HEAD OF THE STATE NUCLEAR POWER SAFETY INSPECTORATE

ORDER
APPROVING NUCLEAR SAFETY REQUIREMENTS BSR-1.4.2-2014 "NUCLEAR FACILITY CONSTRUCTION MANAGEMENT"

29 January 2014 No. 22.3-22
Vilnius

Pursuant to Articles 4(1) and 11(1) of the Republic of Lithuania Law on Nuclear Safety, I hereby:

1. Approve the Nuclear Safety Requirements BSR-1.4.2-2014 " Management of Construction for Nuclear Installation " (attached).

2. Establish that:

2.1. The Nuclear Safety Requirements BSR-1.4.2-2014 " Management of Construction for Nuclear Installation " shall not apply to construction contracts and contracts for the purchase of safety-critical products concluded before the entry into force of this Order;

2.2. This Order shall enter into force on 1 May 2014.

Head Michail Demčenko

APPROVED by
Order No. 22.3-22 of the Head of the
State Nuclear Power Inspectorate of 29
January 2014

NUCLEAR SAFETY REQUIREMENTS
BSR-1.4.2-2014

MANAGEMENT OF CONSTRUCTION FOR NUCLEAR INSTALLATION

CHAPTER I
GENERAL PROVISIONS

1. The Nuclear Safety Requirements BSR-1.4.2-2014 "Management of Construction for Nuclear Installation " (hereinafter referred to as the "Requirements") shall set out the requirements for the license holder's management system documents for the construction of structures, systems, and components important to safety of a nuclear installation during the construction, operation and decommissioning of the nuclear installation and the supervision of the closed radioactive waste disposal facilities (hereinafter referred to as the "license holder's management system documents describing construction").

2. These Requirements shall be binding on applicants who apply to the State Nuclear Power Safety Inspectorate for the issue of the licences referred to in Article 22(1)(1) to (5) of the legal act referred to in subparagraph 3.2 of these Requirements, and on the persons holding licences issued by the State Nuclear Power Safety Inspectorate in accordance with Article 22(1)(1)(1) to (5) of the legal act referred to in subparagraph 3.2 of these Requirements (hereinafter referred to as the "licence holder"), as well as on persons whose activities are related to construction works of structures, systems and components important to safety of a nuclear installation, including the manufacture and assembly, installation, testing and inspection of structures, systems and components important to safety of a nuclear installation, general and special construction supervision, technical supervision of the assembly, installation, setting in motion and adjustment of technological equipment and devices, important to safety the supervision of the implementation of the design of building structures of nuclear installation, as well as modifications of the nuclear installation during which the construction works of structures, systems and components important to safety of the nuclear installation are implemented.

CHAPTER II
REFERENCES

3. The Requirements contain references to the following legislation:
3.1. Republic of Lithuania Law on Nuclear Energy;
3.2. Republic of Lithuania Law on Nuclear Safety;
3.3. Republic of Lithuania Law on Construction;
3.4. Republic of Lithuania Law on the Conformity Assessment;
3.5. 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;
3.6. Nuclear Safety Requirements BSR-1.4.1-2016 "Management System", approved by Order No. 22.3-56 of the Head of the VATESI of 21 June 2010 approving the Nuclear Safety Requirements

BSR-1.4.1-2016 "Management System".

3.7. 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 VATESI of 7 October 2011 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".

CHAPTER III
DEFINITIONS

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

CHAPTER IV
ABBREVIATIONS

5. The following abbreviations are used in the Requirements:

5.1. NI - Nuclear installation;

5.2. SSC - NI structures, systems and/or components;

5.3. IS – important to safety;

5.4. IAEA - International Atomic Energy Agency;

5.5. VATESI – State Nuclear Power Safety Inspectorate/

CHAPTER V
MANAGEMENT SYSTEM FOR NI CONSTRUCTION

SECTION ONE
RESPONSIBILITIES OF THE LICENCE HOLDER

6. The license holder shall control all activities related to the construction of the NI IS SSC.

7. The license holder may conclude contracts for construction works, but shall be fully responsible for the nuclear safety, radiation protection and physical security of the NI under construction, and for the organisation and performance of the technical supervision of construction of the building structures of NI and the supervision of the implementation of design of building structures of NI as laid down in the legal act referred to in subparagraph 3.3 of the Requirements.

