RULES ON AUTHORISED RADIATION AND NUCLEAR SAFETY EXPERTS

(JV3)

## UNOFFICIAL TRANSLATION

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*Prepared by the Slovenian Nuclear Safety Administration in April 2020.*

*The official text of the Act is located on the pages of* [***the Legal Information System***](http://www.pisrs.si/Pis.web/pregledPredpisa?id=PRAV12782)*.*

***WARNING****: The unofficial text of these Rules is just an informative work tool, for which the Slovenian Nuclear Safety Administration does not guarantee.*

## TABLE OF CONTENT

[Article 1 (Content) 4](#_Toc38462264)

[Article 2 (Scope of licence) 4](#_Toc38462265)

[Article 3 (Application for a licence) 4](#_Toc38462266)

[Article 4 (Issuance, validity and extension of a licence) 4](#_Toc38462267)

[Article 5 (Licencing requirements) 5](#_Toc38462268)

[Article 6 (Organisational requirements) 5](#_Toc38462269)

[Article 7 (Technical and technological requirements) 5](#_Toc38462270)

[Article 8 (Quality management) 6](#_Toc38462271)

[Article 9 (Qualifications in the fields of nuclear and radiation safety) 6](#_Toc38462272)

[Article 10 (Subcontracts) 6](#_Toc38462273)

[Article 11 (Form and content of an expert opinion) 6](#_Toc38462274)

[Article 12 (Register of authorised experts) 6](#_Toc38462275)

[Article 13 (Regular reporting) 7](#_Toc38462276)

[Article 14 (Validity of existing licences) 7](#_Toc38462277)

[Article 15 (End of validity) 7](#_Toc38462278)

[Article 16 (Entry into force) 7](#_Toc38462279)

[ANNEX 1: Fields of radiation and nuclear safety 9](#_Toc38462280)

[ANNEX 2: Topics of professional training on the basics of nuclear and radiation safety 10](#_Toc38462281)

[ANNEX 3: Form and content of an expert opinion 11](#_Toc38462282)

Pursuant to the Ionising Radiation Protection and Nuclear Safety Act (Official Gazette of the Republic of Slovenia, No. 102/04 – official consolidated text, 70/08 – ZVO-1B, 60/11 and 74/15) Article 59, paragraphs 4 and 5, the Minister of the Environment and Spatial Planning issues the

# RULES

**on authorised radiation and nuclear safety experts**

# Article 1 (Content)

These Rules govern the following in relation to the procedure of granting licences to carry out tasks of authorised radiation and nuclear safety experts (hereinafter referred to as: authorised experts):

* the programme of verifying fulfilment of the requirements to carry out tasks of an authorised expert;
* the register of authorised experts;
* the method and scope of regular reporting,
* the form and the content of the expert opinion; and
* other requirements to be fulfilled by authorised experts in relation to the assessment of radiation and nuclear safety.

# Article 2 (Scope of licence)

A legal entity may be granted a licence to carry out tasks of an authorised expert (hereinafter referred to as: licence) in a particular field of radiation and nuclear safety or in several fields of radiation and nuclear safety simultaneously as defined in Annex 1, which forms a constituent part of these Rules.

# Article 3 (Application for a licence)

1. The application for a licence shall contain:
	1. company name and business address of a legal entity,
	2. information on the organisational setup and ownership structure of the legal entity in the event it is not registered in the Republic of Slovenia, and
	3. the fields of radiation and nuclear safety for which the licence is sought and the type of the facility referred to in Annex 1 of these Rules.
2. The application referred to in the previous paragraph shall be accompanied by the following information:
	1. the references in the fields of radiation and nuclear safety for which the licence is sought,
	2. evidence of fulfilment of the requirements for obtaining the licence to carry out tasks of authorised radiation and nuclear safety experts laid down in the Ionising Radiation Protection and Nuclear Safety Act as well as in Articles 5 to 8 of these Rules, and
	3. the latest approved version of the quality management system and the list of all the documents relevant for its quality management system.

