



**nks**

**nordic nuclear safety research**

## A common Nordic view

Nordic problems need Nordic solutions. NKS aims to facilitate a common Nordic view on nuclear safety and radiation protection including emergency preparedness. This requires common understanding of rules, practice and measures, which may vary between countries, as well as with time. The work builds on a foundation of over sixty years of Nordic collaboration on related issues. Non-Nordic participation may be allowed under certain circumstances.

## Securing Nordic competence and knowledge building

Through collaborative NKS activities, Nordic competence and capabilities are maintained and strengthened, and solutions to Nordic problems are disseminated through a sustained informal network. NKS publications are available cost-free on the internet. A special effort is made to engage young scientists and students, to ensure knowledge and expertise for the future.

## Strengthening response capacities

By maintaining vital informal networks between Nordic authorities, nuclear power companies, scientists and other stakeholders, the region's potential for a fast, coordinated and targeted response to urgent issues is strengthened. Thereby, problems can be tackled quicker, more efficiently and consistently and at lower cost than if they needed to be addressed on a national scale.

## Addressing current societal questions

NKS keeps an open eye to societal changes and events that might influence requirements and perception of nuclear safety, radiation protection and emergency preparedness in the Nordic countries. For instance the Fukushima accident prompted the arrangement of an NKS joint reactor safety and emergency preparedness seminar on lessons learned and future implications for Nordic society.

## NKS activities

These can take the form of research activities, test exercises or information collation/review exercises. Alternatively they can aim to harmonize approaches to common problems or spread and distribute knowledge and results through seminars, workshops and educational/training courses. Common to all NKS activities is that the results should be beneficial and made available to concerned end users in all Nordic countries. Aspects of nuclear safety, radiation protection and emergency preparedness may be combined in one activity.

## Research areas

Areas of interest covered by NKS activities fall under two main programmes, NKS-R and NKS-B, which cover the following specified research areas.

### NKS-R programme:

- Reactor safety
- Nuclear power plant life management and extension
- Decommissioning and handling of generated waste
- Organizational issues

### NKS-B programme:

- Emergency preparedness
- Measurement strategy, technology and quality assurance
- Radioecological assessments
- Wastes and discharges

The logo for NKS (Nordic Nuclear Safety Research) features the lowercase letters 'nks' in a bold, dark blue, sans-serif font. The 'n' and 'k' are connected at the top, and the 's' is positioned to the right of the 'k'. The letters are set against a white background.

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## Some recent examples of NKS activities

### Learning from successes in nuclear power plant operation

In the nuclear industry, licensees are required to collect lessons from unwanted events in order to prevent the recurrence of similar events. This implies a focus on learning from failures, which may limit the opportunities of the organization to develop. Instead, the NKS-R LESUN activity investigated the concept of learning from success. LESUN noted that success is a complex and multidimensional concept. LESUN formulated a framework for capturing success which can be used to identify successful situations for learning purposes.

### Planning safety demonstration

The NKS-R activity PLANS addresses some of the challenges of safety demonstrations, e.g. the knowledge gap on what a safety demonstration is and how it should be performed, by providing detailed guidance on how to plan for safety demonstration. PLANS organized an industry expert workshop to better understand the practices and challenges related to performing safety demonstration, and based on the outcome further developed a guide for planning safety demonstrations.

### Advanced in-situ gamma spectrometry field activity in a Chernobyl contaminated area

The NKS-B GAMFAC activity provided an opportunity for testing of equipment, procedures and personnel in conducting in-situ measurements in areas in Belarus of high contamination with complex confounding factors. It was noted that the ability of a team to successfully conduct such measurements is largely related to the amount of work and preparation invested in calibration and procedure development prior to the actual exercise.

### Internal dosimetry exercise for enhanced estimation ability

The NKS-B IDEA activity was initiated to enhance the ability to make correct calculations of internal dose following a release of radionuclides. A seminar/course about internal dosimetry calculations with state-of-the-art software was held. An intercomparison exercise showed that there is still a need for training, further experience and quality control in the Nordic region.

## How to apply

Nordic companies, authorities, organizations and researchers can submit proposals for NKS activities under the NKS-R and NKS-B programmes. Usually at least three of the five Nordic countries should participate in an activity. Activities submitted under annual calls for proposals are assessed according to criteria important to the objectives of NKS, with final funding decisions made by the NKS board.

Do you have suggestions for a nuclear safety or radiation protection related activity? Contact us via [www.nks.org](http://www.nks.org)

## Financing of NKS activities

NKS is mainly financed by Nordic authorities, with additional contributions from Nordic organizations that have an interest in nuclear safety. The budget for NKS in 2016: about 9 million Danish kroner (€ 1.2 million). In addition to the funding sought from NKS, participating organizations are asked to provide a similar amount of in-kind contributions. This may take the form of working hours, travel expenses or laboratory resources. Without these in-kind contributions it would not be possible to carry out NKS activities.

### Main financiers

- Danish Emergency Management Agency
- Ministry of Employment and the Economy, Finland
- Icelandic Radiation Safety Authority
- Norwegian Radiation Protection Authority
- Swedish Radiation Safety Authority

### Co-financiers

- Fennovoima Oy, Finland
- Fortum Power and Heat Ltd, Finland
- TVO, Finland
- Institute for Energy Technology (IFE), Norway
- Forsmark Kraftgrupp AB, Sweden
- OKG AB, Sweden
- Ringhals AB, Sweden



## The NKS website

On the NKS website ([www.nks.org](http://www.nks.org)) information is available on funding opportunities, travel support for young scientists, current activities and upcoming seminars. Presentations from seminars held are available for download as are reports from all completed NKS activities. It is also possible to discover more information on NKS and the history of Nordic co-operation in nuclear safety. You can also reach the NKS website using the QR code.



How to apply for NKS funding



## NKS email list

NKS sends out newsflashes and newsletters throughout the year providing information on call for proposals, upcoming seminars and published reports. If you wish to join the NKS email list please sign up at [www.nks.org](http://www.nks.org) or scan the QR code.



## NKS mobile reports

All NKS reports from all completed activities can be reached conveniently also with your mobile devices at [mobile.nks.org](http://mobile.nks.org) or simply by scanning the QR code.



## Contact

If you wish to learn more about NKS and NKS activities visit our website or contact the NKS secretariat.

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In the reactor hall at Barsebäck unit 1, Sweden  
Photo: Anders Wiebert

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