8. The licence holder shall ensure:

8.1. the preparation and implementation of management system documents specifying how and in what sequence the processes related to the construction of the NI IS SSC are to be carried out, the qualifications, duties and responsibilities of each participant in the process, and the continuous assessment and improvement of these management system documents in accordance with the provisions of the Requirements and of the legal act referred to in subparagraph 3.6 of the Requirements;

8.1^{1}. the execution of the IS SSC construction works in accordance with the requirements of the coordinated design of NI documentation, the legal acts and normative technical documents governing the NĮ construction, and the safety justification documentation for modification where construction works are carried out to implement the modification of the IS SSC;

8.2. the preparation of the programme of IS SSC inspections and tests during construction referred to in subparagraph 6.15 of the legal act referred to in subparagraph 3.5 of the Requirements, and the BEO commissioning programme specified in Article 32(3) and (4) of the legal act referred to in subparagraph 3.2 of the Requirements (hereinafter collectively referred to as the "inspection programme"), and the performance of the tests and inspections referred to in the inspection

programme, and the quality supervision of the IS product (hereinafter referred to as the "product");

8.3. the planning, allocation and adequacy of the human resources necessary to implement the management system processes referred to in subparagraph 8.1 of the Requirements, including the establishment of requirements for the suppliers of the IS product (hereinafter referred to as the "suppliers") and for the control, inspection and evaluation of suppliers and the product they supply;

8.4. coordination of changes to the design of NI that may affect the nuclear safety and radiation protection and physical security of the NI, with VATESI as set out in Section Four of Chapter IV of the legal act referred to in subparagraph 3.7 of these Requirements;

8.5. the preparation and storage of IS SSC documents, taking into account the importance of such documents in ageing management and in periodic safety analysis and justification.

9. The license holder shall appoint (employ) persons responsible for the technical supervision of general and special IS SSC construction works of the NI building structures, who, in accordance with the procedure laid down in the legal acts regulating construction of the NI building structures, are responsible for the normative quality of the NI building structures, and shall control the IS SSC construction in accordance with the requirements of the coordinated design of building structures of NI, the legal acts regulating construction of the building structures of NI, the normative technical documents for construction, and the nuclear safety normative technical documents (hereinafter referred to collectively as the "normative technical documents").

9^1. For the technical supervision of the assembly, installation, setting in motion and adjustment of the IS technological equipment and devices of the building structures of NI (hereinafter referred to as "construction of IS technological equipment"), which is not part of the technical supervision of general and/or special construction, the license holder shall appoint (employ) persons responsible for the technical supervision of construction of IS technological equipment. The license holder's management system documents shall state:

9^1.1. the qualification requirements for technical supervisors of construction of IS technological equipment;

9^1.2. the rights and duties of technical supervisors of construction of IS technological equipment;

9^1.3. the scope and procedure for the technical supervision of construction of IS technological equipment.

9^2. The procedure, functions, responsibilities, accountability, subordination, interrelationship and coordination for the appointment (employment) of technical supervisors of general, special, IS SSC construction works of the building structures of NI, and IS technological equipment shall be set out in the license holder's management system documents prior to the commencement of the IS SSC construction works, and the implementation of such management system documents shall be ensured.

9^3. The license holder shall organise the supervision of implementation of the design building structures of NĮ in order to ensure that the IS SSC are constructed in accordance with the design of building structures of NĮ and that the requirements for the IS SSC set out in the design of building structures of NĮ are met.

SECTION TWO
SAFETY CULTURE

10. The license holder shall comply with the legal act referred to in subparagraph 3.6 of these Requirements and with these Requirements in order to ensure an acceptable level of safety culture during the IS SSC construction works for the NI.

11. The license holder shall ensure that all IS SSC suppliers and the license holder's staff involved in the construction processes have an adequate understanding of the safety functions provided for the IS SSC and of the consequences that may arise during the NI commissioning or NI operation, if the construction works do not comply with, or are inadequately carried out in accordance with the requirements for the construction works due to an inadequate understanding of the IS SSC influence on the NI nuclear safety and radiation protection and physical security, and to failure to

comply with the license holder's management system documents.

12. *Repealed from 01.05.2017*

13. The license holder shall ensure that all documents implementing the IS SSC construction are also prepared in accordance with the nuclear safety normative technical documents.

14. The license holder shall ensure that the supplier's and the license holder's staff involved in the construction processes are familiar with their requirements of the nuclear safety normative technical documents applicable to the construction of NI.

15. *Repealed from 01.05.2017*

SECTION THREE
DIFFERENTIATED APPROACH

16. The allocation of resources shall be differentiated according to the safety impact of the IS SSC under construction.

17. The following aspects shall also be taken into account when allocating resources:

17.1. the processes for assessing the conformity and technical condition of IS SSC;

17.2. the scope of IS SSC inspections and tests, including those provided for in the license holder's inspection programmes;

17.3. the products, descriptions of procedures, records and other documents used;

17.4. the activities related to the first use of a product or engineering solution of this kind;

17.5. the risks associated with construction works.