# Article 4(Issuance, validity and extension of a licence)

1. The Slovenian Nuclear Safety Administration (hereinafter referred to as: Administration) shall issue a licence upon receipt of a complete application for a licence and after verifying that the conditions from the previous Article are fulfilled in accordance with the verification programme of the requirements from Article 5 to 8 of these Rules.
2. A licence may be issued for a maximum period of five years.
3. The procedure of extension or modification of a licence shall be governed, by analogy, by the provisions of the first and second paragraph of this Article.

# Article 5(Licencing requirements)

In order to be authorised, an authorised expert must meet the organisational requirements, technical and technological requirements and quality management requirements.

# Article 6(Organisational requirements)

1. The authorised expert shall be registered to carry out activities in the fields of radiation and nuclear safety, for which the licence is sought.
2. The authorised expert and its employees shall be organised in such a way that they are not to subject to any business or financial dependence that might affect their expert assessments.
3. Persons, employed by the authorised expert, involved in the preparation of the expert opinion of an authorised expert may not previously participate in the works for the implementation of the project subject to the expert opinion.

# Article 7(Technical and technological requirements)

1. The authorised expert shall demonstrate its professional qualification by means of reference projects or other works completed or participated in within the last five years before applying for a licence in the fields of radiation and nuclear safety, for which the licence is sought.
2. The following shall be deemed documentary evidence of professional qualification referred to in the previous paragraph, with precise quotation of the field and duration of the projects or activities:
	1. published professional and scientific contributions;
	2. research and education activities;
	3. reports on the completed projects or completed works in the fields for which the licence is sought;
	4. opinions, assessments and recommendations by professional associations and other professional institutions in the fields for which the licence is sought, and
	5. other certificates and declarations of the expert’s qualification.
3. The authorised expert shall be equipped with technical means and information required for quality execution of the activities for which the licence is sought.
4. The technical means referred to in the previous paragraph shall be properly maintained, qualified or calibrated as appropriate in accordance with the manufacturer’s regulations and instructions. The work with technical means shall be carried out in compliance with the procedures documented by the authorised expert in writing.
5. The authorised expert shall establish and implement a programme of regular professional training of its personnel in the fields for which is authorised and keep records on the trainings which contains information on the content of the trainings, the dates of the trainings and the number of participants.

# Article 8 (Quality management)

The authorised expert shall establish and maintain a quality management system commensurate with the type, field and scope of its activities applying by analogy the regulation governing radiation and nuclear safety factors.

# Article 9(Qualifications in the fields of nuclear and radiation safety)

The responsible manager in the field of radiation and nuclear safety of the authorised experts must have expertise in the basics of nuclear and radiation safety, covering the topics defined in Annex 2, which forms a constituent part of these Rules.

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# Article 10(Subcontracts)

(1) An authorised expert may subcontract the preparation of the expert bases for the preparation of the expert opinions to the subcontractor which may be a natural or legal person.

(2) In order to submit the preparation of the expert bases referred to in the previous paragraph, the authorised expert must have a written procedure as a part of the management system referred to in Article 8 of these Rules.

(3) In the field of works for which the preparation of the expert bases has been undertaken referred to in the first paragraph of this Article, the subcontractor must fulfil the conditions from the second and third paragraphs of Article 6 and the second and third paragraphs of Article 7 of these Rules.

# Article 11(Form and content of an expert opinion)

1. The form and content of an expert opinion issued by an authorised expert are laid down in Annex 3, which forms a constituent part of these Rules.
2. The expert opinion referred to in the previous paragraph shall, in its conclusion, clearly state a positive or negative assessment of a document or activity that is the subject of the expert assessment.

