



Nordisk kernesikkerhedsforskning
Norrœnar kjarnöryggisrannsóknir
Pohjoismainen ydinturvallisuustutkimus
Nordisk kjernesikkerhetsforskning
Nordisk kärnsäkerhetsforskning
Nordic nuclear safety research

NKS-B Status Report

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May 2012
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Status summary

Overall the work in NKS-B is progressing well. Since the last NKS-B status report was made to the NKS-Board in January 2012, 4 new final reports from completed NKS-B activities have been published on the NKS website. All of the delayed NKS-B activities that commenced prior to 2012, should have been completed (i.e. final reports submitted) by the time of the NKS Board meeting. Of the NKS-B activities that started in 2012, contracts have been agreed and signed with all. Activities that started in 2012 are all currently on schedule.

NKS-B reports

The following NKS-B reports have been published on the NKS website since the last NKS-Board meeting.

[Gamma Workshop](#)

Henrik Ramebäck et al.
Gamma Workshops Proceedings

[PIANOLIB](#)

Lilián del Risco Norrlid et al.
Nordic proficiency test for whole body counting facilities

[GammaRate](#)

Hans Bjerke et al.
Radiation survey meters used for environmental monitoring

[RadWaste](#)

Xiaolin Hou et al.
Progress on radiochemical analysis for nuclear waste management in decommissioning

NKS-B activities from 2008 (June)

DepEstimates:

Estimation of fallout deposition background for various radionuclides
Activity Leader: Sigurður Emil Pálsson, Geislavarnir ríkisins

NKS-B funding: **250 kDKK**

Milestones defined in contract:

1. Planning meeting, Bergen (June 2008)
2. Short status report (November 2008)
3. Progress report, including description of concentration function (December 2008)
4. Seminar (January – February 2009)
5. Draft paper for submission to a scientific journal (15 March 2009)
6. Final report (1 April 2009)

Status

A paper with activity results has just been published in the Elsevier Journal of Environmental Radioactivity (Pálsson et al.: A simple model to estimate deposition based on a statistical reassessment of global fallout data). Having reached this milestone, the activity manager has promised to strive to deliver the final report before the Board meeting in May 2012.

NKS-B activities from 2010 (January)

MareNuc

Operationalisation of risk assessments for marine reactors

Activity Leader: Ole Reistad, NRPA, replaced by Styrkaar Hustveit, when Ole Reistad joined IFE in 2011.

NKS-B funding: **340 kDKK**

Milestones defined in contract:

1. Joint op-ed on the marine nuclear activities in the Nordic waters and the relevance for a Nordic network addressing the risks associated with these activities (Ultimo March 2010)
2. Workshop 1: Agreed methodology for scaling of source terms in relation to certain type of vessels, and prioritization of the most important nuclides for further consideration in impact assessments, on the basis of relevant literature on marine reactors and source term derivation from small reactor (April 22-23, 2010);
3. Workshop report 1 (Medio June, 2010);
4. Workshop 2: Assessment of the possible changes of risk associated with the operation of nuclear reactors in Northern European areas in relation to expected changes in vessel construction plans, new applications and introduction of new technologies (Ultimo August, 2010);
5. Workshop report 2 (Medio November, 2010):

Status

The second Workshop took place immediately after the NSFS conference in Reykjavik in August 2011. The takeover by the new activity leader has not been unproblematic, but the latest input from him is: 'We are working towards completing the report for the NKS board meeting in May'. Awaiting the final report.

NKS-B activities from 2011 (January)

RADPAST

Natural radionuclides from 238U and 232Th decay series in rural areas of the Nordic countries and dose assessments.

Activity Leader: Klas Rosén (SLU)

NKS-B funding: **500 kDKK**

Milestones defined in contract:

1. Workshop in March 3, 2011
2. Interim report on field studies by the beginning of September 2011
3. Workshop in the mid of October 2011
4. Final report by the end of December 2011

Status

Final report (based on 2 years work) was in January delayed to April to make it possible to include Po-210 data. Follow-up in April revealed that there had been a misunderstanding between the activity partners, and analysis of Po-210 in milk could not be carried out because all

material had by mistake been ashed for gamma spectrometry. In the ashing process unknown fractions of the polonium will have been released. The activity leader now plans to submit the report without the Po-210 data in time for the NKS board meeting in May.