SECTION FOUR
TRACEABILITY OF IS SSC AND IS SSC DOCUMENTS

18. The license holder shall ensure the traceability of the IS SSC and IS SSC documents from the coordinated design of building structures of NI facility to the completion of construction. The license holder's management system documents shall establish a procedure for the systematic collection and retention of IS SSC documents. The following IS SSC construction documents shall be collected and retained:

18.1. drawings of the coordinated design of building structures of NI and drawings marked "as built";

18.2. drawings of detailed design for the manufacture and assembly of the IS SSC;

18.3. records of general and special technical supervision of IS SSC construction works, technical supervision of construction of IS technological equipment (hereinafter collectively referred to as the "technical supervision of IS SSC construction"), the supervision of the implementation of design of building structures of NI, and tests and inspections of the IS SSC, and IS SSC construction products, as referred to in paragraph 78 of the Requirements;

18.4. the documents of monitoring of the environmental conditions of the IS SSC as referred to in paragraph 61 of the Requirements;

18.5. the descriptions of IS SSC construction works and tests;

18.6. IS SSC design calculations;

18.7. the documents of IS SSC design changes and IS SSC non-compliances o with design of building structures of NI and/or normative technical documents (hereafter referred to as "non-conformities") and of actions to address them;

18.8. the documents of temporary modifications (for example, temporary supports, covers, bypasses, blinds, valve settings, electrical system disconnections of the IS SSC);

18.9. certificates, declarations, documents of conformity assessment, technical condition

assessment, where the design of building structures of NI and/or the normative technical documents, with respect to the assessment of conformity of the construction works or tests of IS structures of the NI, establish the need for the technical condition assessment, or completed documents in the form prescribed by the license holder, which include the data of tests, inspections, technical supervision of IS SSC construction and the supervision of the implementation of the design of building structures of NI .

18[1]. The license holder shall ensure that the IS SSC construction documents referred to in paragraph 18 of the Requirements include the IS SSC identification markings.

19. The license holder shall establish a procedure for the collection and storage of photographs and geodetic pictures, video and/or computer simulation records of the sites that will later be inaccessible or exposed to intense ionising radiation in license holder's management system documents describing construction. The license holder shall ensure that these photographs and records are collected and stored with descriptive captions under the procedure laid down in the license holder's management system documents.

SECTION FIVE
COMMUNICATION MANAGEMENT

20. The license holder shall ensure the definition of the tasks of the license holder, the designer and the suppliers, and the management of communication between these parties. Communication management shall be specified in the license holder's management system documents describing the construction and shall be duly included in contractual and product acquisition documents.

21. In the license holder's management system documents describing the construction, the license holder shall specify ways to identify and resolve issues that arise between suppliers, such as construction scheduling, execution of construction works, tools and workspace. The license holder shall designate a person to be responsible for dealing with such issues arising on site.

22. In the license holder's management system documents describing the construction, the license holder shall specify the method of exchange of information between the designer and the license holder, between the license holder and the suppliers, as well as the means of addressing comments and questions from suppliers regarding the documentation of design of building structures of NI.

23. The license holder shall specify in the license holder's management system documents describing the construction how changes to the documentation of design of building structures of NI proposed by the suppliers are to be submitted and managed. If the proposal affects nuclear safety, radiation protection and physical security, these management system documents shall include the coordination of the changes to the design of building structures of NI with the VATESI, as set out in the legal act referred to in subparagraph 3.7 of these Requirements.

SECTION SIX
HANDOVER AND ACCEPTANCE OF COMPLETED WORKS

24. The license holder shall establish a procedure for the handover and acceptance of completed works, in the license holder's management system documents describing the construction.

25. When transferring the IS SSC and/or the construction site from one construction participant to another:

25.1. the IS SSC and/or the construction site shall be identified and agreed by both parties;

25.2. both participants in the construction shall jointly carry out an on-site inspection and/or verification of the IS SSC and/or of the construction site;

25.3. works and corrective actions by the constructor participant who has handed over the completed works may only be carried out with the permission of the construction participant who has taken over the IS SSC and/or the construction site.

26. In the license holder's management system documents describing the construction, the license holder shall specify how and in what manner, while transferring the IS SSC and/or the construction site from one construction participant to another, it will be ensured that:

26.1. the completeness and accuracy of the IS SSC documents handed over and accepted have been verified;

26.2. tests have been carried out to confirm that the IS SSC have been constructed, manufactured and installed in accordance with the design of building structures of NI and the normative technical documents, and the acceptability of the test results has been assessed and documented;

26.3. any non-compliance of the IS SSC with the design of building structures of NI and with the normative technical documents will be identified, the incomplete construction works of the IS SSC will be identified and assessed, and the tests and inspections of the IS SSC as foreseen in the NI inspection programme will be properly performed;

26.4. the deadline for the completion of the IS SSC construction works in progress has been set and included in the construction schedule. When scheduling the completion of IS SSC construction works in progress, it shall be ensured that these construction works will not adversely affect other IS SSC construction works and/or IS SSC tests and inspections as part of the inspection programme;

26.5. the connection points (end points) of the utility systems, the boundaries of the systems or installation to be transferred, and the parts of the system or installation to be transferred are clearly indicated in the handover documents with their positions duly defined (for example, valves to be closed or opened, switches to be on or off, etc.);

26.6. records and documents relating to inspections of the IS SSC being transferred have been prepared;

26.7. the transfer of responsibilities between construction participants has been documented;

26.8. the drawings of design of building structures of NI marked "As Built", have been handed over together with the corresponding precise drawings detailing the arrangement of the IS SSC;

26.9. all IS SSC being transferred have identification markings;

26.10. all temporary installations have been specified.

