



Strålsäkerhetsmyndigheten

Swedish Radiation Safety Authority

Utlysning

Datum: 2024-02-16

Diariernr: SSM2024-1210

Dokumentnr: SSM2024-1210-1

Process: 3.2

Handläggare: Maria Nordén

Arbetsgrupp: Johan Enkvist, Ninos Garis, Lena Konovalenko, Maria Nordén

Samråd: Cheuk Lau, tillförordnad forskningschef, Christian Linde, tillförordnad cN-FO

Godkänt av: Per Seltborg, tillförordnad cN

The Swedish Radiation Safety Authority announces research funding focusing on nuclear waste products

The Swedish Radiation Safety Authority (SSM) hereby announces research funding for projects concerned with residual wastes from nuclear activities.

The announcement concerns a total of 19 million SEK for use during the years 2024–2029. The sum is preliminarily planned to be distributed as 4 million SEK for the year 2024, 5 million SEK for the year 2025, 4 million SEK for the year 2026, 3 million SEK for the year 2027, 2 million SEK for the year 2028 and 1 million SEK for the year 2029. The total amount is intended to fund multiple applications. The maximum amount for an application is 5 million SEK.

The application must be received by the Authority **no later than April 15 2024**.

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 of the announcement

The announcement is addressed to universities, research institutes and companies in Sweden. International universities, research institutes and companies are also invited. The funding is intended for research relevant for residual waste products from nuclear facilities in Sweden.

Research areas prioritised by SSM in this announcement are mainly those that concern risks and safety in the decommissioning of, and the final disposal of residual waste products from nuclear facilities in Sweden. The term “residual waste products” refers to what is covered by the term *restprodukter* in the Swedish law concerning the financing of residual wastes from nuclear activities (*Lag (2006:647) om finansiering av kärntekniska restprodukter*). Examples of research areas could be the technical barriers in the Swedish geological final disposals, geosphere issues related to final disposal, biosphere issues and consequence analysis for final disposal, and issues in social sciences regarding final disposal. Interdisciplinary collaboration within and between universities, research groups, research institutes and companies are encouraged by SSM.

Strålsäkerhetsmyndigheten
Swedish Radiation Safety Authority

SE-171 16 Stockholm
Solna strandväg 96

Tel:+46 8 799 40 00
Fax:+46 8 799 40 10

E-post: registrator@ssm.se
Webb: stralsakerhetsmyndigheten.se



The announcement includes, but is not limited to, the following examples of research areas

- Various aspects of copper creep, e.g. macroscopic modelling of stress conditions in the casing and how they change in connection with, and after, cracking and crack propagation. Other examples are how phosphorus influences the material properties of copper and, in connection to copper creep, if it is possible that hydrogen uptake could influence the spreading and the maximum deformation of the copper casing so that the integrity of the canister is not compromised.
- Modelling and experimental studies of sorption of radionuclides on different barrier materials in a final repository, such as concrete.
- The long-term properties of the spent nuclear fuel and the development in the spent nuclear fuel repository in connection to the power increase of the nuclear power plants and the use of damage tolerant nuclear fuel.
- To map and understand the conditions for a future location for SFL, for example to understand the rock's conditions to offer long-term chemical, mechanical and hydrogeologically favourable conditions for the final repository SFL.
- Studies concerning groundwater chemistry at the site of the final repository for spent nuclear fuel in Forsmark and the connection to the technical barriers and their influence on the chemical conditions in the final repository environment.
- Frequency and size of postglacial faults and historical storm surges.
- Radioecology linked to biosphere modelling and impact assessment calculations in SKB's safety analysis reports for spent nuclear fuel and radioactive waste respectively. For example possible alternative methods/models compared to SKB's approach, methods for definition of areas of interest, analysis of assumptions in SKB's biosphere models, modelling and impact assessment calculations for C-14.
- Social science issues concerning waste management, decommissioning and final disposal, e.g. on the review process and information preservation, on people, technology and organization (MTO) in future nuclear facilities, as a repository for spent nuclear fuel.