# Article 12(Register of authorised experts)

1. The Administration shall keep a register of authorised experts (hereinafter referred to as: register).
2. The following information shall be entered into the register:
	1. the date and serial number of the entry,
	2. the name and business address of the authorised expert, telephone numbers, e-mail address and web page address,
	3. the name of the responsible manager of the radiation and nuclear safety field,
	4. the field of the licence referred to in point 3 of the first paragraph of Article 3 of these Rules,
	5. the validity of the licence;
	6. the date of expiry of the licence or the date of withdrawal of the licence.
3. Any modifications of the information referred to in the previous paragraph shall also be entered into the register.
4. The Administration shall publish the list of authorised experts on its website.
5. Authorised experts shall notify the Administration of any change in the information kept in the register, within 30 days of such change arising.

# Article 13(Regular reporting)

1. Authorised experts shall submit reports on their activities to the Administration on an annual basis, which shall be submitted to the Administration for the past year by 31 January.
2. In their annual reports, authorised experts shall provide information on:
3. any significant changes pertaining to the authorised expert that might affect the fulfilment of licensing requirements laid down in these Rules;
4. produced expert opinions, and
5. other activities in the fields covered by the licence.

# Article 14(Validity of existing licences)

1. Licences issued pursuant to the Rules on Authorised Experts on Radiation and Nuclear Safety (Official Gazette RS, No. 51/06) shall be valid until the expiration of their validity as licences in accordance with these Rules.
2. Legal entities having the licence referred to in the preceding paragraph may extend the validity of the licence in accordance with Article 4 of these Rules.

# Article 15(End of validity)

On the date of entry into force of these Rules, the Regulation on Authorised Experts in Radiation and Nuclear Safety (Official Gazette of the Republic of Slovenia, No. 51/06) shall cease to apply.

# Article 16(Entry into force)

These Rules shall enter into force on the fifteenth day after their publication in the Official Gazette of the Republic of Slovenia.

No.: 007-483/2015

Ljubljana, on 11 July 2016

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#### Irena Majcen

Minister

of the Environment and Spatial Planning

# ANNEX 1: Fields of radiation and nuclear safety

When issuing a licence, the type of the facility defined in the first row of the table for which the licence is given, must also be indicated.

|  |  |  |
| --- | --- | --- |
|  | **Field** | **TYPE OF THE FACILITY** |
| **Nuclear, radiation and less important facilities** | **Radioactive waste and spent fuel repositories** | **Mining works and mining tailings repositories** |
| 1. | Management of the facility or activity, safety culture |  |  |  |
| 2. | Safety report, procedures, technical specifications and other documentation |  |  |  |
| 3. | Reactor physics and nuclear fuel |  |  |  |
| 4. | Civil engineering, mechanical structures and structural analyses |  |  |  |
| 5. | Fluid/thermohydraulic systems |  |  |  |
| 6. | Electrical systems |  |  |  |
| 7. | Control, instrumentation and information technology |  |  |  |
| 8. | Chemistry in a nuclear or radiation facility |  |  |  |
| 9. | Fire protection systems |  |  |  |
| 10. | Disaster analysis, probabilistic and deterministic including internal and external events |  |  |  |
| 11. | Earthquake safety |  |  |  |
| 12. | Radiation protection |  |  |  |
| 13. | Impacts on the environment including monitoring |  |  |  |
| 14. | Other special activities, to be stated specifically |  |  |  |

