



UMEÅ UNIVERSITET

# RADIATION PROTECTION ORGANISATION AT UMEÅ UNIVERSITY

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<sup>1</sup> This document has been translated from Swedish into English. If the English version differs from the original, the Swedish version takes precedence.



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## UMEÅ UNIVERSITET

# 1. Description

This document describes the Radiation Protection Organization at Umeå University. It describes the division of responsibilities and labor regarding the radiation protection. This document is a part of the Radiation Protection Management System at Umeå University.

This document has been translated from Swedish into English. If the English version differs from the original, the Swedish version takes precedence.

# 2. Background

The purpose of the Swedish Radiation Protection Act is to protect the people and the environment from the harmful effects of radiation. Umeå University is classified by the Swedish Radiation Safety Authority as an agency subject to a permit, which means that the university must apply for, and be granted, a permit to work with ionizing radiation. The university has two permits: one group permit for scientific and educational purposes (SSM2019-1607, CU 08205, valid through 2024-03-12); and one for exposing human subjects to radiation for medical purposes (SSM2016-4122, Am-12069, valid through 2021-09-30).

The group permits cover open and sealed sources, as well as technical equipment that can produce ionizing radiation and that have been registered with the Swedish Radiation Safety Authority. The permits also cover discarded sources and radioactive waste.

The permit for exposing human subjects to radiation for medical purposes covers the transfer, lease, acquisition, holding, and use of X-ray equipment intended for medical diagnostic imaging. It also covers the Department of Public Health and Clinical Medicine's, and enheten för arbets- och miljömedicin's (the Unit for Occupational and Workplace Medicine, at the University Hospital of Umeå), work with iDXA and CT scanners.

The Vice-Chancellor of Umeå University is the permit holder, and thereby the utmost responsible for the work involving ionizing radiation at the university. The Vice-Chancellor is responsible for ensuring that departments working with ionizing radiation have access to qualified and properly educated staff and support functions.

To be granted a permit for work involving ionizing radiation, Umeå University must fulfill certain conditions. One of these conditions is that there must exist a university common governing document describing the Radiation Protection Organization at the University.



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### 3. Definitions

#### **The Swedish Radiation Safety Authority**

The Swedish Radiation Safety Authority (SSM) is both a permit testing and supervisory authority. The authority sets regulations for work involving ionizing radiation, and they review agencies, such as Umeå University, to ensure that they are working responsibly and that they are following the rules and regulations. The authority also reviews applications and grants permits for work involving ionizing radiation.

#### **Agency and local agency**

In the permit granted by the Swedish Radiation Safety Authority, Umeå University is counted as one agency. Faculties, Departments or Research Centers are in this document referred to as local agencies, and they are subordinate to, and included, in the agency subjected to the permit.



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# 4. The Radiation Protection Organization

This chapter gives a general description of the Radiation Protection Organization at Umeå University.

- The Vice-Chancellor is the permit holder, and the utmost responsible for any work involving ionizing radiation conducted at Umeå University.
- On behalf of the Vice-Chancellor, the Dean delegates the responsibility for ensuring that all local agencies fulfill the demands set by Swedish law, SSMs regulations and Umeå University's rules regarding radiation protection, to the Heads of Department/Directors.
- The Radiation Safety Coordinator at Umeå University is the university's contact towards the Swedish Radiation Protection Authority. The Radiation Protection Coordinator is responsible for compiling the information the Heads of Department/Directors have submitted and based on that information verifying that the University as a whole fulfills the demands set by Swedish law, SSMs regulations and Umeå University's rules regarding radiation protection, before reporting to SSM.
- The Radiation Protection Expert at Umeå University is an advisory support function. The Radiation Protection Expert helps and advises the Radiation Protection Coordinator and the Heads of Department/Directors in matters regarding radiation protection. The Radiation Protection Expert is also tasked with reviewing the university common governing documents regarding radiation protection. Once a year, the Radiation Protection Expert holds a basic course in radiation protection that is mandatory for all staff working with ionizing radiation. The course must be repeated every five years.
- The contact person at the local agency is appointed by the Head of Department/Director and is assigned the task of being the agency's contact towards the Radiation Protection Coordinator and the Radiation Protection Expert.
- Staff members at the local agency are responsible for following the university common rules and the code of procedures of the local agency.