SECTION SEVEN
RESOURCE MANAGEMENT

27. The license holder shall assess, plan and ensure the resources for IS SSC construction.

28. The license holder shall determine the number of qualified technical supervisors of the general, special IS SSC construction works, and technical supervision of IS technological equipment of the BEO building necessary for the continuous technical supervision of IS SSC construction, and ensure the appointment (employment) of this number of technical supervisors.

SECTION EIGHT
ASSESSMENT AND SELECTION OF SUPPLIERS

29. The assessment and selection of suppliers shall be carried out in accordance with the selection criteria established and approved by the license holder, as specified in paragraph 86 of the legal act referred to in subparagraph 3.6 of the Requirements. When establishing the criteria for the assessment and selection of suppliers, the licence holder shall take into account:

29.1. the requirements of the design of building structures of NI, normative technical documents and other legal acts;

29.2. the impact of the SSC or the service on the nuclear safety, radiation protection and physical security of the NI;

29.3. experience in the assessment and selection of a supplier of an equivalent product, which the license holder's staff involved in the assessment and selection of suppliers must have;

29.4. experience in the manufacture and/or supply of the equivalent product, which the

supplier must have;

29.5. the characteristics of the product or engineering solution when the product or engineering solution of this type is used for the first time;

29.6. the complexity of the construction work or service;

29.7. conformity assessments and technical condition assessments necessary to carry out the work or service;

29.8. documents (for example, the certificate of conformity, conformity assessment body's conclusion, calculations, computer simulations, etc.) demonstrating that the appropriate quality of the IS SSC can be achieved;

29.9. the need to engage organisations (e.g. conformity control body, conformity assessment body, designated body, etc.) to carry out assessments of the IS product, process and/or service, the supplier's quality system, and the qualification of the staff to perform the work in question.

30. The license holder shall assess the suitability of all subcontractors of the IS SSC supplier before the subcontractors commence work and ensure the control of their work as set out in paragraph 104 of the legal act referred to in subparagraph 3.6 of these Requirements.

31. In assessing the qualifications of each supplier, the license holder shall take into account the tasks to be performed by the suppliers and their impact on the nuclear safety, radiation protection and physical security of the NI.

32. The license holder shall implement the suppliers' control system taking into account the criteria set out in paragraphs 15 and 29 of these Requirements and in paragraph 87 of the legal act referred to in subparagraph 3.6 of the Requirements, as well as the product-specific requirements. The following aspects of the supplier shall also be assessed:

32.1. technical equipment;

32.2. staff qualifications;

32.3. compliance of the performance of the IS construction product with the requirements of normative technical documents and legal acts.

33. The license holder shall ensure that the suppliers' management system is focused on the requirements for the IS SSC or the service and complies with the provisions of these Requirements and of paragraph 91 of the legal act referred to in subparagraph 3.6 of the Requirements.

SECTION NINE
VERIFICATION AND CORRECTION OF DESIGN DOCUMENTATION

34. The license holder shall ensure that all information provided by the designer is sufficiently clear and is made available to all suppliers whose activities are related to the construction, operation, testing and commissioning of the IS SSC.

35. The license holder shall verify the drawings, technical specification markings and documents describing the technical solutions for the construction, commissioning and operation of the IS SSC of the design of building structures of NI.

36. The license holder shall ensure that the technical specification of the design of building structures of NI, in addition to the conditions for the implementation of the design solutions specified in the normative technical construction documents, also contains references to the normative technical documents which specify the requirements for the IS SSC, their inspections and tests, the technical supervision of IS SSC construction and the supervision of the implementation of the design of building structures of NI, with an indication of the priority of normative technical documents. The technical specification of the design of building structures of NI shall also specify:

36.1. BEO IS SSC;

36.2. characteristics of the BEO IS SSC that affect nuclear safety, radiation protection and/or physical security;

36.3. the means by which the characteristics referred to in subparagraph 36.2 of the Requirements are ensured.

37. The license holder shall ensure that the documents detailing the implementation of the

design of building structures of NI (detailed designs of the parts of design of building structures of NI, detailed technological designs of the NIIS SSC construction works, detailed drawings and instructions for the manufacture, assembly, installation and construction of the IS SSC) comply with the requirements of the normative technical documents, the NI technical specification agreed with the VATESI, the design of NI, the manufacturer of the IS SSC and/or IS SSC construction product, the legal acts governing the construction of the building structures of NI, safety justification documentation for a modification where construction works are carried out to implement a modification of the IS SSC.