# ANNEX 2: Topics of professional training on the basics of nuclear and radiation safety

|  |  |
| --- | --- |
| **Chapters** | **Outline topics** |
| Basics of nuclear and reactor physics | Atomic structure of matter, structure of atoms, atomic nuclei, radioactivity, nuclear reactions, interactions of radiation and matter, radiation detection, dosimetric quantities, radioactive decay, attenuation of gamma rays, nuclear fission, neutron cycle, reactor kinetics at low power, reactivity changes, subcritical multiplication |
| Basics of radiation protection | General about radiation, natural and artificial sources of radioactive radiation, measurement of radioactive radiation, biological effects of radiation, external exposure to radiation, internal exposure to radiation, surveillance and protection against radiation, radiation protection regulations, radiation protection in a nuclear facility, radiation environment control, emergency measures, rights and responsibilities of the personnel working in a controlled area, ALARA |
| Basics of thermodynamics and hydrodynamics | Thermodynamics, phase changes, closed cycle processes, hydrodynamics, valves, pumps, compressors, water hammer phenomena, heat transfer, boiling heat transfer, reactor core operational limits, heat exchangers |
| Basics of nuclear power plant materials | Material properties, brittle fracture, thermal transients under pressure |
| Basics of electronics, instrumentation and control | Electrical field, electrical circuit, direct current circuits, electromagnetism, alternating currents, three-phase system, synchronous electrical generator, asynchronous electrical motor, electrical rectifier devices, batteries, electrical measurements, measurement systems, basics of control engineering, control of nuclear power plants |
| Nuclear safety and legislation | Principles of nuclear safety, safety culture, Slovenian legislation, international regulations and standards in the field of nuclear safety |
| Technology of the facilities for which the licence is sought | Facility technological systems, safety systems, organisation of the facility management, operating instructions, safety documentation, safety analyses, emergency measures |

# ANNEX 3: Form and content of an expert opinion of the authorised expert

The expert opinion of the authorised expert contains the chapters listed in the table below, with the emphasis on the summary and clear conclusion.

|  |  |  |
| --- | --- | --- |
| **No.** | **Chapter** | **Content** |
| 1. | Summary | Summary of the expert opinion. |
| 2. | Introductory page with evidence of the performed quality assurance procedure  | Unique document label.Name of the customer’s company and contractors.Signatures of responsible persons and, if any, the stamp of the organization.Date of issue and validity of the opinion.  |
| 3. | Description and definition of the expert opinion | Description/definition of the issue and description of the completed task and customer.If project changes are made, all the basic technical characteristics, description of the approach to safety, description of the proposed changes to operating programs or procedures must be stated.  |
| 4. | Safety objectives, safety requirements and acceptance criteria | Description of the safety objectives or requirements and acceptance criteria:* requirements under domestic legislation;
* enumeration of the Slovenian standards, technical regulations and guidelines that are or should be followed;
* enumeration of the applicable foreign legislative and administrative requirements, foreign standards, technical regulations and instructions;
* enumeration of foreign and domestic documented practices;
* detailed description of the criteria and requirements used, explanation of application in the particular case and the justification of the selection of these criteria and requirements.
 |
| 5. | Documentation - references | List of documents (references) applied in the preparation of the expert opinion, among others:* documents concerning the nuclear or radiation facility;
* documents providing criteria and requirements (acts, rules, decrees, consents, other administrative acts, standards, administrative body and organisation instructions etc.);
* expert documents;
* other documents.
 |
| 6. | Preparation of the expert opinion | * Description of the conditions and assumptions used and their impact on the conclusions;
* descriptions and conclusion of the analysis review;
* descriptions of the independent analysis performed by the authorised expert;
* description of the communication between the authorised expert and the customer of the expert opinion during the preparation process of the expert opinion together with relevant supporting evidence;
* description of the verification process (verification, validation, Q/A…), analytical methods used and computer programs used;
* description which parts of the expert opinion were prepared by any subcontractor, if any.
 |
| 7. | Description of an expert opinion | * Presentation of the opinion;
* presentation of the conditions and assumptions and their impact on conclusions of the expert opinion;
* recommendations and their relevance.
 |
| 8. | Conclusions | Clear and unambiguous assessment of acceptability:* POSITIVE
* POSITIVE CONDITIONALLY (explanation of requirements)
* NEGATIVE
 |
| 9. | Attachment: Checking the independence of the subcontractors | Proof of eligibility for potential subcontractors such as provided in Article 10 of these Rules (an authorised expert must perform verification of any subcontractors involved in the preparation of an expert opinion and must have a specific written procedure for this). |