Strålsäkerhetsmyndigheten
Swedish Radiation Safety Authority

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Handläggare: Ninos Garis, Lovisa Lundholm och Maria Nordén
Arbetsgrupp: Ninos Garis, Lovisa Lundholm, Maria Nordén, Adam Mickiewicz, Lena Konovalenko, Hanna Hörnlund och Johan Enkvist
Godkänt av: Cheuk Lau, tf cN-FO

Call for research funding in radiation safety and nuclear non-proliferation

The Swedish Radiation Safety Authority (SSM) is announcing research funding in the field of radiation safety ("strålsäkerhet") and nuclear non-proliferation. In total, SSM plans to allocate 81 million SEK for use during 2026–2031. Applications must be received by SSM **no later than 21 April 2026**.

Please note that this is a translation of the original Swedish announcement. Any differences in subject matter between the two texts are unintended. If there are conflicts between the two texts, the original text in Swedish shall have precedence.

Scope and focus of the announcement

SSM annually announces funding for research within the authority's identified research areas. This call is open to universities, research institutes and companies in Sweden. International universities, research institutes and companies are also invited to apply for funding from funding source 3.

Only one application per applicant (project leader) may be submitted. The application can be written in Swedish or English. It is not permitted to submit applications with almost identical project descriptions from different applicants representing the same applicant body.

Research institutes and companies applying for funding within the call are referred to funding for research assignments. Companies cannot participate as a project partner within the framework of projects applied for by universities or research institutes. However, it is possible to participate in research projects as a procured party, or if the company fully covers its own costs and does not receive support from SSM within the framework of the project.

The funding sources that are relevant in the call are the following:

Funding source 1: Research funds for skills supply in new nuclear power

Within this funding source, SSM prioritises research related to radiation safety and nuclear non-proliferation linked to new nuclear power, including small modular reactors (SMRs). Within this funding source, funds can be applied for research within SSM's research areas 1-14, 17-20 and 25. The research funds can be used to contribute to national expertise in radiation safety and nuclear non-proliferation.

Swedish universities can apply for research funding for doctoral projects, postdoctoral projects or research assignments. Swedish research institutes can apply for research assignments. Companies cannot apply for funding within funding source 1.

For funding source 1, SSM plans to allocate **15 million SEK** for use during 2026–2031. The amount is tentatively intended to be distributed as 1.5 million SEK in 2026, 3 million SEK per year 2027–2030 and 1.5 million SEK in 2031. The total amount is intended to finance several applications.

Funding source 2: Research funds for radiation safety and nuclear non-proliferation within existing nuclear power

Within this funding source, SSM prioritises research related to radiation safety and nuclear non-proliferation linked to existing nuclear power. The research funds can be used to contribute to national expertise in radiation safety and nuclear non-proliferation, or to support and develop SSM's operations, primarily by developing new knowledge or new methods that are relevant for radiation safety and nuclear non-proliferation.

Priority issues are listed below (research area in italics with number in parentheses):

- *Human–Technology–Organisation (HTO) (1)*: Challenges regarding customer competence and verification and validation (V&V) in connection with maintenance due to LTO (Long Term Operation) and higher proportions of outsourcing and contractors.

- *Radiation protection in nuclear facilities (2)*: Research on health effects from ionising radiation in the low dose range, development of methods for difficult-to-measure radionuclides, development of techniques for emission limitation of relevant radionuclides and optimisation of water chemistry with regard to radiation protection.

- *Severe accidents including accident chemistry (6)*: Further development of BEPU methods (Best Estimate plus Uncertainty) for simulations of severe accidents, application of AI for improved SAMG (Severe Accident Management Guidelines) and Application of SAP (Super Absorbed Polymers) to suppress steam explosions and improve the coolability of a debris bed.

- *Nuclear fuel design (7)*: Research focusing on modelling of nuclear fuel materials and analysis of fuel behaviour and damage mechanisms, including interpretation of relevant experimental data aiming to contribute to increased understanding and improved analysis models for nuclear power reactors.

