a repository.[5])

(4) The preliminary plan for the management of radioactive waste and spent nuclear fuel, including their transport, referred to in Paragraph 2 shall be submitted if radioactive waste is generated in the nuclear installation as a by-product of its entry into service or of its operation and the nuclear installation cannot process the radioactive waste into a packaged form suitable for disposal, and if spent nuclear fuel is generated in the nuclear installation

Section 10

Preliminary concept plan of decommissioning

(1) A preliminary conceptual plan for decommissioning shall be based on the reference report on the decommissioning method referred to in Section 3, shall specify the expected state after the end of operation, and shall contain at least two alternative technical plans for decommissioning, a comparison between them and a substantiated recommendation in favour of one of them.

(2) The alternative technical plans for decommissioning referred to in paragraph (1) shall take into consideration the alternatives of deferred dismantling and immediate dismantling; the recommended alternative must conform to the national policy for the management of spent nuclear fuel and radioactive waste.[6a])

(3) A preliminary conceptual plan for decommissioning shall contain

a) a description of the location, structures and technological systems of the nuclear installation, including their expected radiological state, which shall be a summary of the results of a radiological survey of the nuclear installation with data on the contamination of structural surfaces, technological systems and equipment, surface and subsurface soil, and surface water and groundwater,

b) a description of alternative technical plans for decommissioning with the clearly-defined state of the nuclear installation at the end of decommissioning, a preliminary timetable for the evaluated alternatives, the expected date of decommissioning, the criteria used for the selection of the recommended alternative, an analysis of the interactions of the decommissioned nuclear installation with other affected nuclear installations,

c) the principles of organisation and access to the management of the decommissioning project, taking into account the requirements of legislation of general application and conditions of

permit or consent issued by the Authority, the specific characteristics of the individual alternatives for decommissioning, and the proposed system for the collection, sorting and storage of data on the operation of the nuclear installation that are important for decommissioning, including radiological data relating to the grounds and vicinity of the nuclear installation prior to the construction of the nuclear installation,

d) a description of the decommissioning activities, specifying decontamination and dismantling procedures for technological systems and equipment, and decontamination and demolition procedures for structures,

e) the principles of monitoring and maintenance of structures and technological systems, identification of equipment and systems that require supervision and maintenance, and a preliminary timetable for monitoring and maintenance during decommissioning,

f) the expected inventory of radioactive waste from decommissioning, the expected quantity of conventional waste from decommissioning, with a specification of the proportion of other hazardous substances contained in the waste, the expected quantity of materials that satisfy the requirements for introduction into the environment, an identification of waste flows, and a description of the transport and management of radioactive waste from decommissioning, including capacity requirements for radioactive waste management facilities,

g) an identification and evaluation of the radiological and non-radiological risks during decommissioning, and proposed preventive measures,

h) proposed principles for the evaluation of the environmental impact of the alternatives for decommissioning under consideration, including a proposal for the monitoring and management of discharges during decommissioning,

i) proposed measures and methods to ensure radiation protection, fire protection[6b]) and occupational health and safety[6c]) during decommissioning,

j) proposed principles of a quality management system for decommissioning, proposed qualifications for decommissioning facilities, proposed means of making use of experience gained from decommissioning,[4])

k) proposed principles of an emergency plan during decommissioning,

l) proposed principles of ensuring physical protection during decommissioning,[6e])

m) an estimate of the costs of decommissioning and managing radioactive waste from decommissioning.

Section 11

Quality system documentation and requirements for nuclear installation quality and their assessment

Assessment of nuclear installation quality requirements constitutes documenting compliance with requirements pursuant to Section 2 (f); failure to comply with any requirement shall be justified and demonstrated by safety analyses verified by an independent organisation.

Section 12

Preliminary limits and conditions of safe operation

(1) The preliminary limits and conditions of safe operation shall contain
a) safety limits with their justification,
b) values of protective safety system settings following from preliminary safety analyses or other preliminary calculations with their justification,
c) a list of envisaged modes of the nuclear installation's operation
d) the structure of limits and conditions,
e) a justification for classification of systems and components and their parameters.
(2) The preliminary limits and conditions of safe operation must reflect data of the report pursuant to Section 8 and design documentation of the nuclear installation.

Section 13

Preliminary schedule of inspections of the nuclear installation before its operation

The preliminary schedule of inspections of the nuclear installation before its operation shall contain

a) a list of inspected installations and their checkpoints
b) the scope and type of inspections at the checkpoints,
c) deadlines for performance of inspections, taking into consideration the stage of nuclear installation commissioning,
d) criteria for inspection evaluation,
e) success criteria,
f) conditions for qualification of non-destructive testing systems,
g) conditions for qualification of control personnel and for instrumentation,
h) organisational provisions for the inspections,
i) conditions for documenting and storing inspection results.

