HEAD OF THE STATE NUCLEAR POWER SAFETY INSPECTORATE

ORDER
APPROVING NUCLEAR SAFETY REQUIREMENTS BSR-1.8.5-2018 "COMMISSIONING OF A NUCLEAR INSTALLATION"

4 December 2018 No. 22.3-295
Vilnius

Acting pursuant to Articles 4(1) and (4) and Article 11(1) of the Republic of Lithuania Law on Nuclear Safety and Article 22(1)(1) and (3) of the Republic of Lithuania Law on Nuclear Energy, and implementing Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations (OJ 2014 L219, p. 52), I hereby:

1. Approve the Nuclear Safety Requirements BSR-1.8.5-2018 "Commissioning of a nuclear installation" (attached).

2. Repeal Order No. 22.3-141 of the Head of the State Nuclear Power Safety Inspectorate of 16 July 2015 approving the Nuclear Safety Requirements BSR-2.1.5-2015 "Commissioning of a nuclear power plant", as amended and supplemented.

2. Establish that this Order shall enter into force on 1 May 2019.

Head Michail Demčenko

APPROVED by
Order No. 22.3-295 of the Head of the
State Nuclear Power Safety Inspectorate
of 4 December 2018

NUCLEAR SAFETY REQUIREMENTS
BSR-1.8.5-2018

COMMISSIONING OF A NUCLEAR INSTALLATION

CHAPTER I
GENERAL PROVISIONS

1. The Nuclear Safety Requirements BSR-1.8.5-2018 "Commissioning of a nuclear installation" (hereinafter referred to as the "Requirements") shall set out the requirements for the commissioning of nuclear installation (hereinafter referred to as "NI").

CHAPTER II
REFERENCES

2. The Requirements refer to the following legal acts:

2.1. Republic of Lithuania Law on Nuclear Safety;

2.2. Republic of Lithuania Law on Nuclear Energy;

2.3. Rules for the issuance of licences and permits for activities in the field of nuclear energy, approved by Resolution No. 722 of the Government of the Republic of Lithuania of 20 June 2012 approving the Rules for the issuance of licences and permits for activities in the field of nuclear energy;

2.4. Nuclear Safety Requirements BSR-1.8.2-2015 "Description of the category of modifications of a nuclear power facility and the procedure for performing modifications", approved by Order No. 22.3-99 of the Head of the State Nuclear Power Safety Inspectorate (hereinafter referred to as the "VATESI") approving the Nuclear Safety Requirements BSR-1.8.2-2015 "Description of the category of modifications of a nuclear power facility and the procedure for performing modifications";

2.5. Nuclear Safety Requirements BSR-1.4.1-2016 "Management System", approved by Order No. 22.3-56 of the Head of VATESI of 21 June 2010 approving the Nuclear Safety Requirements BSR-1.4.1-2016 "Management System";

2.6. Nuclear Safety Requirements BSR-1.4.2-2014 "Construction management of a nuclear facility", approved by Order No. 22.3-22 of the Head of the VATESI of 29 January 2014 approving the Nuclear Safety Requirements BSR-1.4.2-2014 "Construction management of a nuclear facility";

2.7. Nuclear Safety Requirements BSR-1.4.3-2017 "Human resources of organisations carrying out licensed activities in the sphere of nuclear power", approved by Order No. 22.3-160 of the Head of the VATESI of 20 September 2017 approving the Nuclear Safety Requirements BSR-1.4.3-2017 "Human resources of organisations carrying out licensed activities in the sphere of nuclear power";

2.8. Nuclear Safety Requirements BSR-1.3.1-2020 "Ensuring emergency preparedness at nuclear facilities", approved by Order No. 22.3-18 of the Head of the VATESI of 21 January 2020 approving the Nuclear Safety Requirements BSR-1.3.1-2020 "Ensuring emergency preparedness at nuclear facilities".

CHAPTER III

DEFINITIONS

3. The terms used in the Requirements correspond to the terms defined in the legal acts referred to in paragraph 2 of the Requirements.

CHAPTER IV
PREPARATION AND COORDINATION OF THE COMMISSIONING PROGRAMME FOR NI

SECTION ONE
PURPOSE OF COMMISSIONING OF NI

4. The purpose of commissioning of NI shall be to demonstrate that the constructed NI will ensure nuclear safety, radiation protection and physical security (hereinafter referred to as "safety") during its operation. In order to achieve this purpose, at the time of commissioning of NI, the holder of the licence referred to in Article 22(1)(1) to (3) of the legal act referred to in subparagraph 2.1 of the Requirements (hereinafter referred to as the "license holder") shall ensure that the following requirements are met:

4.1. in the operating modes and limits of the operating parameters of the (hereinafter referred to as "SC") structures, systems and components important to safety (hereinafter referred to as "IS SSC") (hereinafter referred to as the "IS SSC operating limits and conditions") specified in the design of NI, compliance of the IS SSC with the commissioning criteria specified in the design of NI and the nuclear safety normative technical documents for all the modes for which the IS SSC were designed has been verified;

4.2. IS SSC data have been collected necessary for the preparation of the updated safety analysis report referred to in Article 32(3) of the legal act referred to in subparagraph 2.1 of the Requirements, of the final safety analysis report referred to in Article 32(4) of the legal act referred to in subparagraph 2.1 of the Requirements and of the periodic safety assessment reports referred to in Article 32(7) of the legal act referred to in subparagraph 2.1 of the Requirements, to ensure safety during the operation of the NI;

4.3. the license holder's normative technical documents (NI operating procedure descriptions, NI emergency operating procedure descriptions and emergency management guidelines, emergency preparedness procedure descriptions, IS SSC operating instructions, description of limits and conditions for NI operating parameters (NI technological regulation), and the license holder's other normative technical documents) for the operation of the NI have been verified and approved in accordance with the procedure set out in Section Three of Chapter VII of the Requirements;

4.4. it has been verified that the license holder's organisational structure, staffing levels and competencies are in accordance with the provisions of the license holder's organisation chart and justification and the license holder's human resources management documents;

4.5. compliance of SSC specified in the design of NI other than those referred to in subparagraph 4.1 of the Requirements, ensuring the limits and conditions of IS SSC operation, the avoidance (prevention) or mitigation of nuclear and radiological accidents, and the protection of people and the environment against the harmful effects of ionising radiation, including radiation protection, physical security and emergency preparedness measures, with the design of NI and the nuclear safety normative technical documents has been verified.

SECTION TWO
PREPARATION AND COORDINATION OF THE COMMISSIONING PROGRAMME FOR NI

5. The licence holder shall ensure that a commissioning programme for NI is drawn up for the commissioning of NI and that an independent verification of the commissioning of NI is carried out.