- *Structural integrity (8)*: Embrittlement of reactor vessel materials, thermal aging in conjunction with neutron embrittlement and aging of stainless weldments and aging equipment. New manufacturing methods such as additive manufacturing.

- *Instrumentation and control systems (I&C) (9)*: Risk analysis to assess the availability of aging analog instrumentation and control systems.

- *Probabilistic safety assessments (11)*: Methods for PSA and risk-informed applications.

- *Radioecology (17)*: Research on the dispersion and redistribution of radioactive substances in the environment linked to existing Swedish nuclear power, as well as uptake and metabolism in humans and other organisms in the biosphere.

- *Nuclear non-proliferation (19)*: Research in safeguards focused on development, application and evaluation of methods and techniques for the verification of nuclear material.

In addition, issues within the research areas of nuclear security (3), reactor physics including nuclear data (4), thermal-hydraulics (5), power supply (10), internal and external events (12), radiation biology (13), radiation dosimetry (14), radiation protection in emergency preparedness (18), waste management (20) and social science issues concerning radioactive waste, decommissioning and final disposal (25) with relevance to radiation safety and nuclear non-proliferation can also be considered.

Swedish universities can apply for research funding for doctoral projects, postdoctoral projects or research assignments. Swedish research institutes and companies can only apply for funding for research assignments.

For funding source 2, SSM plans to allocate **30 million SEK** for use during 2026–2031. The amount is tentatively intended to be distributed as 3 million SEK in 2026, 6 million SEK per year 2027–2030 and 3 million SEK in 2031. The total amount is intended to finance several applications.

Funding source 3: Research funding for projects concerned with handling and final disposal of residual wastes from nuclear activities

Within this funding source (The Nuclear Waste Fund), SSM can finance research and development needed to review the safe handling of residual wastes from nuclear activities, including spent nuclear fuel, and the safe decommissioning and dismantling of nuclear facilities. SSM prioritises research that strengthens the authority’s ability to effectively and reliably review permits and exercise supervision regarding the handling and final disposal of nuclear waste products.

Interdisciplinary collaboration within and between universities, research groups, research institutes and companies are encouraged by SSM.

Priority issues are listed below (research area in italics with number in parentheses):

- *Nuclear non-proliferation (19)*: Research on the usefulness of monitoring Kr-85 for safeguards linked to the geological repository for spent nuclear fuel.

- *Waste management (20)*: Knowledge development on assumptions and parameters in dose consequence calculations, for instance the dispersion of radionuclides from landfills and contaminated soil, and the importance of groundwater flows and transfer factors to crops, plants and animals.

- *Decommissioning (21)*: Important issues during decommissioning and dismantling such as waste management, occupational radiation protection, optimisation, release of radioactive substances, analyses of human, technical and organisational factors for safety, safeguards, nuclear security and transport.

- *Engineered barriers in the final repository (22)*: Mechanical properties of copper, including mechanisms related to the deformation of the copper cladding. Mechanisms linked to the dissolution of the fuel such as the influence of the formation of uranyl-hydrogen peroxide complexes. The sorption capacity of transformation products from concrete-bentonite interaction which is mainly relevant for the Final Repository for Short-Lived Radioactive Waste (SFR) and for the planned final repository for long-lived waste.

- *Geosphere in connection with final disposal (23)*: Uncertainties in flow and transport modelling, including radionuclide retardation, used in safety assessments for geological final disposal sites.

- *Biosphere and impact assessment for final disposal (24)*: Alternative models for biosphere and impact assessment, uncertainties in modelling of landscape development, the importance of methodology for defining object boundaries, development of significant assumptions and parameters in biosphere models, modelling and impact assessment calculations for carbon-14, chlorine and methane, and uncertainty and sensitivity analyses linked to modelling.