Section 14

Limits and conditions of safe operation

(1) Limits and conditions of safe operation are determined for
a) devices designated for checking the status of safety barriers,
b) parameters monitoring the condition of safety barriers,
c) technical devices, the failure of which establishes initiation conditions for occurrence of an incident or accident,
d) parameters whose value change establishes initiation conditions for occurrence of incidents or accidents,
e) devices designated for mitigation of project accident consequences.
f) the minimum number of employees per shift and their job positions
(2) Limits and conditions of safe operation are structured into:
a) a set of requirements for threshold values and conditions of safe operation (herein referred to as the "set of requirements"),
b) a set of justifications for limits and conditions.
(3) The set of requirements shall contain

a) rules for use of limits and conditions,
b) definitions of notions used,
c) definitions of operating modes,
d) a description of limits and conditions, including
1. their objective,
2. their wording,
3. operating modes,
4. settings of protective systems,
5. activities in the event of failure to comply with limits and conditions,
6. requirements for their inspection,
e) safety limits,
f) rules of administrative operation control.
(4) The safety limits are cut-off values of technological process parameters, within which the nuclear safety of a nuclear installation was demonstrated and which must not be exceeded.
(5) The values of safety limits are specified using a conservative approach, considering uncertainties stemming from safety analyses performed.
(6) A reasonable separation must be maintained between operating limits and safety system setting in order to prevent safety systems from being activated too frequently
(7) The set of justifications for limits and conditions of safe operation shall contain
a) justification of the objectives and the method of their achievement,
b) the reason for and duration of activities,
c) the reason for and periodicity of inspections,
d) sources used

Section 15

Schedules for testing classified equipment

Schedules for testing shall contain
a) a description of the equipment,
b) the objective and methodology,
c) initial conditions,
d) the initial equipment condition,
e) the test procedure,
f) success criteria and the methodology of result assessment,
g) the final equipment condition,
h) the method and deadline for test assessment,
i) appointment of a person responsible for performing and assessing the test,
j) measures to ensure the safety of technical installations pursuant to special legislation,[7])
k) qualification of personnel for performance of the test pursuant to special legislation,[7])
l) designation of media and energies necessary for performance of the test,
m) documentation of temporary modifications of the equipment,
n) a list of appliances, list of measurements, list of protections and blocks, list of automatics and controllers, and diagrams of the installation tested,
o) specimens of test result logs.

Section 16

Schedule of operating inspections of classified equipment

The schedule of operating inspections of selected facilities adjusted pursuant to special legislation[7]) and on the basis of inspections pursuant to Section 13 shall contain

a) a list of checked equipment and their checkpoints,
b) the scope and type of checks at the checkpoints,
c) the periodicity of inspections performed,
d) criteria for inspection evaluation,
e) success criteria,
f) requirements for qualification of control personnel and for instrumentation,
g) requirements for qualification of non-destructive testing systems,
h) a long-term and short-term schedule of inspections,
i) conditions for documenting and storing inspection results,
j) provisions for compliance of the scope of inspections with conditions given in quality assurance programmes and with limits and conditions,
k) conditions of operation during the inspections,
l) requirements for performance of inspections using methods and instruments with equal or higher accuracy and indication detection sensitivity than appropriate for indications admissible in production and pre-operational checks of classified equipment,
m) for components of safety classes one and two, requirements for performance of inspections at points of indications identified in production or during assembly left without repair, or at points where the indications detected were adjusted,
n) reflecting experience obtained in previous operating inspections,
o) organisational provisions for the inspections.

Section 17

Quality system documentation and requirements for nuclear installation quality and their assessment

(1) Assessment of the quality system documentation constitutes performance and documentation of a final audit of phased programmes for design and construction.
(2) Assessment of the nuclear installation's quality requirements constitutes documenting compliance with requirements pursuant to Section 8 (b); failure to comply with any requirement shall be justified and demonstrated by safety analyses verified by an independent organisation.

Section 18

Operating regulations

(1) The applicant shall submit to the Authority a list of operating regulations important with respect to nuclear safety, and this list shall contain operating regulations providing for
a) conditions of safe operation,
b) technical characteristics and conditions of operation of emergency systems,
c) procedures for resolution of emergency situations that include design basis and beyond design basis accidents
d) instruction manuals for managing serious accidents

(2) Based on the list pursuant to paragraph 1, the Authority shall determine the operating regulations necessary for a written application depending on the type of nuclear installation.

Section 19

Pre-operational safety report

(1) A pre-operational safety report is an adjusted report pursuant to Section 8, focusing on
a) introduction of changes to the original design with proof that its safety has been preserved,
b) additional calculations and measurements stemming from the requirements of the preliminary safety report,
c) requirements for nuclear installation management from the viewpoint of nuclear safety, particularly during commissioning, operation, incident resolution, installation maintenance, and fuel replacement,
d) operating documentation requirements,
e) means by which are nuclear materials tracked, checked and physically protected.