6. The commissioning programme for NI shall include the IS SSC tests (tests without nuclear and/or nuclear fuel cycle materials and tests with nuclear and/or nuclear fuel cycle materials) for the commissioning of NI. The IS SSC tests for the commissioning of NI shall demonstrate the performance of the IS SSC safety functions as defined in the design of NI and justified in the safety analysis report.

7. The commissioning programme for NI shall provide:

7.1. general data on the NI and its commissioning:

7.1.1. the name of the NI;

7.1.2. the number of the design of NI under which the NI referred to in point subparagraph 7.1.1 of the Requirements was constructed;

7.1.3. phases of the commissioning of NI;

7.2. IS SSC to be tested at the time of commissioning of NI;

7.3. the IS SSC tests for the NI commissioning referred to in subparagraph 7.2 of the Requirements, the objectives and methods of these tests, the phase of NI commissioning at which these IS SSC tests for NI commissioning are to be carried out, the sequence and duration of these tests;

7.4. the nuclear safety normative technical documents to be followed when planning and carrying out the IS SSC tests for NI commissioning referred to in subparagraph 7.3 of the Requirements;

7.5. the license holder's normative technical documents for the operation of the NI, which are to be verified at the time of commissioning of NI;

7.6. participants in the IS SSC tests for NI commissioning referred to in subparagraph 19.2 of the Requirements, who shall participate in the IS SSC tests for NI commissioning referred to in subparagraph 7.3 of the Requirements;

7.7. the tests and verifications of the SSC referred to in subparagraph 4.5 of the Requirements to be carried out at the time of commissioning of NI, and the phase of NI commissioning in which these SSC are to be verified;

7.8. persons responsible for the preparation, verification and approval of the commissioning programme for NI;

7.9. persons who are required to familiarise themselves with the commissioning programme for NI.

8. The IS SSC test for NI commissioning shall not be included in the commissioning programme for NI if the IS SSC tests for NI commissioning, the mode of operation or configuration of the NI during this IS SSC test for NI commissioning:

8.1. are not assessed in the design of NI and the safety analysis report without a justification that they will not have a negative impact on safety;

8.2. are outside the assumptions (e.g. IS SSC physical parameters, initial and limit conditions, duration, nature of physical and chemical processes and phenomena) which have been used in the development of the solutions of design of NI and their safety justification and/or in the assessment and safety justification referred to in subparagraph 8.1 of the Requirements.

9. The commissioning programme for NI shall specify the sequence of the IS SSC tests for NI commissioning in which these IS SSC tests for NI commissioning are to be performed. Establishing the sequence of IS SSC tests for NI commissioning shall ensure that:

9.1. where the IS SSC test for NI commissioning is related to other SSC (e.g. fire, cooling, ventilation, water or electrical systems, plant, equipment, including IS SSC), the IS SSC test for NI commissioning shall be carried out after the relevant SSC have been tested and their performance verified and, in cases where the relevant SSC are IS, the commissioning of these relevant IS SSC has

also been approved in the report on the results of the IS SSC tests for NI commissioning;

9.2. in the commissioning programme for NI, all IS SSC tests for NI commissioning shall be grouped according to the NI commissioning phases and sub-phases of the phases and the safety functions performed by the IS SSC;

9.3. the IS SSC testing of a further stage or sub-stage of NI commissioning shall only be carried out in the event of a positive conclusion in the report on the results of IS SSC tests of the stage or sub-stage of the previous NI commissioning concerning the possibility to carry out the further stage or sub-stage of NI commissioning in a safe manner and when holding a license or permit specified in the legal act referred to in subparagraph 2.1 of the Requirements, where these are required for the commencement of the IS SSC tests of the phase or sub-phase of NI commissioning;

9.4. where the NI commissioning programme provides for several IS SSC tests for NI commissioning to be performed simultaneously, these IS SSC tests for NI commissioning may be performed after their effect on each other's performance has been assessed and the assessment has shown that these IS SSC tests for NI commissioning will not adversely affect each other.

10. A single commissioning programme for NI shall be prepared for several NI s included in a single design of NI, unless otherwise specified in the design of NI. If the NI is a nuclear power plant (hereinafter referred to as the "NPP") consisting of several power units, separate commissioning programmes shall be developed for each power unit. Where NPPs consisting of several power units have common IS SSC, the commissioning programmes for these power units shall include IS SSC tests for NI commissioning to assess the performance of these common IS SSC in the case of each individual power unit and in the case of several power units operating together.

11. The license holder shall ensure that operating staff of NI (as defined in subparagraph 5.2 of the legal act referred to in subparagraph 2.7 of the Requirements) are involved in the processes of I commissioning of NI, as determined by the license holder. The duties of such staff shall be specified in the commissioning programme for NI and in the license holder's management system documents detailing the performance of the IS SSC tests for NI commissioning (hereinafter referred to as the "IS SSC test instructions").

12. The license holder shall submit the approved NI commissioning programme to the VATESI for approval. The license holder shall submit to the VATESI, together with the NI commissioning programme, an independent verification report of the NI commissioning programme, describing the process and results of the independent verification.

13. The VATESI shall take a decision to agree the commissioning programme for NI within the time limits set out in Article 34(2) of the legal act referred to in subparagraph 2.1 of the Requirements only in all of the following circumstances:

13.1. the commissioning programme for NI is compliant with these Requirements;

13.2. the tests, methodology and criteria for assessing the results of the IS SSC tests for commissioning of NI specified in the commissioning programme for NI are compliant with the requirements set out in the parts of the design of building structures of NI that contain the design solutions for the IS SSC;

13.3. the IS SSC tests for NI commissioning specified in the commissioning programme for NI are in accordance with the normative technical documents for nuclear safety.

14. The IS SSC tests for NI commissioning may only be commenced after the commissioning programme for NI has been agreed with the VATESI.

SECTION THREE
PHASES OF THE COMMISSIONING OF NI

15. The commissioning of a NI, other than a NPP, a NPP power unit or a non-power nuclear reactor, shall be divided into at least the following phases and sub-phases:

15.1. tests without the use of nuclear and/or nuclear fuel cycle materials:

15.1.1. individual tests. These tests shall demonstrate that each IS SSC is capable of performing the function identified in the design of NI and based on the safety analysis report. These tests shall collect the data specified in subparagraph 4.2 of the Requirements;

15.1.2. complex tests. These tests shall demonstrate that the IS SSC are capable of operating together as designed and that the IS SSC operate under normal operating conditions of NI, during the expected operational event and during accidents as defined in the design of NI;

15.2. tests involving nuclear and/or nuclear fuel cycle materials. These tests start with the arrival of nuclear and/or nuclear fuel cycle materials at the NI site and/or the first test using nuclear and/or nuclear fuel cycle materials in these NI s.