38. The license holder's management system documents describing the construction shall specify the procedure for IS SSC inspections and tests, unless the normative technical documents set out the requirements for their inspections and tests.

39. The manufacture, assembly, mounting and erection of the IS SSC may commence only after the preparation of the necessary requirements for the IS SSC quality assurance and of the documents detailing the implementation of the IS SSC design and the design of building structures of NI referred to in paragraph 37 of the Requirements. The licence holder shall approve these documents and ensure their implementation.

40. The quality assurance requirements for the IS SSC referred to in paragraph 39 of the Requirements shall include the following information:

40.1. NI IS SSC to be tested or inspected;

40.2. the characteristics and requirements for their values;

40.3. types of a test or inspection (for example, material tests, assembly inspections, construction inspections, performance tests, in-service inspections);

40.4. the inspection procedures and, if necessary, the instrumentation and testing equipment to be used;

40.5. the scope of inspections and tests;

40.6. inspections to be carried out during the manufacture, assembly, construction, commissioning and operation;

40.7. the inspecting party (for example, the manufacturer, supplier, license holder, authorised or designated bodies, competent authorities);

40.8. the requirements for recording tests and inspections.

41. The license holder shall make provisions for changes and revisions to the design of building structures of NI and for informing the suppliers and the license holder's staff involved in the construction processes in the license holder's management system documents describing the construction. The license holder shall ensure that suppliers and the license holder's staff involved in the construction processes do not use incorrect or invalid documents and that tasks are carried out only in accordance with valid documents.

42. The management system documents describing the construction shall establish a procedure for the review of changes and revisions to the design of building structures of NI and for the marking and recording of all amended and revised parts of the design of building structures of NI. Planned changes to the design of building structures of NI that affect the nuclear safety, radiation protection and physical security of the NI shall be agreed with the VATESI under the procedure set out in the legal act referred to in subparagraph 3.7 of these Requirements.

SECTION TEN
NON-COMPLIANCES AND ACTIONS TO ADDRESS THEM

43. The license holder's management system documents describing the construction shall establish a procedure for recording and addressing non-compliances of the IS SSC.

44. The license holder shall put in place a process for reporting non-conformities identified during the construction of the NI IS SSC. The process shall include the possibility to anonymously report these non-compliances to the licence holder.

45. The license holder shall ensure that each supplier of the IS SSC is aware of the

obligation to report any non-compliances detected to the license holder.

46. The licence holder shall ensure that:

46.1. the actions taken to address non-compliances are assessed in terms of their impact on nuclear safety, radiation protection and/or physical security;

46.2. duly qualified experts and designers are involved in assessing and addressing non-compliances;

46.3. non-compliances are monitored until they are addressed, and follow-up on the actions taken to address the non-compliances is ensured;

46.4. documents of the actions taken to address non-compliances are verified and retained.

47. The license holder shall submit to the VATESI, at least once every 3 months, a report on the non-compliances of the NI IS SSC identified during construction and the actions taken to address these non-compliances.

CHAPTER VI
CONSTRUCTION PROCESS MANAGEMENT

SECTION ONE
PLANNING AND SCHEDULING OF CONSTRUCTION WORKS AND WORK PROGRESS

48. The license holder shall ensure that a construction work schedule is drawn up. The schedule shall contain the following information:

48.1. planned construction works;

48.2. the progress and duration of the planned works;

48.3. resources for the planned works.

49. During construction, the license holder shall continuously check and, where necessary, revise the construction work schedule and ensure that it is communicated to the relevant suppliers and to the license holder's staff involved in the construction processes.

50. The planning, scheduling and progress of construction works shall include inspections and tests of the technological phases.

51. The license holder shall take into account the off-site production and assembly of the IS SSC in planning and scheduling construction works and establishing the work progress.

52. On-site fabrication, assembly, installation, inspection and testing shall be based on the technical specifications of the design of structures of NI, the normative technical documents, drawings of design of building structures of NI and schedules.

53. The suitability of the IS SSC construction method shall be approved by the head of design of building structures of NI. The license holder shall ensure the supervision and inspection of the progress of the IS SSC construction. The fabricated, assembled and installed SC SSC and/or the construction works carried out shall not be damaged by tests and/or other subsequent works.

SECTION TWO
PREPARATION OF PROCUREMENT DOCUMENTS

54. Technical specifications shall be drawn up for the procurement of IS SSC. A procedure shall be established for the preparation of these technical specifications for the procurement.

55. The technical specifications for the procurement shall incorporate the requirements for the IS SSC as defined during the design phase.

56. The license holder shall ensure that the safety classification of the IS SSC is included in the technical specification for the procurement so that suppliers can properly identify the applicable normative technical documents for the nuclear safety of IS SSC.