(2) A pre-operational safety report pursuant to Section 1 contains
a) the subject and scope of its individual parts,
b) the general characteristics of the nuclear installation and of its design, including the demonstration of how safety is ensured,
c) a description of the site, layout of main facilities and normal operation,
d) identification of generally applicable legislation, norms and standards used,
e) a description of important organisational aspects of the nuclear installation's operations and safety management,
f) quality requirements for the nuclear installation being built, listing quantification of parameters achieved for nuclear safety[2]), reliability and operation lifetime,
g) assessment of the site from the perspective of nuclear safety,
h) nuclear installation design aspects that outline the design's overall safety concept and approach to ensuring basic safety objectives,
i) a detailed description of safety functions of all safety systems, structures, systems and components influencing nuclear safety, and their comparison with the design, and a description of their design basis and activities in all operating modes and states, including shutdown and emergency conditions,
j) safety analyses verified by an independent person, assessing the nuclear installation's response to postulated initiation events and accident under the conditions of an extended design without serious damage to nuclear fuel, considering acceptability criteria and radioactive substance release limits, as well as the response of the nuclear installation to accidents under the conditions of an extended design with serious damage to nuclear fuel,
k) the procedure for commissioning of the nuclear installation,
l) operating rules, which include a description of procedures for addressing incidents and instruction manuals for managing serious accidents, measures for regular maintenance, inspection and testing, qualification and training of employees, operating experience feedback programmes and the aging management programme,
m) limits and conditions for safe operation and proposed limits and requirements for safe decommissioning,
n) a description of policy, strategy, methods and measures to ensure radiation protection,
o) a description of emergency preparedness and emergency response planning, a description of contacts and coordination with other organisations participating in emergency response,

p) an analysis of the nuclear installation’s environmental impact,
q) a description how radioactive waste is handled at the nuclear installation,
r) the procedure for decommissioning the nuclear installation, and a description of how important aspects of the nuclear installation's decommissioning and final shutdown will be considered during its operation.

(3) The pre-operational safety report is used as a starting point for the continuous promotion of safe operation and for the assessment of the safety impact of changes to a nuclear installation or operational activities.

(4) For the contents of the nuclear installation’s pre-operational safety report pursuant to Section 2 (f) (2) to (5) of the Act, the provisions of paragraphs 2 and 3 shall be used where appropriate.

Section 20

Probability safety assessment

(1) A Level 1 probabilistic safety assessment represents an assessment of the risk of nuclear fuel damage in the nuclear installation, and a Level 2 assessment represents an assessment of the risk of release of radioactive substances into the nuclear installation's surroundings. A probabilistic safety assessment is elaborated for all operating modes, significant initiation events and risks, including internal fires and floods. Extreme climactic conditions and earthquakes are taken into consideration.

(2) The probabilistic safety assessment is based on realistic modelling of nuclear installation response. It uses data important for the nuclear installation's design and considers constant control room staffing to the extent specified by operating procedures.

(3) The probabilistic safety assessment is performed, documented and maintained in accordance with the requirements of the permit holder's quality management system.

(4) The probabilistic safety assessment is performed using up-to-date tested methods, considering international experience.

(5) A Level 1 probabilistic safety assessment shall contain
a) the purpose and scope of the assessment,
b) a description of the methodology used, the assessment procedure and quality assurance,
c) adequate information on the nuclear installation being modelled, and documentation of assumptions made, criteria and assessment limitations,
d) a list, categorisation and frequencies of initiation events,
e) event trees, accident chain analysis and success criteria,
f) data analysis
g) systems analysis and fault trees,
h) analysis of internal and external events,
i) a human factor reliability analysis, considering factors that can influence the actions of qualified staff in all operating modes,
j) analysis of important dependencies,
k) a summary of assessment results and their description, listing the main contributors to fuel damage risk and important fault combinations leading to nuclear fuel damage,
l) an analysis of uncertainty, significance and sensitivity of results,
m) possibilities for increasing the nuclear installation's safety.

(6) A Level 2 probabilistic safety assessment shall contain

a) the purpose and scope of the assessment,

b) a description of the methodology used, the assessment procedure and quality assurance,

c) adequate information on the nuclear installation being modelled, and documentation of assumptions made, criteria and assessment limitations,

d) the interface between a Level 1 and Level 2 safety assessment, including nuclear installation damage conditions,

e) analyses of the course of accidents featuring release of radioactive substances,

f) event trees, accident chain analysis and success criteria,

g) for a nuclear installation with a nuclear reactor, a structural analysis of the nuclear reactor's containment,

h) characteristics of the source element, and determination of the amount and frequency of release of radioactive substances that may escape to the nuclear installation's surroundings,

i) an assessment of the effectiveness of the severe accident management strategy,

j) a summary of assessment results, including the main contributors to the risk of release of radioactive substances into the nuclear installation's surroundings, and significant fault combinations leading to the release of radioactive substances into the nuclear installation's surroundings,

k) an analysis of significance and sensitivity of results, and to a reasonable degree, an uncertainty analysis,

l) possibilities for increasing the nuclear installation's safety.