16. Where the NI is an NPP, a NPP power unit or a non-power nuclear reactor, the commissioning shall be divided into at least the following phases and sub-phases:

16.1. tests without the use of nuclear and/or nuclear fuel cycle materials:

16.1.1. individual tests. These tests shall demonstrate that each IS SSC is capable of performing the function specified in the design of the NPP, NPP power unit or non-power nuclear reactor and justified in the safety analysis report. These tests shall collect the data specified in subparagraph 4.2 of the Requirements;

16.1.2. complex tests. These tests shall demonstrate that the IS SSC are capable of operating together as designed and that the IS SSC operate under the normal operating conditions of the NPP, NPP power unit or non-power nuclear reactor, including operation at rated power, nuclear reactor (hereinafter referred to as the "reactor") shutdown, nuclear fuel (hereinafter referred to as "fuel") reloading, transitional conditions, a probable operating event and accidents as defined in the design of the NPP, NPP power unit or non-power nuclear reactor, as set out in the design of the NPP, NPP power unit or non-power nuclear reactor;

16.2. tests involving nuclear and/or nuclear fuel cycle materials:

16.2.1. nuclear reactor fuel loading and post-criticality tests. These tests shall be performed to demonstrate that fuel can be safely loaded into the reactor according to the loading pattern specified in the design of the NPP, NPP power unit or non-power nuclear reactor. This part of the commissioning phase of the NPP, NPP power unit or non-power nuclear reactor shall confirm that the results achieved in the fuel loading and post-criticality tests are within the parameters set out in the design of the NPP, NPP power unit or non-power nuclear reactor and that it is feasible to carry out the initial criticality and low power tests as foreseen in the commissioning programme of the NPP, NPP power unit or non-power nuclear reactor. After fuel loading into the reactor, tests shall be carried out on the instrumentation, control rod actuators, automatic control rod actuation and other tests related to the reactor control, protection and cooling systems;

16.2.2. initial criticality and low power tests. The tests shall be performed within the minimum power level specified in the design of the NPP, NPP power unit or non-power nuclear reactor in order to confirm that:

16.2.2.2.1. the performance of the reactor core is in accordance with the information provided in the design of the NPP, NPP power unit or non-power nuclear reactor and supported by the safety analysis report;

16.2.2.2.2. the reactor core operates in the low power range and the characteristics of the reactor core cooling and reactivity measurement systems are within the limits specified in the design of the NPP, NPP power unit or non-power nuclear reactor;

16.2.2.2.3. the radiation shielding is as specified in the design of the NPP, NPP power unit or non-power nuclear reactor;

16.2.2.2.4. the physical parameters of the reactor are in accordance with the physical parameters specified in the design of the NPP, NPP power unit or non-power nuclear reactor and justified in the safety analysis report;

16.2.2.2.5. the results of the initial criticality and low power tests achieved are within the parameters specified in the design of the NPP, NPP power unit or non-power nuclear reactor;

16.2.3. power increase and rated power tests. The purpose of the power increase and rated power tests is to demonstrate the operation of the NPP, NPP power unit or non-power nuclear reactor at the power levels specified in the design of the NPP, NPP power unit or non-power nuclear reactor and justified in the safety analysis report (e.g. 10%, 25%, 50%, 75%, 90% and 100% of the rated power in the design of the NPP, NPP power unit or non-power nuclear reactor). The tests shall demonstrate that the NPP, NPP power unit or non-power nuclear reactor operates in accordance with the design of the NPP, NPP power unit or non-power nuclear reactor in all the modes for which the NPP, NPP power unit or non-power nuclear reactor is designed, including changes in reactor power and load variations due to the relevant power levels.

CHAPTER V
ORGANISATION AND MANAGEMENT OF COMMISSIONING OF NI

SECTION ONE
DUTIES OF THE LICENSE HOLDER DURING COMMISSIONING OF NI

17. The license holder shall control all activities related to the commissioning of NI.

18. The license holder shall appoint a NI commissioning team. The NI commissioning team shall control that the IS SSC tests for NI commissioning specified in the commissioning programme for NI are carried out in accordance with the design of the NI, the nuclear safety normative technical documents within the operating limits and conditions of the IS SSC as specified in the design of NI. The NI commissioning team may be composed of specialised working groups (e.g. civil, hydraulic, electrical, process plant, control and management systems). The composition of the NI commissioning team, its appointment and rules of procedure shall be laid down in the license holder's normative technical documents.

19. The licence holder shall ensure:

19.1. the description of the duties and responsibilities of the license holder's staff involved in the processes of commissioning of NI during the commissioning of NI in the license holder's management system documents;

19.2. the organisation, control and coordination of the activities of the technical supervisors for the general construction works and special construction works of the IS SCC construction, as referred to in the legal act referred to in subparagraph 2.6 of the Requirements, the NI commissioning team, the NI operational staff, the designer, the manufacturer, the conformity control or assessment bodies (hereinafter collectively referred to as the " NI commissioning participants);

19.3. the implementation of the commissioning programme for NI agreed with the VATESI;

19.4. the planning, allocation and adequacy of the resources needed for commissioning of NI;

19.5. elimination of non-compliances identified during the IS SSC tests and inspections for NI commissioning;

19.6. updating the design of NI and license holder's normative technical documents during commissioning of NI and making such documents available to those involved in the commissioning of NI;

19.7. the collection, storage and transfer of the IS SSC data referred to in subparagraph 4.2 of the Requirements from the commissioning of NI to the industrial operation of the NI;

19.8. the preparation, storage and transfer of the IS SSC test for NI commissioning from the commissioning of NI to the industrial operation of the NI.

SECTION TWO

MANAGEMENT SYSTEM OF THE LICENSE HOLDER

20. The license holder shall, in accordance with the legal act referred to in subparagraph 2.5 of the Requirements, prior to the commencement of tests without the use of nuclear and/or nuclear fuel cycle materials, prepare management system documents which shall specify how and in what sequence the processes for commissioning of NI are to be carried out, and ensure the implementation of the provisions of these management system documents during the commissioning of NI.

21. The management system of the suppliers of IS products involved in the NI commissioning processes shall comply with the management system requirements of the license holder.

SECTION THREE
MANAGEMENT OF COMMUNICATION OF NI COMMISSIONING PARTICIPANTS

22. The license holder shall specify in the management system documents the procedures for managing communication of NI commissioning participants and the license holder's staff involved in the NI commissioning processes.

23. The license holder shall ensure that the persons involved in the commissioning of NI are provided with the technical measures to maintain communication between the NI commissioning participants during the IS SSC tests for NI commissioning.

24. The licence holder shall ensure that:

24.1. the designers, contractors, manufacturers and suppliers of the IS product provide the NI commissioning participants, before the IS SSC tests for NI commissioning, with all relevant/valid information and/or documents necessary for the performance of the IS SSC tests for NI commissioning;

24.2. the designers are involved in the analysis of the results of the NI commissioning phases and sub-phases and of the IS SSC tests for NI commissioning and confirm that the results of the NI commissioning phases and sub-phases and of the IS SSC tests for NI commissioning are in accordance with the solutions of design of NI.