- *Social science issues concerning radioactive waste, decommissioning and final disposal (25)*: Archiving and information preservation, linked, for instance, to updates of the archive regulation SSMFS2008:38. Issues surrounding risk communication with a focus on decommissioning and clearance. Human, technical and organisational factors for safety (HTO) in future nuclear facilities, e.g., a repository for spent nuclear fuel, and HTO aspects in decommissioning of nuclear facilities.

Swedish universities can apply for research funding for doctoral projects, postdoctoral projects and research assignments. Swedish research institutes and companies can apply for funding for research assignments. International universities, research institutes and companies can also apply for funding from funding source 3, but only for research assignments.

For funding source 3, SSM plans to allocate **20 million SEK** for use during 2026–2031. The amount is tentatively intended to be distributed as 2 million SEK in 2026, 4 million SEK per year 2027–2030 and 2 million SEK in 2031. The total amount is intended to finance several applications.

To avoid undue bias and/or conflicts of interest, awarded funds from The Nuclear Waste Fund may not be used for salaries of persons who currently have, or in the last two years have had, assignments for Svensk Kärnbränslehantering AB (SKB), Posiva Oy, or for any of their owners or affiliated companies. Neither are applicants permitted to have performed research for SKB or Posiva with a similar aim as that proposed in the application.

Funding source 4: Research funds for other radiation safety research

Within this funding source, SSM prioritises research in areas for which there are no specific funds allocated. This mainly concerns radiation protection in areas that are not primarily related to nuclear activities.

Priority issues are listed below (research areas in italics with numbers in parenthesis):

- *Radiation biology (13)*: Increased understanding of the health effects of ionising radiation on humans, with a clear connection to radiation protection aspects.

- *Radiation protection in healthcare (15)*: Research related to AI and its applications (machine learning) that are relevant to radiation protection in healthcare.

- *Radioecology (17)*: Research concerning the distribution and redistribution of radioactive substances in the environment and their uptake and metabolism in humans and other organisms in the biosphere.

- *Radiation protection in emergency preparedness (18)*: Research concerning radiation protection in connection with radiological emergencies.

In addition, issues within the research areas of radiation dosimetry (14) and non-ionising radiation (16) with relevance to other radiation safety research may also be considered.

Swedish universities can apply for research funding for doctoral projects, postdoctoral projects or research assignments. Swedish research institutes and companies can only apply for funding for research assignments.

For funding source 4, SSM plans to allocate **16 million SEK** for use during 2026–2031. The amount is tentatively intended to be distributed as 2 million SEK in 2026, 3 million SEK per year 2027–2030 and 2 million SEK in 2031. The total amount is intended to finance several applications.

Instructions for the planned project budget

Universities may include indirect costs during the project time according to the full-cost model used by their administrating organisation. Indirect costs (overhead costs) are general expenses which do not appear as immediate costs from specific project activities during the project time.

Costs for the implementation of the applied project must have been incurred during the project period. In general, costs must be actual and auditable, which means that they must be able to be found in the applicant body's accounting records. For example, it is not possible to receive compensation for work carried out without pay such as scholarships. In the applicant body's accounting records, project costs must be reported in accordance with generally accepted accounting principles so that they can be distinguished from other transactions.

Direct costs for personnel (gross salary and payroll overhead) must be reported as salary costs according to activity level/s in the project. Payroll overhead refer to social security contributions according to law, mandatory pension provisions, mandatory insurance and fees, and holiday compensation.

Universities and higher education institutions may only hire consultants for work within the project in accordance to what is stated in the budget plan and other information in the application to SSM. Any use of consultants in the project must be in accordance with the Public Procurement Act (2016:1145).

Maximum amounts

Doctoral projects can be funded with maximum 1.25 million SEK per year corresponding to a four years full-time position i.e., in total 5 million SEK. The support is aimed at Swedish universities.