Section 21

Radioactive waste and spent nuclear fuel management plan, including their transport

(1) A plan for the management of radioactive waste and spent nuclear fuel, including their transport, shall be the preliminary plan, elaborated in more detail, for the management of radioactive waste and spent nuclear fuel, including their transport, pursuant to Section 9, and shall contain at least two alternative technical plans for the management of radioactive waste, a multi-criterion comparison between them, and a substantiated recommendation in favour of one of them, together with a technical plan for the management of spent nuclear fuel. In justified cases of established technical practice, the Authority may waive from the requirement for alternatives.

(2) A plan for the management of radioactive waste and spent nuclear fuel, including their transport, shall contain

a) the expected quantities and activities of radioactive waste generated in the nuclear installation throughout the whole period of its entry into service and its operation, including specifications of their type, form, radionuclide composition, physical, chemical and biological properties and other properties that could affect the safety of their management and transport,

b) a description of the system for collecting and sorting generated radioactive waste in connection with their further management,

c) the means of characterisation of radioactive waste,[5])

d) a description of the operation of the facilities and technologies for the management of radioactive waste and spent nuclear fuel in the nuclear installation together with their safety analyses, and a description of how they are to be transported, including a specification of the transport equipment used,

e) the means of further management of radioactive waste and spent nuclear fuel and their transport outside the nuclear installation, supported by contracts with permit holders, and a definition of the responsibilities of contractual permit holders,

f) the quantity, form, activity, type and period of storage of radioactive waste in the nuclear installation,

g) the expected discharge of radioactive substances into the environment,[10])

h) the expected quantity of spent nuclear fuel and other properties that could affect the safety of management of spent nuclear fuel and its transport.

(3) The means referred to in Paragraph 2 (e) shall include all activities carried out after the disposal of radioactive waste and spent nuclear fuel or after their storage if they do not satisfy the requirements for acceptance for disposal in a repository.[5])

(4) A plan for the management of radioactive waste and spent nuclear fuel, including their transport, shall be submitted if radioactive waste is generated in the nuclear installation as a by-product of its entry into service or of its operation and the nuclear installation cannot process the radioactive waste into packaged form suitable for disposal, and if spent nuclear fuel is generated in the nuclear installation.

Section 22

Conceptual plan for the decommissioning of a nuclear installation from operation

(1) A conceptual plan for the decommissioning of a nuclear installation from operation shall be a specified preliminary conceptual plan for decommissioning as referred to in Section 10 (1) and (2), which considers the knowledge gained from the processes of the design, construction and actual completion of the nuclear installation.

(2) The authorisation holder pursuant to Section 5 (3) (b) and (c) of the Act shall update a conceptual plan for the decommissioning of a nuclear installation from operation to reflect changes in the nuclear installation or its location, technological advances, changes in legislation of general application and the national programme for the implementation of national policy, events, changes in the means of financing, and actual radiological conditions. Updating shall take particular account of changes that occurred during the operation of the nuclear installation and that have an impact on decommissioning.

(3) A conceptual plan for the decommissioning of a nuclear installation from operation shall contain

a) a description of the location, structures and technological systems of the nuclear installation after the end of operation, including their radiological state as at the date of the end of operation and an evaluation of the operational history of the nuclear installation,

b) a description of alternatives for decommissioning with a clearly-defined state of the nuclear installation at the end of decommissioning, a preliminary timetable for the evaluated alternatives, the expected date of decommissioning, the criteria used for the selection of the recommended alternative, and an analysis of the interactions of the decommissioned nuclear installation with other affected nuclear installations,

c) a description of the management of the decommissioning project, taking into account the requirements of legislation of general application and conditions of permit or consent issued by the Authority, the specific characteristics of the individual alternatives for decommissioning, including an analysis of human resources requirements, safety culture principles, requirements

for the organisational structure and definition of responsibilities for decommissioning, principles of personnel training, principles of supplier relations management, and a list and means of the storage of data on the operation of the nuclear installation that are important for decommissioning, including radiological data relating to the grounds and vicinity of the nuclear installation prior to the construction of the nuclear installation or radiological data at a location with similar properties,

d) a description of the decommissioning activities, specifying decontamination and dismantling procedures for technological systems and equipment, and decontamination and demolition procedures for structures, corrective measures and remediation of the grounds defined by the boundaries of the nuclear installation,

e) the proposed monitoring and maintenance of structures and technological systems, identification of equipment and systems that require supervision and maintenance, and a preliminary timetable for monitoring and maintenance during decommissioning,

f) the expected inventory of radioactive waste from decommissioning, the expected quantity of conventional waste from decommissioning, with a specification of the proportion of other hazardous substances contained in the waste, the expected quantity of materials that satisfy the requirements for introduction into the environment, an identification of waste flows, and a description of the transport and management of radioactive waste from decommissioning, including capacity requirements for radioactive waste management facilities and proposed additional radioactive waste management facilities,

