

Pursuant to Article 16(1) and 16(3) of the Law on Radiation and Nuclear Safety in Bosnia and Herzegovina ("Official Gazette of BiH" 88/07) and Article 61(2) of the Law on Administration ("Official Gazette of BiH" 32/02 and 102/09), the director of the State Regulatory Agency for Radiation and Nuclear Safety issues:

REGULATION on the categorization of radiation threats

Article 1 **(Subject)**

This regulation shall govern the categorization of radiation threats in accordance with international standards.

Article 2 **(Definitions)**

Individual terms, as used in this regulation, mean:

- a) **Radiation threats**: Radiological and nuclear threats.
- b) **Categorization of radiation threats**: The classification of radiation threats that serves as a basis for the establishment of an appropriate system for radiation emergency preparedness and for the planning of radiation emergency response.
- c) **Radiation emergency**: An emergency that warrants primarily an action to mitigate risks or detrimental consequences for human health and safety, property, quality of life or the environment. The emergency implies a nuclear or radiological emergency.
- d) **Nuclear emergency**: An emergency in which there is a hazard due to the energy resulting from a nuclear chain reaction or from the decay of the products of a chain reaction in nuclear reactors, nuclear fuel cycle facilities, radioactive waste management facilities, transport and storage of nuclear fuel or radioactive waste.
- e) **Radiological emergency**: An emergency in which there is a hazard due to the exposure to ionizing radiation in the production, use, storage and disposal of radioactive sources during their application in agriculture, industry, medicine and scientific and research work.
- f) **Site area**: A geographical area outside or within the national territory of Bosnia and Herzegovina that contains a nuclear or radiological facility in which a radiation emergency may occur.
- g) **Nuclear facility**: A facility in which nuclear material is produced, processed, used, stored or disposed of.
- h) **Radiological facility**: A facility in which the practices involving ionizing radiation are carried out.
- i) **Radiation emergency response**: The performance of actions by relevant authorities to mitigate the consequences of an emergency for human health and safety, quality of life, property and the environment with the aim of allowing for the resumption of normal social and economic activity.
- j) **Deterministic effects**: The radiation effect for which a threshold level of the ionizing radiation dose exists, above which the severity of the effect is greater for a higher dose.
- k) **Severe deterministic effects**: The deterministic effect that is life threatening or results in permanent health damage of an individual.
- l) **Dangerous radioactive sources**: A source that could, if not under control, give rise to exposure sufficient to cause severe deterministic health effects. These are Category 1 radioactive sources from the table shown in Annex to this regulation.

Article 3
(Radiation threat category I)

- (1) Radiation threat category I includes the radiation facilities at which the occurrence of a radiation emergency could result in severe deterministic effects for individuals off the site.
- (2) The facilities referred to in paragraph (1) are:
- a) Nuclear reactors with power levels greater than 100 MW;
 - b) Facilities containing discharged fuel, with the total activity of Cs-137 exceeding 0.1 EBq;
 - c) Facilities at which the practices are carried out with Category 1 radioactive sources referred to in Annex, involving inventories of dispersible radionuclides sufficient to result in severe deterministic effects off the site.

Article 4
(Radiation threat category II)

- (1) Radiation threat category II includes the radiation facilities at which the occurrence of a radiation emergency could result in doses warranting urgent protective action being taken off the site.
- (2) The facilities referred to in paragraph (1) are:
- a) Nuclear reactors with power levels greater than 2 MW and less than or equal to 100 MW;
 - b) Facilities containing discharged fuel requiring active cooling;
 - c) Facilities with potential for an uncontrolled criticality within the 500 m radius of the off-site boundary;
 - d) Facilities at which the practices are carried out with Category 2 radioactive sources referred to in Annex, involving inventories of radionuclides that, if dispersed into the environment, warrant urgent protective action off the site.

Article 5
(Radiation threat category III)

- (1) Radiation threat category III includes the radiation facilities at which the occurrence of a radiation emergency could result in doses or contamination warranting urgent protective action being taken on the site.
- (2) The facilities referred to in paragraph (1) are:
- a) Nuclear reactors with power levels of less than or equal to 2 MW;
 - b) Facilities with the potential, if shielding of an ionizing radiation source is lost, to cause a dose rate of more than 100 mGy/h at 1 m from the source;
 - c) Facilities with potential for an uncontrolled criticality outside the 500 m radius from the off-site boundary;
 - d) Facilities in which the practices are carried out with Category 3 and category 4 radioactive sources referred to in Annex, involving inventories of radionuclides that, if dispersed into the environment, warrant urgent protective action off the site.

Article 6
(Radiation threat category IV)

(1) Radiation threat category IV includes the facilities, the practices involving ionizing radiation sources, and the ionizing radiation sources that could cause a nuclear or radiological emergency and warrant urgent protective action in an unforeseeable location.

(2) The facilities, practices and sources referred to in paragraph (1) are:

- a) Mobile sources with potential, if shielding of an ionizing radiation source is lost, to cause a dose rate of more than 10 mGy/h at 1 m from the source;
- b) Satellites containing a dangerous ionizing radiation source according to the categorization of radioactive sources from Annex;
- c) Transport of quantities of radioactive material that would be dangerous if not controlled;
- d) Facilities at which there is a significant probability of encountering an dangerous and uncontrolled dangerous source, such as:
 - 1) scrap metal processing facilities,
 - 2) border crossings.

Article 7
(Radiation threat category V)

Radiation threat category V includes the practices that do not involve ionizing radiation sources, but which yield products with likelihood of being contaminated as a result of radiation emergencies at the facilities from radiation threat category I or II.

Article 8
(Entering into force)

This regulation shall enter into force on the eighth day following that of its publication in the "Official Gazette of BiH."

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DIRECTOR

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ANNEX

Table: Categorization of radioactive sources by ratio of activity and D-value

Categorization	Ratio of activity and D-value (A/D ^a)
1	$A/D > 1000$ (dangerous sources)
2	$1000 > A/D \geq 10$
3	$10 > A/D \geq 1$
4	$1 > A/D \geq 0.01$
5	$0.01 > A/D > \text{exempt}^b/D$

^a D values are given in the IAEA publication TECDOC-953, Vienna, 2003

^b Exempt values are given in table 1 in Annex I of the Regulation on the notification and authorization of practices involving radiation sources.