Post-doctoral projects can be funded with maximum 1.5 million SEK per year corresponding to two years full-time position i.e., in total 3 million SEK. The support is aimed at Swedish universities.

Research assignments can be funded with maximum 2 million SEK. The aim is to support and develop SSM's own expertise, primarily by developing new knowledge or new methods that are relevant to radiation safety and nuclear non-proliferation. The support is aimed at both universities and research institutes as well as companies.

Project start can be planned from 2026 or 2027. SSM may for administrative reasons decide a timetable for the funding that differs from the budget time plan proposed in an application. Each application will be considered in its entirety; that is to say, SSM does not intend to fund only a part of an application.

The project should be completed and reported no later than September 30 the final year.

Scope and format of the application

Applicants must fill out a **web form** as well as submit the application, which must consist of **three files**, to the Swedish Radiation Safety Authority via the email address registrator@ssm.se, with a copy to forskning@ssm.se. Please include reference **SSM2026-1305** in the subject line.

The **web form** should be filled with selected information from the application form. The purpose is to ensure that the application reaches the authority even if the files are too large to submit. We are aware that this involves some duplication of work but are grateful for your help.

The attached files should include 1) a completed application form, 2) a project description and 3) a CV plus a list of publications:

1) The **application form** should be named ”Application form” followed by the applicant’s surname.

2) The **project description** should be named “Project description” followed by the applicant’s surname, and should comprise a maximum of ten A4 pages presenting a well-developed proposal with the following headings:
   1. Background
   2. Purpose and aims
   3. Method(s)
   4. Work plan including timetable with milestones distributed over the years
   5. Potential significance of the project in a broader perspective
   6. Communication of results
   7. References

3) The file with the **CV plus publication list** should be named "CV plus publication list" followed by the applicant's last name, and include:
   - curriculum vitae (CV: max. two A4 pages) including education, work and supervisory experience, teaching experience, and national and international collaboration. In addition to this, other qualifications can also be included.
   - references to a maximum of three own publications of relevance to the application.
   - references to all other scientific publications that have been published or accepted for publication. List them in reverse chronological order with the applicant's name in bold, under the following headings: Peer-reviewed

original articles; Peer-reviewed review articles or book chapters; Other scientific publications, including publications within the SSM report series.

In addition, a maximum of three own publications of relevance to the application can be attached (articles in PDF format).

The application form must be signed by the head of department or equivalent where the research is to be conducted.

SSM has noted that the use of AI in research applications has increased. SSM does not prohibit applicants from using generative AI or other tools when designing the application. However, the applicant is responsible for ensuring that the content of the application – including the project plan – is correct and that the research can be carried out as described. The applicant must follow good research practice during the application process. This means that plagiarism, falsification or fabrication of content in the application must not occur.

Assessment of applications

Incomplete or late applications will not be assessed.

The examination of applications received by the Authority is performed by a group of professionals, with good expertise in one or more research areas. SSM's criteria for assessing research projects are (weighting in percentage):

- Relevance to national competence in the field of radiation safety or relevance to SSM's own operation (40%).
- The applicant's qualifications (20%).
- Scientific quality (20%).
- Feasibility (20%).

The assessments based on the above criteria form the basis for decisions. Where assessments made using the above criteria lead to two or more applications being equivalent, aspects such as equal opportunities and the division of funds between universities, may also be taken into account.

SSM aims to achieve a balance across its research funding, with a suitable division between research providing operational support and competence support, as well as between funding of longer and shorter-term projects.

The Authority aims to make a decision no later than **June 26, 2026**.

Applications are public documents

SSM is an agency of the Swedish state and as such is subject to the principle of public access to official records. This means, among other things, that everyone has right to access non-classified public records (known as handlingsoffentlighet). As a general rule, records that come into, go out from, or are drawn up by the Authority become public documents and may be requested for release.

Questions may be addressed to

Any questions about the call should be sent to forskning@ssm.se.

Link to the website where all documents are available