g) safety analyses of planned activities and potential incidents during decommissioning, including identification of the relevant postulated initiating events, calculation of the potential consequences together with an evaluation of the radiological and non-radiological risks, a comparison of the results of the safety analyses with safety criteria, and proposed preventive and corrective measures,

h) principles for the evaluation of the environmental impact of the alternatives for decommissioning under consideration, including a proposal for the monitoring and management of discharges during decommissioning,

i) proposed measures and methods to ensure radiation protection, fire protection[6b]) and occupational health and safety[6c]) during decommissioning,

j) a proposal for a quality management system for decommissioning, proposed qualification of equipment for decommissioning, and a description of a system for making use of experience gained from decommissioning,[4])

k) a proposal for an emergency planning during decommissioning,

l) a proposal for ensuring physical protection during decommissioning that contains information that is not subject to the requirements under a special legislation,[6e])

m) a calculation of the costs of decommissioning according to the recommended international cost structure for the decommissioning of nuclear installations, considering the decommissioning strategy.

Section 24

Documents on the nuclear installation's readiness for commissioning, for trial operation, the report on the nuclear installation's commissioning and operation assessment, and trial operation assessment report

(1) The documents on the nuclear installation's readiness for commissioning comprise:
a) logs of post-assembly tests of systems, installations and building constructions,
b) a list of unfinished works and defects,
c) logs of previous installation testing results,
d) a time schedule of stages and sub-stages,
e) a document on operating documentation readiness,
f) a final report on the nuclear installation's general readiness for commissioning.
(2) The report on the nuclear installation's commissioning assessment consists of assessments of each stage, which shall contain
a) a list of objectives for the nuclear installation's commissioning in accordance with nuclear safety requirements,
b) a comparison of the actual development of the stage with the envisaged time schedule,
c) an assessment of the results of fulfilment of objectives achieved during performance of the respective stage, including proposals for measures resulting from test results,
d) a list and results of assessment of the nuclear installation's events during the tests,
e) a list of modifications at the nuclear installation performed during the respective stage,
f) a list and assessment of compliance with the conditions of supervisory authorities.
(3) The report on trial operation assessment shall contain
a) a list of objectives for the nuclear installation's trial operation in accordance with nuclear safety requirements,
b) a comparison of the actual development of the stage with the envisaged time schedule,
c) an assessment of the results of fulfilment of objectives achieved during the trial operation and proposals for measures resulting from test results,
d) a list and results of assessment of the events on nuclear installation during the trial operation,
e) a list of modifications at the nuclear installation performed during the trial operation,
f) a list and assessment of compliance with the conditions of supervisory authorities.

Section 25

Limits and conditions of safe decommissioning

The form of limits and conditions of safe decommissioning and proposed limits and conditions for safe decommissioning, the processing procedure and contents are governed, where appropriate pursuant to Section 14.

Section 26

Decommissioning stage plan

(1) A decommissioning stage plan shall be based on the conceptual plan for the decommissioning of a nuclear installation from operation pursuant to Section 22, and provide a detailed description of the selected decommissioning alternative for the decommissioning stage.

(2) A decommissioning stage plan shall contain

a) a description of the location, structures and technological systems of the nuclear installation after the end of operation, including their radiological characterisation performed primarily using measurements, calculations and, in justified cases, expert estimate, the potential environmental burdens and risks, a definition of the boundaries of the structures and

technological system at mains network level, and a description of the history of operation of the nuclear installation, stating the reason for the end of its operation,

b) the initial and final state of the nuclear installation at the particular stage concerned, a timetable for the decommissioning stage, an analysis of the interactions of the nuclear installation with other affected nuclear installations at the decommissioning stage,

c) a description of the management of the decommissioning stage, taking into account the requirements of legislation of general application and conditions of permit or consent issued by the Authority, including an analysis of human resources requirements, safety culture principles, a description of the management of supplier relations, the organisational structure of the decommissioning project and a definition of responsibility for decommissioning, a description of the system for the collection, sorting and storage of data that will be stored after the completion of decommissioning, including radiological data on the grounds and vicinity of the nuclear installation prior to the construction of the nuclear installation or radiological data at a location with similar properties,

d) a detailed description of the decommissioning activities specifying a timetable for their performance, a description of the decontamination and dismantling procedures for technological systems and equipment, and decontamination and demolition procedures for structures, corrective measures and remediation of the grounds of the nuclear installation,

e) an identification of equipment and systems that require supervision and maintenance, a timetable for monitoring and maintenance, a programme for the monitoring and maintenance of structures and technological systems including those that are not the subject of the particular stage of decommissioning,

f) an identification of the usability of the operating equipment of systems, structures and components in decommissioning stage activities, including an assessment of their condition and requirements for their modification or replacement,