The announcement concerns funding for doctoral positions, post-doctoral positions or research assignments.

SSM may for administrative reasons decide a timetable for the funding that differs from the spread of budget over time proposed in an application. Each application will be considered in its entirety; that is to say, SSM does not intend to fund only part of an application.

Amounts

Doctoral positions corresponding to four years full-time position can be funded with 1.25 million SEK per year and position, i.e. in total 5 million SEK.

Post-doctoral positions corresponding to two years full-time position can be funded with 1.5 million SEK per year and position, i.e. in total 3 million SEK.

Research assignments can be funded with a maximum of 1.5 million SEK in total.



Implementation process

Each application must include two files: a completed application form and a project description.

Application form is available here: [Ansökningsblankett för forskningsmedel](#)

The project description must be named "Project description + applicant's surname" and contain a maximum of ten A4 pages with the following information:

- Project summary
- Project plan that presents a well-worked proposal for how the research will be conducted (specific goals, background, theory/hypotheses, methods, work plan, relations to possible other applications or funding, research questions to be answered, potential significance of the project, references)
- Description of how results are to be communicated
- Schedule with milestones and budget distributed over relevant calendar years
- Curriculum vitae (CV) for the applicant (max. two A4 pages)
- References to a maximum of three own publications of importance to the application

In addition to the maximum ten A4 pages, a separate file with a maximum of three own publications of importance to the application can also be attached. The attachment must be named "Publications + applicant's Surname". Only articles or equivalents that have been published or accepted for publication may be included.

The complete application including appendices shall be sent electronically to the Swedish Radiation Safety Authority using the e-mail address **registrator@ssm.se** with a copy to **maria.norden@ssm.se**. Please indicate reference **SSM2024-1210**. The application must be signed by the head of department or equivalent for where the research is to be conducted. The general terms and conditions of the Swedish Radiation Safety Authority apply to contractual agreements for research funding.

The project should be completed and reported no later than September 30 the final year. In addition to a comprehensive description of the scientific work, the final report shall contain a brief summary in which the most important results and conclusions are presented. Results should be placed in context within the specific research area. The report may be written in Swedish or English. An additional goal of the project is for the results to be presented at scientific conferences or in scientific journals.

Assessment of applications

Incomplete or late applications will not be assessed.

The examination of applications received by the Authority takes place among a group of experts, and according to SSM's criteria for assessing research projects, which are

- *relevance* to SSM's research objective (relevans inom strålsäkerhetsområdet), how well the project fits SSM's mission within the research area of the announcement (weighted by 40 %),



- *scientific quality* (vetenskaplig kvalitet) of the project in comparison to quality and depth of the issue under study, (weighted by 20 %),
- *competence* (kompetens) within the project in comparison to what is assessed to be necessary in order to ensure sufficient quality (weighted by 20 %), and
- *feasibility* (genomförbarhet), how realistic it is that the project reaches its goal and can be completed in time (weighted by 20 %).

Assessments made using the above criteria establish a foundation that constitutes the basis for decision. Where assessments made using the above criteria lead to two or more applications being equivalent, other aspects such as equal opportunities and the division of funds between universities may be taken into account. The overall aim of the assessment process is for SSM 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.

To avoid undue bias and/or conflicts of interest, awarded funds may not be used for the salaries of persons who currently have, or in the last two years have had, assignments for Svensk Kärnbränslehantering AB (SKB), for 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 orientation to that proposed in the application.

The Authority aims to make a decision no later than June 20 2024. The project is expected to start as soon as possible after the decision.

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

Maria Nordén, Analyst, Telephone +46 (0) 8 799 42 08, maria.norden@ssm.se
Johan Enkvist, Analyst, Telephone +46 (0) 8-799 41 65, johan.enkvist@ssm.se