SECTION FOUR
TRANSFER OF IS SSC DOCUMENTS AND OF RESPONSIBILITY FOR IS SSC

25. The license holder's management system documents shall detail the procedure for the transfer of IS SSC documents from construction of NI to commissioning of NI, from one NI commissioning phase to the next phase, from commissioning of NI to the industrial operation of the NI, where the responsibility for the preparation, completeness check and storage of IS SSC documents passes from NI construction participants to NI commissioning participants, from one NI commissioning participant to another, or from NI commissioning participants to NI operational staff.

26. The license holder's management system documents shall specify the procedure for transferring the responsibility for the maintenance, testing and inspection of the IS SSC from one NI commissioning participant to another.

27. The license holder shall ensure that, when transferring IS SSC from NI construction participants to NI commissioning participants, from one NI commissioning participant to another, or from NI commissioning participants to NI operational staff or staff who will carry out the maintenance, monitoring and inspections of the IS SSC, the complete set of documents of the particular IS SSC is transferred. The document set shall contain:

27.1. a set of construction documents referred to in paragraph 18 of the legal act referred to in subparagraph 2.6 of the Requirements;

27.2. the IS SSC tests reports for NI commissioning;

27.3. reports of IS SSC failures and events (for example, IS SSC failure or shutdown reports);

27.4. documents of temporary modifications to the design of NI necessary for the IS SSC test for NI commissioning (e.g. installation of bypass systems, blinds, valve settings, temporary modifications to the water supply and collection systems, temporary supports), disconnection of electrical cabling and wiring, and software modifications;

27.5. records of the isolation of installations and records of permits to carry out works;

27.6. records of preventive and corrective repairs to the IS SSC;

27.7. records of modifications made to the IS SSC during NI commissioning;

27.8. documents of the IS SSC maintenance as specified in paragraph 36 of the Requirements carried out during commissioning of NI;

27.9. descriptions of non-performed and incomplete works and deficiencies in the works, including non-performed and incomplete works and deficiencies in the works that were identified in the previous phase or sub-phase of the commissioning of NI;

27.10. documents from suppliers of IS products setting out the requirements for the operation of the IS SSC (for example, SSC technical passports and operating instructions);

27.11. certificates of conformity, declarations, conclusions of the conformity control or assessment body, documenting the performance and results of the IS SSC tests for NI commissioning (for example, certificates of IS SSC conformity, conclusions of the conformity control or assessment body) (hereinafter referred to as the "conformity assessment documents"), filled in during the IS SSC tests for NI commissioning as laid down in the management system documents of the license holder, and documents for the assessment of the IS SSC technical condition;

27.12. the licence holder's normative technical documents for the operation of the IS SSC.

28. The license holder shall designate qualified staff to participate in the handover of the documents referred to in paragraph 27 of the Requirements and to verify compliance with paragraph 27 of the Requirements.

SECTION FIVE
RESOURCES FOR COMMISSIONING OF NI

29. The license holder shall establish and ensure the implementation of a procedure for planning, securing and continuously evaluating its own resources and those of its suppliers of IS products during the commissioning of NI, in the management system documents.

SECTION SIX
QUALIFICATIONS AND TRAINING OF PERSONS INVOLVED IN NI COMMISSIONING PROCESSES

30. The license holder shall set out in the management system documents the requirements for the qualifications, experience and training of the persons involved in the NI commissioning processes, in accordance with the requirements of the legal acts referred to in subparagraphs 2.5 and 2.7 of the Requirements.

31. The license holder's management system documents shall indicate the level of qualification and experience of the NI commissioning managers and of the license holder's staff involved in the NI commissioning processes.

32. Persons involved in the NI commissioning processes shall meet the qualification and experience requirements set out in the license holder's management system documents.

33. Persons involved in the NI commissioning processes shall be trained under programmes that include the following NI commissioning aspects:

33.1. safe performance of the IS SSC tests for NI commissioning;

33.2. the preparation, approval and updating of the licence holder's normative technical

documents;

33.3. modifications and temporary changes referred to in subparagraph 27.4 of the Requirements;

33.4. work control and isolation of equipment;

33.5. management of the communication between the NI commissioning participants;

33.6. extraordinary event reports;

33.7. methods and techniques for commissioning of NI;

33.8. a safety and security culture;

33.9. nuclear safety, radiation protection and physical security;

33.10. NI operating modes, limit values of and conditions for operating parameters of NI;

33.11. radioactive waste management.

SECTION SEVEN
MODIFICATIONS AND NON-COMPLIANCES DURING COMMISSIONING OF NI

34. The license holder's management system documents shall describe the actions to be taken in the event of non-compliance of the IS SSC with the design of NI and the nuclear safety normative technical documents, and the manner in which the NI is to be returned to a safe state in case of an event that causes parameters to deviate from the limits and conditions of operation of the IS SSC. During the commissioning of NI, the license holder shall ensure that these actions are carried out and shall prevent the IS SSC tests for NI commissioning as specified in the commissioning programme for NI until the cause of the event has been determined and the corrective actions have been taken.

35. Changes to the NI IS SSC, design of NI and license holder's normative technical documents shall be made in accordance with the procedure set out in the legal acts referred to in subparagraphs 2.4 and 2.5 of the Requirements.

SECTION EIGHT
IS SSC SURVEILLANCE DURING I COMMISSIONING OF NI

36. The license holder shall ensure the continuous surveillance of the IS SSC during the commissioning of NI. The objective of such surveillance shall be:

36.1. monitoring of environmental conditions (for example, temperature, pressure, humidity, precipitation, wind speed and electromagnetic conditions) in the IS SSC environment that have a negative impact on the IS SSC;

36.2. ensuring measures to protect the IS SSC from adverse environmental effects, contamination or mechanical damage (for example, temporary pipe covers, protective coating, anti-corrosive coating), where protective measures are to be installed to protect the IS SSC from adverse effects;

36.3. supervision of the implementation of the requirements set out in paragraph 65 of the legal act referred to in subparagraph 2.6 of the Requirements.

37. The procedure for organising and conducting the surveillance of the IS SSC during commissioning of NI shall be described in the license holder's management system documents and the results shall be documented.

SECTION NINE
MEASURING AND TESTING EQUIPMENT

38. The license holder shall ensure that the calibrated measuring and testing equipment specified in the IS SSC test instructions is installed before the start of the IS SSC tests for NI

commissioning referred to in the IS SSC test instructions. The measuring and testing equipment used shall be recorded specifying the identification marks of the measuring and testing equipment.

39. The license holder's management system documents shall specify a procedure for the maintenance, calibration and recording of measuring and testing equipment.