57. The technical specification for the procurement shall specify:

57.1. the SSC safety class;
57.2. the scope and operating conditions;
57.3. the characteristics and requirements for their values;
57.4. construction and other materials;
57.5. the requirements for carrying out and supervising the fabrication, commissioning and performance tests;
57.6. opportunities for initial and repeat inspections;
57.7. the right of interested parties to have access to information relating to manufacture and inspection;
57.8. requirements for the report and documents to be submitted;
57.9. handling, storage, transport and packaging requirements;
57.10. identification marking;
57.11. requirements for cleanliness and the control of foreign matter.
58. The documents referred to in subparagraph 57.8 of the Requirements shall include:
58.1. certificates or declarations of conformity;
58.2. inspection and test results;
58.3. non-compliance reports;
58.4. ordering registration;
58.5. instructions for storage, installation, testing and protection;
58.6. operating and maintenance instructions;
58.7. operating limits and conditions;
58.8. training requirements for staff;
58.9. documents of works carried out;
58.10. a list of raw materials, components, parts and quantities thereof.
59. Where the procurement of IS SSC or parts thereof is carried out by a contractor of the license holder, the license holder shall establish the means by which compliance with paragraphs 54 to 58 of these Requirements will be ensured in the management system documents.

SECTION THREE
PREPARATION FOR CONSTRUCTION WORKS

60. The license holder shall ensure that the design documentation and the license holder's normative technical documents are in place before the commencement of the construction works to be carried out under those documents. The license holder's management system documents describing the construction shall establish a procedure for the confirmation by the supplier's and the license holder's staff involved in the construction processes that they have the appropriate information necessary to commence the construction works, including schedules, agreed and approved design documentation, and that they are familiar with the safety culture requirements.

SECTION FOUR
ENVIRONMENTAL CONDITIONS

61. The license holder shall identify the environmental conditions of the IS SSC that adversely affect the construction of the IS SSC during construction, including manufacture, assembly and transport (for example, ambient temperature, pressure, humidity, precipitation, wind speed, electromagnetic conditions of the IS SSC), and shall ensure the monitoring of these identified environmental conditions during construction, including manufacture, assembly and transport. The results of monitoring of the environmental conditions of the IS SSC shall be documented.
62. The license holder shall establish measures necessary to protect the IS SSC from adverse environmental effects and ensure the implementation of these measures.

SECTION FIVE

CLEANLINESS AND CLEANING

63. The license holder shall establish a procedure for the measures and controls necessary to protect the IS SSC from external and internal contamination by dirt, dust and foreign matter. These measures shall include:

63.1. methods and techniques for controlling the construction site and individual IS SSC;

63.2. methods to control environmental conditions;

63.3. monitoring of staff access. If clean zones are required for this maintenance, they shall be clearly marked and normative technical documents for their use shall be prepared by the applicant or license holder;

63.4. the suitability for use and maintenance of chemicals and other materials;

63.5. contingency plans in case safeguards and controls do not work.

64. The license holder shall prepare specific requirements for the cleanliness and cleaning of SC systems whose internal surfaces are not normally accessible for visual inspection (for example, engineering systems and utility networks).

65. For IS systems to be cleaned by washing or scrubbing, the license holder's management system documents shall contain requirements for:

65.1. checking the actual flow in accordance with established safety requirements, taking into account the location, position and condition of all components;

65.2. appropriate marking of dangerous components and installation of protective measures to prevent accidental switching;

65.3. checking the cleanliness of the internal surfaces of all accessible components and pipes;

65.4. isolation and protection of each component that could be damaged during cleaning (for example, desalination unit, filters);

65.5. sealing openings in the system being cleaned;

65.6. checking temporary measures (for example, temporary pipe covers) before cleaning and removing them after cleaning;

65.7. other safety-critical actions.

SECTION SIX
MARKING, ON-SITE ACCEPTANCE, STORAGE, WAREHOUSING, STORAGE, TRANSPORT AND PACKAGING OF IS SSC

66. In the license holder's management system documents describing the construction, the license holder shall set out requirements for the supervision and inspection of the IS SSC and IS SSC construction products from the acceptance of the IS SSC or IS SSC construction product at the site to the completion of the construction of the NI, in order to prevent misuse, abuse, impairment, damage, deterioration or loss of performance.

67. The requirements for the marking of IS SSC are set out in paragraph 100 of the legal act referred to in subparagraph 3.6 of the Requirements. The method of marking shall be such that it does not damage the IS SSC, its protective or coating materials.

68. The license holder shall ensure that the IS SSC delivered to the site are inspected and, if they do not comply with the requirements of the procurement specification and the normative technical documents, are declared unfit for use. Acceptance of the IS SSC shall be documented as specified in paragraph 99 of the legal act referred to in subparagraph 3.6 of the Requirements.

69. The license holder shall establish a procedure for the use of tools such as special cardboard boxes, containers, protective equipment, cranes, hoists, manipulators, vehicles, other similar tools or equipment, in order to ensure that the nature of the management operations does not cause damage to the IS SSC. The operators and handlers of such IS SSC shall be qualified. The handling, maintenance and lifting facilities for IS SSC shall be operated and maintained in accordance with the requirements of the normative technical documents and legal acts.