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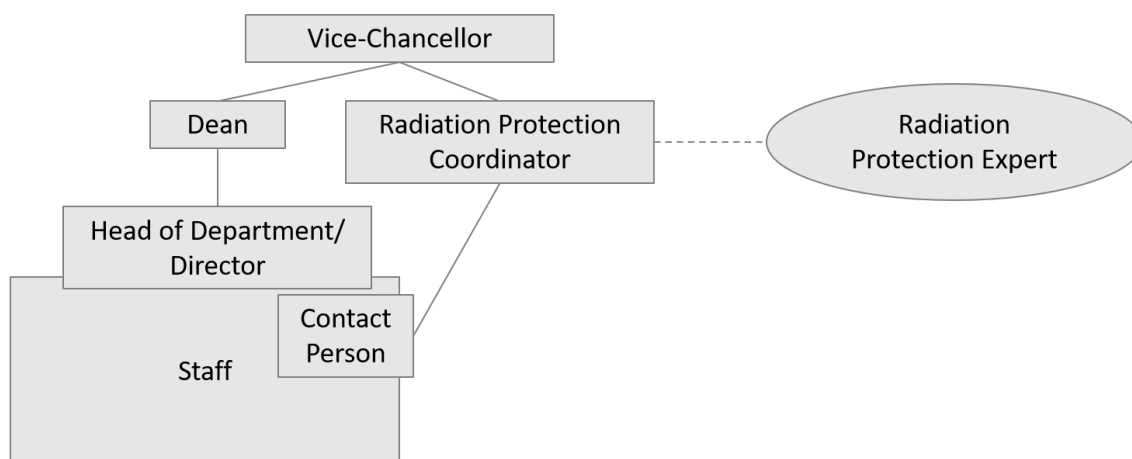


Figure 1. Organization chart of the Radiation Protection Organization at Umeå University

## 5. Roles and the division of responsibility

This chapter provides more detailed descriptions of the roles within the Radiation Protection Organization at Umeå University, and the division of responsibility between these roles.

### 5.1. Vice-Chancellor

The Vice-Chancellor is the permit holder, and therefore the utmost responsible in ensuring that the local agencies fulfill the terms of the permit. As the permit holder, the Vice-Chancellor is responsible for ensuring that the other roles in the Radiation Protection Organization are filled with people with adequate radiation protection knowledge for their function in the organization. The Vice-Chancellor is also responsible for providing adequate resources to the other roles in the organization.

The Vice-Chancellor is responsible for deciding on disciplinary measures, at the Radiation Protection Coordinator's suggestion, in case a local agency's efforts from a radiation protection point of view have been found lacking. If the shortcomings of the local agency's radiation protection are severe enough, the Vice-Chancellor can decide to shut down all work with ionizing radiation at the agency.

### 5.2. The Dean

The Dean has been instructed by the Vice-Chancellor to delegate to the Heads of Department/Directors, the responsibility to ensure that all work involving radiation, both ionizing and non-ionizing, follows Swedish laws and ordinance acts, SSMs regulations, Umeå University's university common governing documents, and the local agency's code of procedures.



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### 5.3. Head of Department/Director

The Head of Department/Director is responsible for ensuring that:

- The local agency follows Swedish laws and ordinance acts, SSMs regulations, Umeå University's university common governing documents, and the local agency's code of procedures.
- All staff members working with ionizing radiation at the local agency has adequate knowledge about the following university common governing documents: *Rules regarding Radiation Protection at Umeå University*; *Code of Rules and Procedures for Disposal of Radioactive Waste*; and *Directions for Purchasing Radioactive Sources*.
- The information submitted by the local agency to the Radiation Protection Coordinator is correct.
- The yearly inventory form is filled out and sent to the Radiation Protection Coordinator before the end of April.
- All staff members working with ionizing radiation at the local agency have participated in the basic radiation protection course offered by the university (given by the Radiation Protection Expert once a year), and that the staff members repeat the course every five years.
- A local register is kept over which staff members that have participated in the basic radiation course offered by the university, and when they last participated.
- In case of an accident or incident, the incident report form is filled out together with the involved staff members. The form can be found at the Radiation Protection Website, under the heading *Accidents and incidents*.
- Staff members have been categorized based on the amount of radiation they are exposed to in their work environment, that the staff members have been informed about which category they belong to, and that both the categorization and informing of staff members is documented at the local agency. For more information on categorization, see the university common governing document *Rules regarding Radiation Protection at Umeå University*.
- Premises used by the local agency for work with ionizing radiation are correctly categorized, and that the categorization process is adequately documented by the local agency.
- Staff members working with ionizing radiation have been informed of the importance, and obligation, to report pregnancy or breastfeeding to the employer.
- Pregnant staff members working with ionizing radiation are offered, if the employee demands it, tasks that do not involve ionizing radiation.