Section 10. *Repealed from 01.05.2020*

CHAPTER VI
PREPARATION FOR IS SSC TESTS FOR NI COMMISSIONING

SECTION ONE
PREPARATION OF NORMATIVE TECHNICAL DOCUMENTS FOR OPERATION OF NI

41. The license holder shall ensure that, prior to the commencement of testing without the use of nuclear and/or nuclear fuel cycle materials, the license holder's normative technical documents for operation of NI, as specified in subparagraph 4.3 of the Requirements, are prepared in accordance with the procedure set out in the license holder's management system documents and that persons are designated as responsible for the review of these documents, for amendments to these documents, and for the submission of amendments for approval in the course of implementation of the commissioning programme for NI.

42. The license holder shall ensure that the license holder's normative technical documents for operation of NI are prepared in accordance with the nuclear safety normative technical documents, the design of NI and taking into account the assumptions that have been used in the development of the design of NI and the safety justification of NI.

43. The license holder's normative technical documents for operation of NI shall cover all operational states of the NI and shall specify the requirements for normal operation, the actions to be taken in the event of any deviation from normal operation of the NI and the limitations to be observed by the NI operating staff.

44. The description of the limits and conditions for the operating parameters of the NI shall specify:

44.1. the name of the NI;

44.2. the scope of the description of limits and conditions for NI operating parameters;

44.3. responsibilities of NI operational staff. It shall specify how activities and processes are allocated during the operation of the NI and who is responsible for the execution, supervision and control of these activities;

44.4. the terms and definitions used in the description of limits and conditions for NI operating parameters;

44.5. the abbreviations and explanations of abbreviations used in the description of limits and conditions for NI operating parameters;

44.6. a list of design documentation of NI, legal acts, nuclear safety normative documents and license holder's normative technical documents for the operation of the NI, to which reference is made in the description of the limits and conditions of the NI operating parameters;

44.7. a brief description of the NI and the technological process carried out therein;

44.8. limits and conditions of IS SSC operation during normal operation;

44.9. limits and conditions for the safe operation of the IS SSC;

44.10. the general requirements for the maintenance, monitoring and inspections of the NI IS SSC during the operation of NI;

44.11. a description of the actions to be taken in the event of a deviation from the normal operation of the NI.

45. The license holder shall ensure that the NI commissioning participants are familiar with and comply with the description of the limits and conditions for the NI operating parameters.

46. The license holder's procedure and instructions for the operation of the NI shall specify the limits and conditions for the operation of the IS SSC, detail the license holder's management system processes, the activities of the NI operating staff and the suppliers of the IS product to ensure the safe operation of the NI, and the procedure for documenting, evaluating and storing the results of these activities.

SECTION TWO
CONDITIONS NECESSARY TO START THE TESTS FOR COMMISSIONING OF NI

47. All IS SSC tests for NI commissioning specified in the commissioning programme for NI shall be carried out in accordance with the IS SSC test instructions approved by the license holder prior to the commencement of such IS SSC tests for NI commissioning to be performed in accordance with the IS SSC test instructions. The procedure for the preparation, review and submission for approval of the IS SSC test instructions and the qualification requirements for persons preparing and reviewing the IS SSC test instructions shall be set out in the license holder's management system documents.

48. The IS SSC test instructions shall contain:

48.1. an introduction. The introduction shall specify the IS SSC to be tested and the safety classes of the IS SSC;

48.2. the tests. The IS SSC tests for NI commissioning referred to in subparagraph 48.1 of the Requirements and the NI commissioning phase or sub-phase during which the IS SSC tests for NI commissioning are to be carried out shall be specified;

48.3. the test objectives and methods. The objectives of the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements and the methods by which the said test objectives are to be achieved shall be described;

48.4. the limits and conditions for the IS SSC operation. The limits and conditions for the operation of the IS SSC referred to in subparagraph 48.1 of the Requirements shall be specified;

48.5. the necessary and initial conditions. The conditions and status of all SSC that may affect the performance of the IS SSC tests referred to in subparagraph 48.1 of the Requirements shall be specified. This part shall also specify the measures necessary to maintain the configuration of the IS SSC referred to in subparagraph 48.1 of the Requirements;

48.6. the procedure for conducting the tests. It shall be specified how the IS SSC referred to in subparagraph 48.1 of the Requirements are to be prepared for the tests of NI commissioning referred to in subparagraph 48.2 of the Requirements. It shall also describe the sequence and detail of the IS SSC tests to be carried out for NI commissioning referred to in subparagraph 48.2 of the Requirements, the temporary changes and the settings of other systems and components necessary for performing the tests;

48.7. the test data and results. The data to be collected or verified during the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements, the IS SSC commissioning criteria set out in the design of NI and in the nuclear safety normative technical documents of the supplier of the IS product, which the IS SSC must meet during the IS SSC tests referred to in subparagraph 48.2 of the Requirements shall be specified, with a reference to the design of NI and the nuclear safety regulatory technical documents of the IS product supplier, in which these data and the IS SSC commissioning criteria are set out;

48.8. a list and description of the test equipment and instruments. The description of the equipment and instruments used for the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements shall include requirements for their calibration, identification and accuracy;

48.9. the test participants, their qualifications and responsibilities. The qualifications, experience requirements, duties and responsibilities of the participants in the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements, during the performance of the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements, shall be specified;

48.10. special protective measures. The protective measures to be used for the staff and the IS SSC during the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements shall be specified;

48.11. completion of the tests. The actions to be performed after completion of the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements (for example, return to initial condition, removal of temporary changes, and change of equipment settings) and the procedure for performing these actions shall be specified;

48.12. records. The data to be collected during the IS SSC tests for NI commissioning referred to in subparagraph 4.2 of the Requirements shall be specified;

48.13. identification, references and information. Each IS SSC test instruction shall have an identification marking (for example, an identification number). The IS SSC test instruction shall include references to relevant documents and identify the persons who are required to familiarise themselves with the consult the IS SSC test instruction;

48.14. the management of test data and results. Provisions shall be in place for documenting the data and results of the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements. It shall be specified which conformity assessment documents referred to in subparagraph 27.11 of the Requirements are to be executed and/or which documents are to be completed in accordance with the procedure set out in the license holder's management system documents during the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements and how these documents are to be stored. This part shall also specify who is to sign these documents. The documents shall be completed in chronological order, indicating the test results and data referred to in subparagraph 48.7 of the Requirements and the date on which they were carried out;

48.15. the management of non-compliances. A description of the actions to be taken, or a reference to the license holder's normative technical document describing the actions to be taken in the event of a deviation from the limits and conditions of IS SSC operation, or in the event of finding non-compliances, during the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements;

48.16. other information. This part shall specify the assessments and calculations to be carried out and the scope of the assessments and calculations to be carried out for the results of the IS SSC tests for NI commissioning referred to in subparagraph 48.2 of the Requirements.