70. The license holder shall assess and establish requirements for protective measures for

the transport of IS SSC both on and off site.

71. The license holder shall ensure that the storage, warehousing, containment and isolation of IS SSC are carried out in a manner specified by the designers and manufacturers in order to protect the IS SSC prior to the commencement of their installation, mounting and assembly.

72. The license holder shall ensure that the warehousing, storage and holding facilities for IS SSC are established and maintained taking into account the following aspects:

72.1. practices on cleanliness and workplace organisation;

72.2. fire safety requirements;

72.3. requirements for coatings, insulation, sheathing, bushing protection;

72.4. prevention of physical damage;

72.5. control of environmental effects (for example, temperature and humidity);

72.6. planned maintenance and repairs;

72.7. physical and chemical properties of IS SSC.

73. The license holder shall prepare a description of the procedure for carrying out the inspections necessary to ensure that the warehousing, storage and holding conditions of the IS SSC are maintained in accordance with the specified requirements of the designers and manufacturers.

74. In the management system documents describing the construction, the license holder shall specify the requirements for inspections of the IS SSC prior to their installation, mounting and assembly.

SECTION SEVEN
IS SSC TESTS, INSPECTIONS AND SUPERVISION

75. The license holder shall analyse the scope of tests, inspections and supervision of the IS SSC in relation to design of building structures of NI and the requirements of the normative technical documents, and shall prepare and approve the documents governing the tests, inspections and supervision of the IS SSC.

76. The IS SSC shall be inspected and tested by the manufacturer in accordance with the applicable requirements of the normative technical documents, including the standards specified the technical specification of the design of building structures of NI.

77. The license holder shall assess which IS SSC require pre-fabrication and component fabrication marking prior to transport to the construction site, and prepare and approve documents governing pre-fabrication and component fabrication marking.

78. The license holder shall ensure the performance of inspections, tests and supervision of the construction of the IS SSC and the organisation of the supervision of the implementation of the design of building structures of NI and the normative technical documents. These inspections, tests and technical supervision of the construction of the IS SSC and the supervision of the implementation of the design of building structures of NI shall be documented in order to confirm that the construction of the IS SSC has been carried out in accordance with the requirements set out in the design of building structures of NI and the normative technical documents and that it complies with the criteria set out in the design of building structures of NI and normative technical documents. The records of inspections and tests of the IS SSC and of the construction supervision of the IS SSC and the supervision of the design of building structures of NI shall contain the following information:

78.1. IS SSC identification marking;

78.2. the method and description of the progress of inspections and/or tests;

78.3. the date and time of inspections and/or tests;

78.4. information about the inspector (for example, name, organisation and other details);

78.5. calibrated tools or equipment used for inspections and/or tests;

78.6. the results of inspections and/or tests and comparisons with the established criteria, with reference to the documentation of design of building structures of NI or normative technical document in which the criteria are set;

78.7. a list of identified deficiencies and a plan to address them;

78.8. a list of unfinished works and a plan of action to be taken;

78.9. a conclusion on the feasibility of further construction works or the testing of the IS SSC as set out in the NI commissioning programme agreed with the VATESI.

79. Where the legal acts laying down the procedure for conformity assessment provide for the tests and/or inspections of IS SSC or their construction products, and the assessment of the manufacturing process of IS SSC or their construction products, to be carried out by an accredited conformity assessment body, the license holder shall specify the participation of this accredited conformity assessment body in the inspection programme and shall ensure that such tests and/or inspections are carried out.

80. The license holder shall ensure that the tests and inspections of the IS SSC, the acceptance criteria and the results are documented in a manner that allows for independent assessment.

81. If the manufacturing process affects the achievement of the quality required for the IS SSC, the licence holder shall ensure that the manufacturing process is verified. The progress and results of this verification shall be documented.

82. The tests and inspections of IS SSC, the technical supervision of IS SSC construction and the supervision of the implementation of the design of building structures of NI shall be documented in the same order as the work process.

SECTION EIGHT
FABRICATION AND INSTALLATION ON SITE

83. The license holder shall ensure that on-site fabrication and installation activities are located so that these activities do not adversely affect the IS SSC or activities that may adversely affect the IS SSC.

CHAPTER VI[1]
PROGRAMME FOR IS SSC INSPECTIONS AND TESTS DURING CONSTRUCTION

SECTION ONE
PREPARATION OF THE PROGRAMME FOR IS SSC INSPECTIONS AND TESTS DURING CONSTRUCTION

83^1. The holder of the licences referred to in Article 22(1)(1) and (3) of the legal act referred to in subparagraph 3.2 of the Requirements shall ensure that the tests and inspections of the IS SSC carried out during the manufacture, assembly, installation and construction of the IS SSC prior to the commencement of the NI commissioning phase are carried out in accordance with the programme for IS SSC inspections and tests during the construction phase, as agreed with the VATESI.