g) the overall inventory of radioactive waste in the nuclear installation, an inventory of radioactive waste from the decommissioning stage, the quantity of conventional waste from the decommissioning stage, with a specification of the proportion of other hazardous substances contained in the waste, the quantity of materials that satisfy the requirements for introduction into the environment, an identification of waste flows categorised by structure and technological system, a description of the transport and management of radioactive waste from the decommissioning stage, and documentation showing that there is sufficient free capacity in the facilities for the management of radioactive waste from decommissioning,

h) safety analyses of planned activities and potential incidents during decommissioning verified by an independent person, including the identification of the relevant postulated initiating events, a calculation of the potential consequences together with an evaluation of the radiological and non-radiological risks, a comparison of the results of the safety analyses with safety criteria, and proposed preventive and corrective measures; the safety analyses shall be based on the inventory or quantity referred to in subparagraph g),

i) an evaluation of the environmental impact of decommissioning, including a programme for the monitoring and management of discharges during decommissioning,

j) measures and methods to ensure radiation protection, fire protection[6b]) and occupational health and safety[6c]) during decommissioning,

k) a quality management system for the decommissioning stage taking into account changes in equipment during the decommissioning stage, and a system for making use of experience gained from decommissioning,[4])

l) emergency planning during the decommissioning stage,

m) ensuring physical protection during decommissioning,[6e])

n) a calculation and analysis of the costs of decommissioning and managing radioactive waste according to the recommended international cost structure for the decommissioning of nuclear installations, considering the performance of specific activities at that stage of decommissioning,

o) the means of ensuring the funding necessary for the performance of the described activities during the decommissioning stage,

p) an analysis of the adequacy and availability of the funds necessary for the performance of individual activities at the decommissioning stage and management of radioactive waste from the decommissioning stage, together with a declaration of the adequacy and availability of funds for the remaining activities at the decommissioning stage and management of radioactive waste from the decommissioning stage after the end of the permitted decommissioning stage.

(3) The content of the decommissioning stage plan must be based on the real inventory of the radioactive waste present in the nuclear installation at the end of operation or at the end of the preceding stage of decommissioning. Such inventory shall be performed primarily using measurements, calculations and, in justified cases, an expert estimate.

(4) If, after the decommissioning stage, the nuclear installation or its grounds or their part are removed from the scope of the Act pursuant to Section 20 (5) of the Act or if, during the decommissioning stage, part of the nuclear installation or its grounds achieves a final state that enables its subsequent removal from the scope of the Act pursuant to Section 20 (5) of the Act, the decommissioning stage plan shall include, in addition to the documentation pursuant to Paragraph 2

a) a radiological characterisation of the structures or grounds to be removed from the scope of Act, including the definition of their boundaries and a comparison of the results of such characterisation with the radiological data relating to the grounds prior to construction of the nuclear installation,

b) a description of the means of removal and the final state of the structures or grounds to be removed from the scope of the Act, and a description of the corrective activities aiming to achieve that state, including a timetable,

c) a safety evaluation of the corrective activities, including proposed operating restrictions,

d) a preliminary proposal for institutional measures for the restricted use of the structures or grounds.

Section 27

Concept of decommissioning for the period following the decommissioning stage

(1) Concept of decommissioning for the period following the decommissioning stage to be permitted shall be based on an evaluation pursuant to special legislation[8]) and describe the decommissioning work procedures and their timetable during the remaining stages of decommissioning that is demonstrably aimed at removing the nuclear installation, its grounds or part thereof from the scope of the Act.

(2) The provisions of Section 22 (3) shall apply appropriately to the content of the decommissioning concept for the period following the decommissioning stage, to be permitted.

Section 28

Plan for the management and transport of radioactive waste and plan for the management of conventional waste from decommissioning

(1) A plan for the management and transport of radioactive waste and a plan for the management of conventional waste from decommissioning shall specify at least two alternative technical plans for the management of radioactive waste, a multi-criterion comparison between them, and a substantiated recommendation in favour of one of them.

(2) A plan for the management and transport of radioactive waste and a plan for the management of conventional waste from decommissioning shall contain

a) the quantities and activities of radioactive waste generated in the nuclear installation during the decommissioning stage, the criteria for their sorting, the method of their characterisation, a justified procedure for the collection, processing, treatment, storage and disposal of radioactive waste and a demonstration that there is spare capacity in facilities for the management of radioactive waste from decommissioning, a description of the operation of the facilities and the technologies for the management of radioactive waste in the nuclear installation together with their safety analyses, the means of further management of radioactive waste and its transport outside the nuclear installation, supported by contracts with permit holders, and a definition of the responsibilities of contractual permit holders,

b) the quantity of conventional waste from the decommissioning stage, stating the proportion of other hazardous substances contained in the waste and a description of its management,[8a])

c) the quantity of materials that satisfy the requirements for their introduction into the environment,[10]) and a proposal for potential recycling or re-use of the materials based on substantiated criteria,[9])

d) a detailed description of how transport is to be affected, including a specification of the transport facilities to be used,

e) the expected discharge of radioactive and hazardous substances into the environment.[10])

(3) If the nuclear installation contains radioactive waste from previous stages of decommissioning or from operation, it must be included in the plan referred to in Paragraph 1.

