[Organization logo]

[Organization name]

Commented [45A1]: All fields in this document marked by square brackets [] must be filled in.

STANDARD OPERATING PROCEDURE FOR RADIOACTIVE HAZARDS

0.1

Commented [45A2]: Adapt to the existing practice in organization.

Distribution list

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				Date	Signature

Commented [45A3]: This is only necessary if document is in paper form; otherwise, this table should be deleted.

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Change history

Date	Version	Created by	Description of change
	0.1	45001Academy	Basic document outline

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1. Purpose, scope and users

The purpose of this document is to define measures of protection from identified radioactive

This document applies to all work activities in [organization name] where radioactive hazards

Users of this document are all employees of [organization name] whose work places have identified radioactive hazards.

2. Reference documents

- ISO 45001:2018 standard, clause 8.1
- **OH&S Manual**
- **OH&S Policy**
- **OH&S Objectives**
- Procedure for Addressing Risks and Opportunities and OH&S Hazards
- **Procedure for Operational Control**
- Procedures for Preparedness and Emergency Response
- List of Legal and Other Requirements
- Procedure for Incident Investigation

3. Radioactive Hazards Identification

The [Job title] is responsible for OH&S (Occupational Health & Safety) risk assessment is obliged to

Radioactive hazards may emerge during manufacturing, processing, handling, disposal, use, storage, and transport of radioactive materials as well as in medical services.

- Direct exposure to radiation and radiation emitters

- Unauthorized persons' entrance and access to facilities and tools

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Commented [45A4]: This is a must, because radioactive incidents may affect a wider population and geographic areas with catastrophic long-term effects.

Commented [45A5]: Note:

According to some research, half of the radiation to which the population is exposed comes from medical sources such as CT scans, x-rays, and nuclear medicine.

Commented [45A6]: Adapt to organization's needs.

Commented [45A7]: Medical diagnostic tools and procedures.

Commented [45A8]: E.g. operating x-ray equipment.

Commented [45A9]: Air, food, and water polluted by radiation.

Commented [45A10]: Interlocks, etc.

Commented [45A11]: Visitors must be familiar with all associated safety hazards.

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[organization name]

- Inadequate handling of working tools

4. Safety at work controls against radioactive hazards

[Job title] must ensure that the following controls against radioactive hazards are established:

- Keeping records of radioactive sources
- Keeping records of materials and raw materials that, in technical or technological processes,
- Determining working conditions and implementation of the prescribed safety measures against the harmful effects of ionizing radiation

- Security systems that automatically close the source in case of uncontrolled actions

- Adequate fire protection

5. Controls for risk reducing

[Job title] must ensure that the following controls are established in order to mitigate radioactivityrelated risks:

- Review and evaluation of any control strategy

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Commented [45A12]: This can cause accidental release of radioactive material.

Commented [45A13]: This often causes radiation-related

Commented [45A14]: For example: tools, used protective

Commented [45A15]: For example: protective suits that cover the entire body, adequate gloves, glass screens, glasses, masks with $% \left(1\right) =\left(1\right) \left(1\right$

Commented [45A16]: Follow legislative requirements.

Commented [45A17]: Adapt to legislative requirements.

Commented [45A18]: This is very often a legislative

Commented [45A19]: Adapt to legislative requirements.

Commented [45A20]: Adapt to legislative requirements.

Commented [45A21]: If it's in the same room, then it's usually lead cabins and screens with lead glass. If it's in a different room, then it must be a switch that doesn't allow turning on of devices if doors of the room where source is housed are not closed.

Commented [45A22]: Artificial ventilation is required in areas where there are sources of ionizing radiation.

Commented [45A23]: For example: protective suit, aprons, goggles, gloves

Commented [45A24]: Fire protection measures have special significance, because, besides the damage from the fire, there is a further danger of large-scale contamination.

Commented [45A25]: For example:

- Ground and Gamma scanners
- Air Monitoring Equipment
- Radon Test Kits
- Geiger Counters

Commented [45A26]: If possible, Some risks or possibilities for big accidents cannot be avoided.

[organization name]

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- Radiation safety training
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- Maintain all implemented controls
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6. ALARA Principle

ALARA is an acronym for As Low As Reasonably Achievable. This is a radiation safety principle for reducing radiation doses and releases of radioactive materials by using all reasonable methods.

[Job title] must ensure that the following methods for minimizing time of exposure are established:

- Plan and discuss the task before entering the area
- ----
- table of money table
- Manual 16

Some methods of using shielding are:

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Commented [45A27]: Long exposure to radiation source can cause permanent health damage, or even death.

Commented [45A28]: This must be done in accordance with legislative requirements, inside and outside of the facility – depending on organization's operations.

Commented [45A29]: Closer to the source of radiation means being more exposed.

Commented [45A30]: Type of shield depends on level and type of radiation.

Commented [45A31]: Adapt SOP to work-related issues.

Commented [45A32]: In such kind of situations some of the employees may stay in facilities to reduce spreading of an incident, while the rest of the workers evacuate and contact the authorities.

Commented [45A33]: By evacuating people from around the

Commented [45A34]: Adapt to legislative requirements.

Commented [45A35]: Include previous examinations, periodic check-ups, and examinations in case of accidents.

Commented [45A36]: ALARA is often a regulatory obligation (practice) for all radiation safety programs.

Commented [45A37]: Minimizing time in a field of radiation.

Commented [45A38]: Maximizing the distance from a source of radiation.

Commented [45A39]: Using shielding whenever possible.

Commented [45A40]: Radiation rate lowers at a further distance from source of radiation.

[organization name]

- Barriers of lead, concrete, or water provide protection from penetrating radiation such as
- the action was all all the first
- Management of Street, the national laws
- .
- The permanent shall

Commented [45A41]: If it's too close, or it takes a long time to set it up.

Commented [45A42]: Note: Once temporary shielding is installed, it cannot be removed without authorization.

Commented [45A43]: For example: specially designed constructions and devices.

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