83^2. The license holder referred to in paragraph 83^1 of the Requirements may delegate the preparation of the programme for IS SSC inspections and tests during construction to other organisations, but the license holder shall be responsible for organising the independent verification of the programme for IS SSC inspections and tests during construction.

83^3. The programme for IS SSC inspections and tests to be carried out during construction shall specify:

83^3.1. the IS SSC to be tested and inspected during manufacture, assembly, installation and construction prior to the start of the NI commissioning phase, and their identification markings;

83^3.2. the safety class and safety function to be performed by the IS SSC as specified in subparagraph 83^3.1 of the Requirements;

83^3.3. all tests and inspections of the IS SSC referred to in subparagraph 83^3.1 of the Requirements, as specified in the design of building structures of NI and in the normative technical documents, which are necessary to be carried out during the manufacture, assembly, installation and construction of the IS SSC prior to the commencement of the NI commissioning phase:

83^{3}.3.1. IS SSC or their construction product manufacture control inspections and tests, and/or tests of samples taken at the factory;

83^{3}.3.2. tests and inspections of the IS SSC and/or IS SSC construction products carried out during the assembly, installation and construction of the IS SSC,

83^{3}.3.3. pressure and hydraulic tests of IS SSC;

83^{3}.3.4. checks on the functioning of the IS SSC;

83^{3}.3.5. other tests and inspections of the IS SSC specified in the design of building structures of NI and normative technical documents;

83^{3}.4. the sequence of tests to be carried out and the links with other tests and inspections to be carried out during construction;

83^{3}.5. the normative technical documents to be followed for the planning and implementation of the tests and inspections of the IS SSC referred to in paragraph 83^{3}.1 of the Requirements;

83^{3}.6. references to the documentation of the design of building structures of NI and normative technical documents in accordance with which the tests and inspections of the IS SSC referred to in paragraph 83^{3}.1 of the Requirements are carried out;

83^{3}.7. participants in the tests and inspections of the IS SSC referred to in paragraph 83^{3}.1 of the Requirements, and their responsibilities;

83^{3}.8. provisions on the further use of the data collected.

83^{4}. The license holder referred to in paragraph 83^{1} of the Requirements shall submit the programme for IS SSC inspections and tests during construction to the VATESI in accordance with paragraph 6.15 of the legal act referred to in paragraph 3.5 of the Requirements.

83^{5}. The VATESI shall take a decision that the programme for IS SSC inspections and tests during construction meets the circumstances referred to in Article 25(6) of the legal act referred to in paragraph 3.2 of the Requirements where:

83^{5}.1. the programme for IS SSC inspections and tests during construction complies with the Requirements;

83^{5}.2. the tests and inspections of the IS SSC during construction, as specified in the programme for IS SSC inspections and tests during construction, and their scope, are in accordance with the requirements set out in the design of building structures of NI;

83^{5}.3. the tests and inspections of the IS SSC and their scope, as specified in the programme for IS SSC inspections and tests during construction, are in accordance with the nuclear safety, radiation protection and physical security requirements laid down in the normative technical documents.

SECTION TWO
TRANSFER OF IS SSC FROM THE CONSTRUCTION PHASE TO THE COMMISSIONING PHASE

83^{6}. The license holder shall ensure that the procedure for the transfer of the IS SSC from construction to the commissioning phase is such that the IS SSC tests, as defined in the commissioning programme agreed with the VATESI, does not commence until all of the following circumstances are met:

83^{6}.1. the construction of these IS SSC has been completed and tested and inspected to the extent set out in the programme for IS SSC inspections and tests during construction;

83^{6}.2. the construction documents for these IS SSC, as specified in paragraph 18 of the Requirements, have been prepared;

83^{6}.3. the records of these inspections, tests, technical supervision of IS SSC construction and the supervision of the design of building structures of NI, as referred to in paragraph 78 of the Requirements, contain conclusions on the possibility to safely commence the IS SSC tests set out in the NI commissioning programme;

83^{6}.4. the other requirements and conditions set out in the design of building structures of NI and other legal acts laying down the requirements for NI commissioning, necessary for the start of the IS SSC tests for NI commissioning, have been met.

CHAPTER VII
FINAL PROVISIONS

84. The license holder shall submit to the VATESI approved copies of the license holder's management system documents describing the construction activities (including updated versions of the documents with the amendments marked therein) in accordance with the procedure set out in Section One of Chapter IX of the legal act referred to in paragraph 3.6 of these Requirements.

84[1]. The VATESI shall take a positive decision on the acceptability of the management system documents submitted by the license holder as referred to in paragraph 84 of the Requirements, provided that they implement the provisions of these Requirements.

85. Any person who violates the Requirements shall be liable in accordance with the procedure established by the laws of the Republic of Lithuania.