49. The license holder shall ensure that the staff preparing and reviewing the IS SSC test instructions meet the qualification requirements set out in the license holder's management system documents. Designers shall be involved in the preparation and verification processes of the IS SSC test instructions where the design of the NI structure identifies the need to coordinate these documents with the designer.

50. The license holder shall establish in the management system documents a procedure for the issuance and enforcement of permits for commissioning of NI to NI commissioning participants to perform the IS SSC tests for NI commissioning.

51. The license holder shall establish in the management system documents a procedure for the preparation, updating and provision of the valid IS SSC test schedules for NI commissioning (hereinafter referred to as "IS SSC test schedules") to NI commissioning participants.

52. The following conditions shall be met before the commencement of the IS SSC tests for NI commissioning:

52.1. the provisions of paragraph 83^6 of the legal act referred to in subparagraph 2.6 of the

Requirements have been met;

52.2. the settings of the electrical system, fuses and circuit breakers have been checked;

52.3. the conditions set out in the design of NI and in the documents of the IS product supplier have been met;

52.4. all switches and interlocks necessary for the test have been installed;

52.5. the NI commissioning participants have been briefed on the IS SSC tests;

52.6. the cleanliness checks of the IS SSC to be tested have been carried out;

52.7. the technical measures referred to in paragraph 23 of the Requirements have been installed and their functioning has been verified;

52.8. the participants in the IS SSC tests for NI commissioning have been provided with the documents and information necessary to carry out the IS SSC tests for NI commissioning;

52.9. it has been verified and satisfied that, upon completion of the IS SSC tests for NI commissioning, the actions specified in subparagraph 48.11 of the Requirements may be carried out in accordance with the test instructions for this IS SSC.

CHAPTER VII
IMPLEMENTATION OF THE COMMISSIONING PROGRAMME FOR NI

SECTION ONE
PERFORMANCE OF IS SSC TESTS FOR NI COMMISSIONING

53. The commissioning of NI shall be carried out in phases and sub-phases, in accordance with the commissioning programme for NI agreed with the VATESI and the license holder's normative technical documents.

54. The process of commissioning of NI shall be documented in accordance with the requirements of the license holder's management system.

55. Each phase or sub-phase of commissioning of NI shall include preparations for the execution of the next phase or sub-phase.

SECTION TWO
PREPARATION OF IS SSC TEST REPORTS FOR NI COMMISSIONING

56. The licence holder shall ensure that, at the end of each IS SSC test for NI commissioning, a report on this IS SSC test for NI commissioning is produced.

57. The IS SSC test report for NI commissioning shall include:

57.1. an introduction. The IS SSC that have been tested, the NI commissioning phase or sub-phase in which the IS SSC test for NI commissioning was carried our shall be specified;

3. references. Reference shall be made to the IS SSC test instructions used for the IS SSC test for NI commissioning referred to in subparagraph 57.1 of the Requirements, with the identification marking of the IS SSC test instructions;

57.3. the objectives. The objective of the IS SSC test for NI commissioning referred to in subparagraph 57.1 of the Requirements;

57.4. the test. A description of the performance of the IS SSC test for NI commissioning referred to in subparagraph 57.1 of the Requirements, including the initial and final settings, the limits and conditions of IS SSC operation during the test, the problems encountered during this IS SSC test for NI commissioning, the actions taken to resolve the problems, including any modifications to the IS SSC or to the license holder's normative technical documents that have been made or are required;

57.5. equipment used. A description of the equipment used during the IS SSC test for NI commissioning referred to in subparagraph 57.4 of the Requirements;

57.6. the test data and results. The data and results of the IS SSC test for NI commissioning

referred to in subparagraph 57.4 of the Requirements, collected or verified during the IS SSC test for NI commissioning referred to in subparagraph 57.4 of the Requirements shall be specified, with references to the conformity assessment documents and/or documents executed during the IS SSC test for NI commissioning in accordance with the procedure set out in the license holder's management system documents, in which the data and results of the IS SSC test for NI commissioning referred to in subparagraph 57.4 of the Requirements were recorded;

57.7. the evaluation of results. Documents of the evaluation and calculation of the results of the IS SSC test for NI commissioning referred to in subparagraph 57.4 of the Requirements shall be provided, as specified in the IS SSC test instruction for this IS SSC test for NI commissioning;

57.8. the actions to be taken upon completion of the test. It shall be specified which of the actions referred to in subparagraph 48.11 of the Requirements have been carried out upon completion of the IS SSC test for NI commissioning referred to in subparagraph 57.4 of the Requirements;

57.9. conclusions. Conclusions shall be drawn on:

57.9.1. compliance of the data and results of the IS SSC test for NI commissioning referred to in subparagraph 57.6 of the Requirements with the requirements for the acceptability of results of the IS SSC test for NI commissioning or with the requirements for the range of acceptability of the test results, with a reference to the design, the IS product supplier's normative technical documents or the nuclear safety normative technical documents that set out these requirements for the acceptability of results of the IS SSC of NI test for commissioning of NI or with the requirements for the range of acceptability of the test results;

57.9.2. the achievement of the objectives of the IS SSC test for commissioning of NI referred to in subparagraph 57.3 of the Requirements;

57.9.3. the necessity to remedy the non-compliances identified during the IS SSC test for commissioning of NI referred to in subparagraph 57.4 of the Requirements, if any, by indicating the actions to be taken to remedy the non-compliances (for example, changes to the design of NI and/or the license holder's normative technical documents for the operation of the NI, assessment of the causes of non-compliances, remedying the deficiencies), and the planned dates for the remedy;

57.9.4. the possibility to safely carry out further IS SSC tests for commissioning of NI referred to in subparagraph 57.1 of the Requirements and/or to operate them in a safe manner;

57.10. responsible persons. Information on the persons who prepared the IS SSC test report for commissioning of NI referred to in subparagraph 57.4 of the Requirements and the signatures of those persons shall be provided;

57.11. identification and information. Each IS SSC test report for commissioning of NI shall have an identification marking (for example, an identification number). The IS SSC test report for commissioning of NI shall identify the persons who are required to have access to the IS SSC test report for commissioning of NI.

58. All IS SSC test reports for commissioning of NI shall be retained at the time of commissioning of NI and shall be transferred to the industrial operation of NI.