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- Tasks are assigned so that staff members who are currently breastfeeding, do not risk ingesting or otherwise becoming contaminated with radioactive nuclides that might be harmful to their child.
- Tasks and procedures involving open sources are designed so that staff members are exposed to a dose that is as low as reasonably possible.
- Premises where open sources are handled are adequate for work with open sources and that they are properly marked with signs. For more information regarding signage, see the university common document *Rules Regarding Radiation Protection at Umeå University*.
- Only authorized staff members have access to premises where open sources are handled, and that a register of this is kept at by the local agency.
- Adequate measuring instruments are available, and that there is a local code of procedures for calibration and detecting contamination.
- The local agency has a code of procedures for dealing with spillage of open sources.
- Open sources are adequately stored.
- The local agency correctly documents its work with open sources according to the university common governing documents *Rules Regarding Radiation Protection at Umeå University*.
- Tasks and procedures involving sealed sources are planned so that staff members are exposed to a dose that is as low as reasonably possible.
- The premises used for work with sealed sources are adequate, correctly marked with signs, and that there is a way to clearly signal
- Only authorized staff members have access to premises where sealed sources are handled, and that a register of this is kept by the local agency.
- The local agency correctly documents its work with sealed according to the university common governing documents *Rules Regarding Radiation Protection at Umeå University*.
- Information and documents, if requested, are provided to the Radiation Protection Coordinator and Radiation Protection Expert.
- The Radiation Protection Coordinator and Radiation Protection Expert are, if requested, given access to premises where work involving ionizing radiation is conducted.
- The Radiation Protection Coordinator is informed of relevant changes in the local agency or the agency's work involving ionizing radiation.





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- The Swedish Radiation Safety Authority is informed, through the Radiation Protection Coordinator, in case of an incident or accident involving ionizing radiation.
- A contact person is appointed to act as the contact between the local agency and the Radiation Protection Coordinator. The appointment must be in writing, and the contact person must have adequate knowledge of the local agency and radiation protection.

### 5.4. Radiation Protection Expert

The Vice-Chancellor has tasked the Radiation Protection Expert to act as the university's expert and consultant radiation protection.

The Radiation Protection Expert has an obligation to:

- Inform the Radiation Protection Coordinator of deficiencies or irregularities regarding the radiation protection at a local agency and recommend adequate actions.

The Radiation Protection Expert is assigned the following tasks:

- To act as a medical physicist for all work involving irradiating humans.
- To visit local agencies and to offer advice and support regarding radiation protection.
- Initiate and revise, as needed, university common governing documents regarding radiation protection.
- Submit a basis for a response to queries from the Swedish Radiation Safety Authority
- To develop and maintain, and teach, a university common basic radiation protection course, a repetition course, and, if needed, local agency specific radiation protection courses.
- To assist the Radiation Protection Coordinator in assessing waste disposal plans and the annual inventory of radioactive sources, and other documents from the local agencies.
- To assist local agencies in disposing of equipment that is no longer in use.
- To check High Activity Sources for leakage (activity higher than those given by the HASS-directive, see SSMFS 2018:1). The results must be reported to the Buildings office and, if requested, to the Swedish Radiation Safety Authority.
- To advise and assist when a new local agency is established, or when changes are made to an already existing local agency, if the work performed at the agency involves ionizing radiation.
- Annually attend the central working environment committee.



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### 5.5. Radiation Protection Coordinator

The Radiation Protection Coordinator at the Buildings office coordinates the radiation protection work for the university on a general level.

The Radiation Protection Coordinator has an obligation to:

- Prepare the report for the annual inventory of radioactive sources and send it to the Swedish Radiation Safety Authority.
- Collect the waste disposal plans from the local agencies and make sure that the total amount of radioactive waste disposed of across the university does not exceed the limits set by the Swedish Radiation Safety Authority.
- Advise the vice-chancellor on disciplinary actions, if the efforts taken by a local agency to rectify a deficiency in the radiation protection has been found inadequate by the Radiation Protection Expert.
- Advise the vice-chancellor on whether to temporarily shut down a local agency if severe deficiencies in the radiation protection has been discovered.

The Radiation Protection Coordinator is assigned the following tasks:

- Act as the university's contact towards the Swedish Radiation Safety Authority.
- Arrange and invite the local agencies to the annual radiation protection course. The course must be given in both Swedish and English.

### 5.6. Contact Person

Each local agency where work involving ionizing radiation is conducted must assign a contact person, which is to act as the agency's contact towards the Radiation Protection Coordinator and the Radiation Protection Expert. The contact person is assigned by a written delegation from the Head of the Department/Director. The contact person is assigned the task of sending the local agency's annual inventory report to the Radiation Protection Coordinator.

If the contact person has insufficient authority or knowledge to adequately act as contact person, the Head of the Department/Director must be notified as soon as possible and a written form to demit the assignment must be filled out.



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### 5.7. Staff working with ionizing radiation

Staff working with ionizing radiation are assigned the following tasks:

- To know and follow the university common governing documents and the agency's local code of rules and procedures regarding radiation protection.
- To make use of protective equipment and take the necessary measures as required to ensure that the radiation protection is adequate.
- Participate in the radiation protection courses given by the university.