Section 29

Documentation pursuant to Appendix 1, item D, paragraphs h) to j) of the Act is subject, where appropriate, to the provisions of Sections 16 to 22.

Section 30

General assessment of repository condition and its operation, including a description of changes and modifications of the repository and their safety assessment

The general assessment of repository condition and its operation, including a description of changes and modifications of the repository and their safety assessment, shall contain

a) A final assessment of the physical and technical condition of construction, systems, and installations of the repository at the end of operation following its filling with the permitted full inventory of radioactive waste,

b) A description of changes and modifications of the repository performed in the course of operation along with an assessment of the impact of such changes and modifications on long-term safety of the repository following its closure.

Section 31

General inventory of radioactive waste stored

The general inventory of radioactive waste stored shall contain
a) aggregate alpha, beta and gamma activity of radioactive waste stored,
b) actual drawing of permitted limits and conditions of activity and activity concentration,
c) the amount and composition of radioactive waste stored,
d) classification and representation of packaged forms of radioactive waste with specifications of their physical, chemical, biological and other propertie[11]) that could influence the long-term safety of the repository,
e) an assessment of the depositing programme, specifying the final positions of packaged forms of radioactive waste.

Section 32

Plan for repository closure and institutional control, including safety analyses

The plan for repository closure and institutional control, including safety analyses, shall contain
a) materials, technologies and procedures used to fill in interstices of deposit boxes, to stabilise the deposited packaged forms of radioactive waste and to secure the final configuration of the storage system, including the composition of the cover and proposed drainage system with the objective of maintaining a long-term lifetime of the repository,
b) a programme for decontamination and dismantling of buildings and above-ground premises that are no longer needed, including removal or sealing of redundant components, installations, monitoring tunnels, shafts and boreholes or other engineering elements that might, in the future, provide a route for release of radionuclides.
c) a description and method of handling radioactive waste generated in performance of activities pursuant to item b),
d) a schedule of maintenance and repairs of individual components of the repository during the period of the active part of institutional control,
e) the scope of activities performed within the passive part of institutional control of the repository,
f) a method of long-term maintenance and transfer of information specifying the media used as well as information important for performance of corrective measures or for reconsideration of repository safety in the future,
g) adjusted safety analyses of long-term safety of the repository at the stage following the end of operation reflecting current data, verified by an independent organisation.

Section 33

Monitoring programme, including proposed possible corrective measures

The monitoring programme, including proposed possible corrective measures, shall contain
a) the inspections and measurements performed during institutional control,

b) a programme for monitoring of repository barrier condition, and a radiological monitoring plan covering all potential routes for release and spread of radionuclides,
c) the manner of generating funds to ensure monitoring following the end of operation,
d) the maintenance of records on results of inspections, measurements and monitoring,
e) corrective measures to be implemented in the event of deviation from the envisaged condition of the repository and unplanned release of radioactive substances depending on the monitoring results.

Section 34

Documentation pursuant to Annex 1, item E, paragraph h) of the Act is subject, where appropriate, to Section 17.

Section 35

Final description of a decommissioned nuclear installation site and of all work performed in decommissioning

The final description of a decommissioned nuclear installation site and of all work performed in decommissioning shall contain
a) demonstrating achievement of the objectives of decommissioning and compliance with the requirements of supervisory authorities,
b) assessment of decommissioning by comparing the envisaged and actual data pursuant to Section 26,
c) a list of installations, premises and lands cleared for limited use,
d) a description of all work performed during decommissioning including data on individual and collective effective and equivalent doses which were received by permit holder staff, staff during the work with ionizing radiation sources and the public[10]) during decommissioning.

Section 36

Aggregate data on the amount and activity of deposited or permanently stored radioactive waste and on the amount of other waste and materials released into the environment

Aggregate data on the amount and activity of deposited or permanently stored radioactive waste and on the amount of other waste and materials released into the environment contains:

a) the amount and activity of deposited or permanently stored radioactive waste, specifying the deposit or storage location;
b) the kind, amount and location of other decommissioning waste, listing the proportion of other hazardous substances it contains;
c) the kind and amount of other waste and materials released into the environment pursuant to special legislation.[9, 10])

Section 37

List of data to be stored following completion of decommissioning indicating the storage time

The list of data to be stored following completion of decommissioning indicating the storage time shall contain

a) a list of events that occurred during decommissioning,

b) experiences gained during decommissioning,

c) the data pursuant to Section 26 (2) (c), Section 36 and 38,

d) criteria for limited use of installations, premises and land

Section 38

Final assessment of the radiation situation in structures and on site

The final assessment of the radiation situation in structures and on site contains

a) criteria for exclusion the nuclear installation's structures and site pursuant to Section 20 (5) of the Act,

b) results of a final radiation situation inspection of the nuclear installation's site, supported by an independent verification.[10])

c) a statement by the radiation protection supervision authority regarding data pursuant to items a) and b),

d) a comparison of results pursuant to item b) with results of pre-operating monitoring of the radiation situation on the nuclear installation's site and its surroundings.[11a])

(2) If pre-operating monitoring of the radiation situation on the nuclear installation's site and its surroundings pursuant to Paragraph 1 (d) was not performed, data gained from the monitoring of the radiation situation on sites with similar properties need to be considered when comparing results.

