

# ID#151 Drafting of the Rulebook on Radiation and Nuclear Safety and Security of the Vinča Institute for Nuclear Sciences, Serbia

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## 1. Introduction

Radiation and nuclear safety and security is regulated by the Law on Radiation and Nuclear Safety and Security and accompanying regulations and is in accordance with other regulations of the Republic of Serbia, international standards, and principles of protection against ionizing radiation.

In 2021, the Director of the Vinča Institute formed the Commission for the drafting of the Rulebook on radiation and nuclear safety and the safety of the Institute.

This rulebook regulates the rights, obligations and responsibilities of employees and other persons in the Institute, to ensure the protection of exposed workers and other persons, the population, and the environment from the harmful effects of ionizing radiation, as well as their safety and security.

## 2. Content of the Rulebook on Radiation and Nuclear Safety and Security of the Vinča Institute for Nuclear Sciences

The Rulebook is divided into 9 chapters:

1. Preliminary provisions
2. Radiation activities
3. Radiation protection
4. Commission and responsible persons
5. Radiation safety
6. Transport of radioactive materials
7. Radioactive waste
8. Unexpected events
9. Final provisions

## 3. Preliminary provisions

This chapter describes the position of the Institute and the layout of the buildings within the Institute.

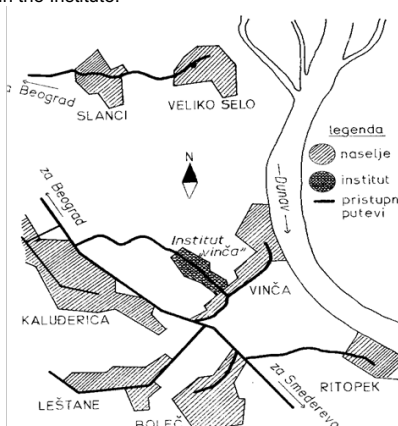


Figure 1. Location of Vinča Institute and surrounding settlements



Figure 2. Plan of the Vinča Institute

## 4. Radiation activities

The radiation activities performed at the Institute are described. Also, the process of obtaining approval for radiation activity is described. The content of the Safety Report and the Radiation Protection Program is defined.

## 5. Radiation protection

In this chapter, radiation protection activities are described:

- 1) radioactivity monitoring or individual tests as part of monitoring.
- 2) measurement to assess the level of exposure to ionizing radiation of exposed workers and other individuals and the population.
- 3) decontamination of the environment.
- 4) decontamination of the person.
- 5) removal of abandoned radiation sources.

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6) preparation of safety reports and radiation protection programs.

7) training and qualification of exposed workers and persons responsible for the implementation of radiation safety measures.

8) examination of the parameters of the radiation source for the purposes of quality control of protection measures against ionizing radiation.

## 6. Commission and responsible persons

In accordance with the Statute of the Institute, the Commission for Radiation and Nuclear Safety and Security of the Institute is being established as an expert working body of the Institute. The task of the Commission is described, as well as the duties of the responsible persons.

## 7. Radiation safety

The security plan necessarily contains:

- 1) description of security measures.
- 2) project of the physical - technical protection system.
- 3) description of the area, plant and other facilities in that area and the protected material with the attached categorization of the material.
- 4) a list of internal documents related to security.
- 5) persons responsible for security.
- 6) action plan in the event of a security event.
- 7) method and plan for evaluating the effectiveness of the security system.

## 8. Transport of radioactive materials

In this chapter, the procedure for transporting radioactive material is described.



Figure 3. Transport of radioactive material within the Vinča Institute

## 9. Radioactive waste

Activities with radioactive waste in the Republic of Serbia are carried out by the Public Company "Nuclear Facilities of Serbia" in accordance with the license obtained from the Directorate. The Institute concludes the Contract with the Public Company, which confirms the obligation and determines the storage conditions for radioactive waste and used sources that are stored at the landfill for up to one year, in the warehouse of the Public Company.



Figure 4. Storage facilities for disposal of radioactive waste

## 10. Unexpected events

An emergency event is any unexpected event that may lead to the exposure of an individual above the approved exposure levels, including events that may lead to accidental and unplanned exposure and may have significant consequences in terms of radiation and nuclear safety and/or security. This chapter describes the response to these events.

## 11. Final provisions

For all issues that are not regulated by this Rulebook, the provisions of the Law on Radiation Safety and Security and accompanying regulations adopted on the basis of that Law, as well as other regulations of the Republic of Serbia regulating this matter, international standards and principles of protection against ionizing radiation, are directly applied.