PONPP2

Preparedness Organization at Nuclear Power Plants in the Nordic countries
Activity Leader: Jan Porsmyr (IFE-Halden)

NKS-B funding: **300 kDKK**

Contract not yet signed.

Status

Due to increased workload amongst the participants as a result of the Fukushima accident, it was in 2011 not possible to commence the planned work programme. The activity leader has recently assessed the current situation with NRPA, SSM and STUK, who can still not commit the required resources. He concludes that it will not be possible for the activity to start on 01.06.12 as planned in the revised schedule (with an end date of 01.06.13).

NKS-B activities from 2012 (January)

GASMAT

Gamma spectrometric discrimination of special nuclear materials
Activity Leader: Mark Dowdall (NRPA)

NKS-B funding: **350 kDKK**

Milestones defined in contract:

1. Summary report to NKS detailing progress as to material development (01.07.2012)
2. Actual date of activity (10.2012)
3. Final report to NKS (01.12.2012)

Status

Contract signed. Progress on schedule. Invitations sent out on schedule with deadline end of April. Date of exercise set for October to avoid clashing with REFOX exercise in Sweden. The 8 scenarios are decided upon and materials are being developed.

Nordex12

Nordic Exercises 2012
Activity leader: Sigurdur Emil Pálsson

NKS-B funding: **420 kDKK**

Milestones defined in contract:

1. Development of revised work plan in consultation with the participating Nordic Authorities (March 2012)
2. Presentation at a meeting of Nordic Authorities of NordEx12 support for Nordic participation in the Swedish REFOX exercise (March 2012)

3. Meeting for representatives from Nordic Authorities with planners of REFOX (May 2012)
4. Coordination with NKS-B MOMS of Nordic technical preparation for REFOX (e.g. harmonisation of data formats and processing, to the degree needed) (at MOMS seminar, May 2012)
5. Development and distribution of scenarios for table-top exercises for use by the authorities individually (May 2012)
6. Coordination of Nordic participation during the REFOX exercise (September 2012)
7. Progress report (including summaries of shared experience of exercises, December 2012)
8. Seminar on lessons learned after REFOX and related exercises (spring 2013)
9. Final report (May 2013)

Status

Contract signed. Progress on schedule. The first 2 milestones were reached as scheduled:

1. The work plan was developed and discussed at a Nordic authorities (NEP) meeting, 20-21 March.
2. The Nordic aspects of the planned REFOX exercise was presented in cooperation with representatives from SSM at a Nordic authorities (NEP) meeting, 20-21 March. As for the May milestones the following preparation has been made: 3: Meeting for representatives from Nordic authorities has been scheduled for 21 May, and 4: Participation in MOMS meeting 22–23 May has been announced.

Gamma Workshops 2012

Gamma Workshops 2012

Activity leader: Elisabeth Strålberg

NKS-B funding: **360 kDKK**

Milestones defined in contract:

1. Planning meeting (February/March 2012)
2. Workshops (September 2012)
3. Final report (end of December 2012)

Status

Contract signed. Progress on schedule. Progress so far: Planning meeting held at STUK 28 Feb. Preliminary agenda with focus on emergency preparedness (lessons learned from Fukushima, in-situ measurements...), but also TCS corrections and libraries (related to Fukushima). Contact with possible lecturers in progress, final agenda will not be ready until all lecturers have confirmed their participation. Place and venue are now confirmed and booked: Hotel Örk in Hveragerði, Iceland. Time: 11-12 September (arrival Monday afternoon, bus arrangements from Reykjavik to the hotel for all participant). Information about the workshops will be sent out soon.

MOMS

Mobile measurement, calibration and strategy

Activity leader: Johannes Nilssen

NKS-B funding: **500 kDKK**

Milestones defined in contract:

1. Development of agenda and finalise invitations to seminar and workshop
2. Conduct the seminar
3. Implement harmonisation efforts agreed upon from the seminar

4. Conduct practical workshop
5. Final report

Status

Contract signed. Progress on schedule. The seminar is planned for the 22-23 May 2012 at Clarion Bastion Hotel, Oslo, Norway. This has been announced through NewsFlash 36 on 3 April 2012, and information is available on NKS website. The plan is to hold the practical workshop as part of the REFOX exercise (26-27 September 2012). The exact date will be planned in coordination with SSM. Details on the workshop will be discussed during the seminar.