SECTION THREE
VERIFICATION OF THE LICENSE HOLDER'S NORMATIVE TECHNICAL DOCUMENTS FOR OPERATION OF NI

59. The license holder shall ensure that persons designated in accordance with paragraph 41 of the Requirements carry out a review of the license holder's normative technical documentation for the operation of the NI, as specified in the commissioning programme for NI. The reviews of the license holder's normative technical documents for the operation of the NI shall verify:

59.1. compliance of the execution of the license holder's normative technical documents for the operation of the NI with the nuclear safety normative technical documents and with the requirements set out in the license holder's management system documents;

59.2. the technical accuracy of the information contained in the license holder's normative technical documents for the operation of the NI and the consistency with the data and results obtained during the IS SSC tests for commissioning of NI;

59.3. the conformity of the information contained in the license holder's normative technical documents for the operation of the NI with the design of NI and the suppliers' documents;

59.4. the sequence of actions specified in the license holder's normative technical documents for the operation of the NI.

60. The license holder shall ensure that, if, during the review, non-compliances in the license holder's normative technical documents for the operation of the NI and/or the need to modify the limits and conditions for the operation of the IS SSC are identified, modifications to these documents are carried out in accordance with the procedure set out in the license holder's management system documents and in paragraph 35 of the Requirements.

SECTION FOUR
ANALYSIS OF THE IS SSC TEST RESULTS FOR THE NI COMMISSIONING PHASE AND SUB-PHASE, AND INTERIM AND FINAL REPORTS ON THE IMPLEMENTATION OF THE COMMISSIONING PROGRAMME FOR NI

61. The license holder shall ensure that for each phase or sub-phase of commissioning of NI, an analysis of the IS SSC test results for NI commissioning is carried out, which shall assess whether:

61.1. the performance of the IS SSC tested in the phase or sub-phase of commissioning of NI is in accordance with the solutions of design of NI;

61.2. The IS SSC tests for commissioning of NI in the NI commissioning phase or sub-phase have been carried out within the limits and conditions of operation of the SC SSC;

61.3. all the necessary data for the IS SSC for the NI commissioning phase or sub-phase have been obtained and assessed;

61.4. the data and results of the IS SSC tests for NI commissioning in the NI commissioning phase or sub-phase in which the IS SSC for NI commissioning was tested meet the requirements of the acceptability of the results of the tests or the acceptability range of the results of the tests of the NI commissioning phase or sub-phase, as set out in the design of NI, in the documents of the IS product supplier or in the nuclear safety normative technical documents;

61.5. the assessment and calculations of the results of the IS SSC tests for NI commissioning in the NI commissioning phase or sub-phase, as specified in the IS SSC test instructions, have been carried out and the IS SSC test reports for NI commissioning have been prepared;

61.6. the tests and inspections of the SSC referred to in subparagraph 4.5 of the Requirements have been carried out and the results are in accordance with the design of NI.

62. The license holder shall ensure that, upon completion of the IS SSC tests for NI commissioning in the NI commissioning phase or sub-phase and of the analysis of the results of the IS SSC tests for NI commissioning, interim and final reports on the implementation of the commissioning programme for NI are prepared.

63. The interim and final reports on the implementation of the commissioning programme for NI shall indicate:

63.1. the title of the NI commissioning phase or sub-phase;

63.2. a brief description of the IS SSC tests for commissioning of NI in the NI commissioning phase or sub-phase;

63.3. the data and results of the IS SSC tests for NI commissioning in the NI commissioning phase or sub-phase;

63.4. a list of the license holder's normative technical documents for the operation of the NI verified at the NI commissioning phase or sub-phase;

63.5. a description of non-compliances of the IS SSC of the NI commissioning phase or sub-

phase, the elimination of non-compliances and the modifications;

63.6. the tests and inspections of the SSC referred to in subparagraph 4.5 of the Requirements carried out, and compliance of their results with the design of NI;

63.7. conclusions. Conclusions on the acceptability of the data and results of the IS SSC tests for NI commissioning in the NI commissioning phase or sub-phase, the adequacy of the license holder's verified normative technical documents for operation of NI for the safe operation of the NI, compliance of the SSC referred to in subparagraph 4.5 of the Requirements with the NI design and the possibility to safely carry out further tests and/or safe operation of the NI during the NI commissioning phase or sub-phase;

63.8. responsible persons. Reports signed by the responsible persons.

64. The license holder shall ensure that the staff involved in the analysis of the results of the IS SSC tests for NI commissioning in the NI commissioning phase or sub-phase, and in the preparation of the interim and final report(s) on the implementation of the commissioning programme for NI comply with the qualification requirements set out in the management system documents of the license holder.

65. The holder of the licences referred to in Article 22(1)(2) and (3) of the legal act referred to in subparagraph 2.1 of the Requirements shall submit to the VATESI the intermediate and final reports on the implementation of the commissioning programme for NI, in the following order:

65.1. an interim report on the implementation of the commissioning programme for the commissioning phase of the NI referred to in subparagraph 15.1 of the Requirements, other than a NPP, NPP power unit or a non-power nuclear reactor, in accordance with subparagraph 7.4 of the legal act referred to in subparagraph 2.3 of the Requirements;

65.2. the final report on the implementation of the commissioning programme for the commissioning phase of the NI referred to in subparagraph 15.2 of the Requirements, other than a NPP, NPP power unit or a non-power nuclear reactor, in accordance with subparagraph 19.4 of the legal act referred to in subparagraph 2.3 of the Requirements;

65.3. an interim report on the implementation of the commissioning programme of the NPP, NPP power unit or non-power nuclear reactor for the commissioning phase of the NPP, NPP power unit or non-power nuclear reactor referred to in subparagraph 16.1 of the Requirements, in accordance with subparagraph 16.12 of the legal act referred to in subparagraph 2.3 of the Requirements;

65.4. an interim report on the implementation of the commissioning programme of the NPP, NPP power unit or non-power nuclear reactor for the commissioning sub-phase of the NPP, NPP power unit or non-power nuclear reactor referred to in subparagraph 16.2.1 of the Requirements, in accordance with subparagraph 18.8 of the legal act referred to in subparagraph 2.3 of the Requirements;

65.5. the final report on the implementation of the commissioning programme of the NPP, NPP power unit or non-power nuclear reactor for the commissioning phases of the NPP, NPP power unit or non-power nuclear reactor referred to in subparagraphs 16.2.2 and 16.2.3 of the Requirements, in accordance with subparagraph 19.4 of the legal act referred to in subparagraph 2.3 of the Requirements;

66. The VATESI shall take the decision that the documents referred to in subparagraphs 65.1 to 65.5 of the Requirements meet the circumstances specified in Article 25(6) of the legal act referred to in subparagraph 2.1 of the Requirements only if all of the following circumstances are present:

66.1. The documents referred to in paragraphs 65.1 to 65.5 of the Requirements are in conformity with the Requirements;

66.2. the tests and the scope of the IS SSC tests for commissioning of NI in the NI commissioning phase or sub-phase specified in the documents referred to in subparagraphs 65.1 to 65.5 of the Requirements are in accordance with the commissioning programme for NI agreed upon with the VATESI;

66.3. the results of the IS SSC tests for commissioning of NI in the NI commissioning phase or sub-phase specified in the documents referred to in subparagraphs 65.1 to 65.5 of the Requirements are in accordance with the design of NI and with the nuclear safety normative technical documents for;

66.4. the positive conclusions on the feasibility of safely carrying out the next phase or sub-phase of commissioning of NI and/or of the safe operation of the NI, specified in the documents referred to in subparagraphs 65.1 to 65.5 of the Requirements.