Section 38a
Institutional measures for limited utilisation of structures and site

Institutional measures for limited utilisation of structures and site contain

a) conditions for potential utilisation of structures and site that are subject to exclusion,

b) safety analyses of the impact of limited utilisation of structures and site on their potential utilisation, including specification of criteria and measures for limited utilisation of structures and site,

c) the duration of limited utilisation,

d) a monitoring programme, including recordkeeping,

e) organisational and financing provisions.

Section 39

Documentation shall be submitted to the Authority in paper form or as an electronic document signed with a guaranteed electronic signature,[11b]) with the exception of proceedings based on documentation containing confidential or sensitive information,[11c]) in which case the documentation shall be submitted to the Authority in paper form and electronically on a memory medium under a special legislation.[11d])

Section 39a

Transitional provisions relating to the amendments entering into force on 1 March 2016.

Documentation requirements pursuant to current decree shall apply to documentation relating to proceedings starting prior to 1 March 2016.

Section 40

This Decree has been adopted in accordance with a legally binding act of the European Union in the area of technical standards and technical regulations.[12])

Section 41

Entry into force

This decree shall enter into force on 15 May 2022.

Marta Žiaková, m. p.

Footnotes:

1) Section 8 of the Act No. 50/1976 Coll. on Land Use Planning and Building Code (Building Act) as amended
2) Section 7 of the Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 431/2011 Coll. on a quality management system.
4) Section 4 of the Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 430/2011 Coll., on nuclear safety requirements amended by Decree No. 103/2016 Coll.
5) Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 30/2012 Coll. laying down details of requirements for managing the nuclear materials, radioactive waste and spent nuclear fuel.
6) For example Act No. 245/2003 Coll., on integrated prevention and control of environmental pollution and on changes and amendments to some Acts, as amended.
Act No. 24/2006 Coll., on environmental impact assessment and on changes and amendments to some Acts, as amended.
6a) Section 3a of the Act No. 238/2006 Coll. as amended by the Act No. 143/2013 Coll.
6b) E.g. Act No. 314/2001 Coll. on protection against fire, as amended.
6c) E.g. Act No. 124/2006 Coll. on occupational health and safety and on amendments to certain acts, as amended
6e) E.g. Decree No. 336/2004 Coll. of the National Security Authority on physical security and building security, as amended by Decree No. 315/2006 Coll. of the National Security Authority
7) For example, Act of the National Council of the Slovak Republic No. 124/2006 Coll., on occupational health and safety and on changes and amendments to some Acts, as amended, Decree of the Ministry of Labour, Social Affairs and Family of the Slovak Republic No. 508/2009 Coll., laying down details of ensuring occupational health and safety for work with pressure, lifting, electrical and gas equipment that is considered to be specified equipment.
7a) Annex 4 (B.I. point G para 4-6) of Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 430/2011 Coll.
8) Section 6 of Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 430/2011 Coll.
8a) Act No. 79/2015 Coll. on waste and on amendments to certain acts.
9) Act No. 79/2015 Coll.
Act No. 355/2007 Coll. on the protection, support and development of public health and on amendments to certain acts, as amended
10) Order of the Government of the Slovak Republic No. 345/2006 Coll., on basic safety requirements for the protection of health of workers and the population from ionising radiation.
Act No. 355/2007 Coll.,
11) Section 5 and Section 6 of Decree of the Nuclear Regulatory Authority of the Slovak Republic No 30/2012 Coll.

11a) Annex 3. part B.I. point A para 19 of Decree of the Nuclear Regulatory Authority of the Slovak Republic No. 430/2011 Coll.,
11b) Section 4 of Act No. 215/2002 Coll. on electronic signatures and on amendments to certain acts.
11c) Section 3 (14) and (15) of the Act No. 541/2004 Coll. on the peaceful use of nuclear energy (Atomic Act) and on amendments and supplements to certain acts, as amended.
Act No. 305/2013 Coll. on exercising public authority powers via electronic means and on amendments to certain acts (e-Government Act), as amended
11d) Decree No. 453/2007 Coll. of the National Security Authority on administrative security, as amended by Decree No. 232/2013 Coll. of the National Security Authority'
12) Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations (OJ L 204, 21.7.1998, p. 37–48) as amended.