MUD

Meteorological uncertainty of atmospheric dispersion model results
Activity leader: Jan Havskov Sørensen (DMI)

NKS-B funding: **300 kDKK**

Milestones defined in contract:

1. Kick-off meeting (DMI, Met.no, Risø, SSM, DEMA)
2. Case studies selected (DMI, Met.no, Risø, SSM, DEMA)
3. Corresponding NWP model ensembles generated (DMI, Met.no)
4. Long-range atmospheric dispersion models applied to the case studies, and atmospheric dispersion model ensembles generated (DMI, Met.no)
5. Status meeting (DMI, Met.no, Risø, SSM, DEMA)
6. Preparation of NKS-B application for project continuation and completion next year (DMI, Met.no, Risø, SSM, DEMA)

Status

Contract signed. Progress on schedule. The kick-off meeting took place at DMI on 20-21 February, 2012, with the B programme manager attending. Meteorological scenarios which can be used for MUD have been identified. According to plans, at least two scenarios should be run. Detailed release scenarios are yet to be described. Model systems are available. Next meeting: 10-11 September, 2012.

THYROID

Assessment of accidental uptake of radioiodine in emergency situations - proficiency test and evaluation of the regional capabilities
Activity leader: Lilián del Risco Norrlid (SSM)

NKS-B funding: **280 kDKK**

Milestones defined in contract:

1. First call for activity
2. Running the calibrations and intercomparison exercise
3. Meeting of coordinators for evaluation of the results
4. Report of the activity

Status

Contract signed. Progress on schedule. Call for participation in the calibration campaign is completed, and the first list of detectors to be calibrated is generated. A schedule for circulation

of the calibration phantom and sources should be ready by the end of May. Calibration source purchases are being negotiated on the basis of the grant from the activity PIANOLIB (AFT/B(11)6).

PUBPLUME

Communicating dispersion modelling results to the public

Activity leader: Jan Erik Dyve (NRPA)

NKS-B funding: **150 kDKK**

Milestones defined in contract:

1. Workshop with follow-up meeting
2. Final report

Status

Contract signed. Progress on schedule. Planning of the seminar in the autumn is ongoing.

BERMUDA

Doses from natural radioactivity in wild mushrooms and berries to the Nordic population

Activity leader: Tuukka Turtiainen (STUK)

NKS-B funding: **250 kDKK**

Milestones defined in contract:

1. Minutes of the kick-off meeting (Helsinki, 4-5/6 2012) due 31/6 2012
2. Sampling period Jul-Oct 2012 (also laboratory work starts)
3. Interim report: Literature review and description of sampling 31/12 2012

Status

Contract signed. Progress on schedule. Kick-off meeting to be held after May Board meeting. Both STUK and UMB have recruited a M.Sc. student to work for the project in the summer/autumn and no problems are anticipated. Other partners are also assumed to be prepared. The date initially set for the meeting in June seems to be difficult for some partners, and may be moved a bit.

COSEMA

Consequences of severe radioactive releases to Nordic marine environment

Activity leader: Vesa Suolanen (VTT)

NKS-B funding: **510 kDKK**

Milestones defined in contract:

1. Work report on consequences of releases from severe NPP accidents to the Baltic Sea
2. Work report on releases and consequences of severe submarine accidents
3. Final report (summary of stages 1&2, contributions from all partners)

Status

Contract signed. Progress on schedule. The kick off meeting of the COSEMA activity was held on 22-23 March at VTT, Espoo, with the B programme manager present. At the meeting, calculation scenarios, source term estimation methods and locations in Nordic sea area were confirmed. Work related to Nordic marine input data, needed in calculations codes, was scheduled between all participants.

RASTEP

Using Bayesian belief network modelling for rapid source term prediction after a severe accident
Activity leader: Michael Knochenhauer (Scandpower AB)

NKS-B funding: **200 kDKK** (NKS R/B crossover activity with equal funding from both R and B; NKS R contract)

Milestones defined in contract:

1. Detailed project plan 2012-08-12
2. Reference group meeting 2012-12-15
3. Project seminar 2013-05-31

Status

Contract signed. Activity starts June 2012.