67. During the review of the interim and final reports on the implementation of the commissioning programme for NI, the VATESI shall have the right to request the license holder to provide additional information or clarifications necessary for the review and assessment of the interim and final reports on the implementation of the commissioning programme for NI.

SECTION FIVE
PREPARATION AND SUBMISSION TO THE VATESI OF THE FINAL PROGRAMME FOR NI COMMISSIONING

68. The license holder shall ensure that, upon completing the IS SSC tests for commissioning of NI referred to in subparagraphs 15.1 and 16.2 of the Requirements and upon preparing the interim report on the implementation of the commissioning programme for NI in accordance with the results of the IS SSC tests for this NI commissioning phase, the commissioning programme for NI is reviewed and the final commissioning programme for NI is prepared.

69. The VATESI shall take the decision that the final commissioning programme for NI complies with the circumstances referred to in Article 25(6) of the legal act referred to in subparagraph 2.1 of the Requirements, where the final commissioning programme for NI complies with the requirements of Section Two of Chapter IV of the Requirements.

SECTION SIX
SUBMISSION TO THE VATESI OF THE LICENSE HOLDER'S NORMATIVE TECHNICAL DOCUMENTS FOR NI OPERATION

70. The documents of the first and second level management system of the license holder for commissioning and operation of NI and the description of the limits and conditions for the operating parameters of NI, shall be submitted to the VATESI under the procedure specified in the legal act referred to in subparagraph 2.3 of the Requirements.

71. The VATESI shall take the decision that the documents referred to in paragraph 70 of the Requirements meet the circumstances referred to in Article 25(6) of the legal act referred to in subparagraph 2.1 of the Requirements, where these documents comply with the Requirements and with the legal act referred to in subparagraph 2.5 of the Requirements.

CHAPTER VIII
PROCEDURE AND GUIDELINES FOR NPP OPERATION AND EMERGENCY OPERATION

72. The license holder shall have in place an emergency operating procedure prior to the commencement of tests without the use of nuclear and/or nuclear fuel cycle materials to ensure the performance of safety functions, recovery or compensation and mitigation of the effects of an accident in the event of a nuclear or radiological accident that does not damage the reactor core and/or the fuel in the spent fuel pools.

73. The descriptions of the emergency operating procedure shall specify the actions to be taken by the NPP staff to restore the NPP to a safe condition in the event of a nuclear or radiological

accident, to prevent or mitigate radiological effects and to prevent damage to the reactor core and fuel in the spent fuel pools. These descriptions shall be designed to enable the NPP staff to identify a specific emergency event and to take pre-planned actions to manage the accident or, if it is not possible or appropriate to identify a specific emergency event, to identify the impairment of safety functions and to restore or compensate for the safety functions.

74. The license holder shall, prior to the commencement of tests without the use of nuclear and/or nuclear fuel cycle materials, implement severe accident management guidelines (hereinafter referred to as "SAMG") for the management of accidents involving damage to the reactor core and/or spent fuel in spent fuel pools. The descriptions of these guidelines shall set out the possible actions of the NPP staff to ensure the mitigation of the radiological effects of accidents and the establishment of a stable state of the NPP in which the absence of a critical condition, the cooling of the nuclear fuel or its fragments and the limitation of radionuclide releases are ensured.

75. The emergency operating procedures and SAMG shall be implemented on the assumption that an accident can occur at the NPP in any operating state.

76. The emergency operating procedures and SAMG shall be implemented on the assumption that accidents may occur simultaneously in several installations of the nuclear facility (for example, the reactor unit and spent fuel pools) and/or in several nuclear facilities belonging to the operating organisation.

77. The descriptions of the operating procedures, emergency operating procedures and SAMG shall be consistent with each other.

78. The operating procedures, emergency operating procedures and SAMG shall be verified and validated to the extent reasonably practicable without a significant adverse impact on nuclear safety (for example, by checking the draft procedures and guidelines with several staff members, by checking the adequacy of the procedures and guidelines using simulators, by conducting training, equipment tests, exercises, evaluation of the operating experience).

79. The descriptions of the operating procedures, emergency operating procedures and SAMG shall be reviewed and revised periodically, at least every 5 years, in the light of experience.

80. Temporary instructions issued to the NPP staff during the NPP commissioning and NPP operation shall be documented and controlled under the procedure set out in the license holder's management system documents. The aim should be to keep the number of existing temporary instructions to a minimum, i.e. to repeal them as soon as possible or to incorporate their provisions into the descriptions of the procedures or guidelines.

81. The descriptions of the operating procedures, emergency operating procedures and SAMG shall be prepared and temporary instructions shall be issued and amended in accordance with the limits and conditions of NPP operation and the information contained in the NPP design documents, the NPP Safety Analysis Report and/or other safety justification documents.

82. The descriptions of the operating procedures, emergency operating procedures and SAMG shall be prepared, verified and validated, approved, amended and repealed in accordance with the procedure set out in the license holder's management system documents.

83. The descriptions of the emergency operating procedures and SAMG shall be prepared taking into account the predicted accident conditions (for example, ionising radiation levels, chemical contamination, sound, humidity, temperature) in the NPP facilities and on site.

84. The descriptions of the emergency operating procedures and SAMG shall be harmonised with each other and with the emergency preparedness plans and emergency preparedness instructions.

85. The license holder shall have sufficient human resources and means to manage the accidents foreseen in the NPP design. For the management of these accidents and the response to external effects, the services and/or resources of natural and/or legal persons outside the NPP site (for example, electricity supply companies, fire services) may also be used, taking into account the availability of such services (time, infrastructure and other aspects), the speed of development of the accidents, and the potential damage to the infrastructure due to external effects.

86. *Repealed from 01.05.2020*

87. The license holder shall prepare and revise, in the light of experience gained in the sphere of emergency management, the emergency management training programmes and training methodologies provided for in the NPP design. Such training and exercise shall be provided in accordance with the procedure and at intervals determined by the licence holder.

CHAPTER IX
FINAL PROVISIONS

88. The license holder may procure from other legal entities services and/or works for the performance of the NI commissioning processes, including the preparation of the commissioning programme for NI, but the license holder shall control, coordinate and supervise the safe performance of the NI commissioning processes.

89. A person who violates the Requirements shall be liable in accordance with the procedure established by the Republic of Lithuania Law on Nuclear Safety and/or the Republic of Lithuania Code of Administrative Offences.