NERIS

NERIS way to further assess and improve existing arrangements for emergency preparedness and response in the European Union

Presented by Tatiana DURANOVA, VUJE, Slovakia

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NERIS Platform today

- Created in 2010, now composed of 59 members, with 28 supporting members
- The Fukushima accident has largely influenced the orientation of the research in Europe on emergency and recovery
- Different international and national organizations are in the process to review or update their management framework on the basis of the first feedbacks from Fukushima

NERIS Platform Objectives

Overall aim of E&T workstream comes from the NERIS Platform objectives:

- **Improving** the effectiveness of current European, national and local approaches for preparedness concerning nuclear or radiological emergency response and recovery.
- **Promoting more coherent approaches in preparedness** for nuclear or radiological emergency response and recovery throughout Europe.
- **Identifying** gaps and needs for further developments in preparedness for nuclear or radiological emergency response and recovery.
- **Addressing** new and emerging challenges in the field of preparedness for nuclear and radiological emergency response and recovery.
- **Maintaining and improving know-how and technical expertise in preparedness** for nuclear or radiological emergency response and recovery **among all interested stakeholders in Europe**.

NERIS Strategic Research Agenda

Research areas of NERIS Platform are defined as follows:

- Challenges in radiological impact assessment during all phases of nuclear/radiological events
- Challenges in countermeasures and countermeasure strategies in emergency & recovery, decision support & disaster informatics
- Challenges in setting-up a holistic/ multi-faceted framework for preparedness for emergency response & recovery

Ranked research priorities

1. Assessment of and communication of uncertainties.

Investigation of data uncertainties (model or monitoring results) and how they can be communicated, e.g. in model results and in Decision Support Systems (DSS) to help decision-makers to understand the radiological situation. This includes also work on model sensitivity, validity of model results and inter-comparisons of models and measurements.

Ranked research priorities (2)

2. Robust decision-making. Structuring the decision processes and the protective strategies at national, regional and local levels with the help of formal decision aid tools, such as multi-criteria analysis and on the basis of feedback from stakeholder processes. Development of guidance on the use of DSS in the various phases of an event based on feedback from stakeholder processes and from Fukushima experience in emergency response and recovery.

Ranked research priorities (3)

3. Countermeasure strategy preparedness. Development of sustainable preparedness strategy at Local, National and European level, based on the analysis of countermeasures for relevant accident scenarios. Ensuring that parameters governing the radiological consequences can be identified in time to enable optimized remediation.

Ranked research priorities (4)

4. Atmospheric dispersion modelling. To make more reliable forecasts of atmospheric dispersion, including data assimilation and improved inverse modelling (to determine source term and/or source location) in different environments (e.g. urban areas) and/or at different spatial scales (near range to global scale)

5. Local radio-ecological models. Development and integration in general DSS of local radio-ecological models interlinked with monitoring information and the more global and food chain dose models. Investigate the capability of such models to be operated by local stakeholders as farmers or local communities. Link with ALLIANCE.

Ranked research priorities (5)

6. Monitoring strategies. Optimized use of monitoring resources, including mobile units and trans−border issues. Integration of new monitoring technologies (e.g.; drones). Development of processes and tools for integrating the monitoring results from experts and lay people into a common operational picture (monitoring crowdsourcing). Information fusion (radiological and non−radiological). Link with EURADOS but focus on strategy and integration, less on the improvement or development of new measurement methods/techniques.

SSH has been largely at stake in the context of the Fukushima accident, with the key role among others of:

- social media for ensuring the access to reliable information
- stakeholder participation, including ethical considerations
- economic issues and compensation mechanisms
- trust and credibility of the expert
- considerations on sustainability of the protection measures

In addition, transversal issues have to be addressed on health surveillance, effects of chronic exposures to low doses, decontamination and waste management strategies, dosimetry/ monitoring strategies.

RPW2016: an opportunity to strengthen the cooperation with the other platforms on radiation protection and to promote the RP research in Europe, 19-23 September 2016, Oxford

For NERIS, it was the occasion to chair some sessions dedicated to Post-Accident topics and to emphasize the work conducted within NERIS

Proceedings at https://www.phe-protectionservices.org.uk/rpw/

Key results of European research projects such as NERIS-TP and PREPARE, funded by the European Commission are published as a special issue of the journal Radioprotection

NERIS - contribution to workshops

- Next NERIS Workshop and 8th NERIS General Assembly in 17-19 May 2017 in Lisbon, http://www.eu-neris.net/index.php/activities/workshops/117-third-neris-workshop-17-19-may-2017-lisbon-portugal.html
- European ALARA Network - NERIS Workshop on optimization &emergency in 15-17 May 2017 in Lisbon
- Contribution to the RPW2017 and 4th ICRP Symposium in 9-13 October 2017 in Paris

CONCERT Project

CONCERT project has definitely set up the cooperation between the research platforms in Europe

- The first research call was a good incentive for organizing the funding in RP research
- The focus on uncertainty is a key challenge for NERIS
- 2 projects dealing with NERIS issues have been selected for funding within CONCERT with high score and are in process for approval for financial funding through the CONCERT Project; these 2 projects will provide the basis for EC research in the next 3 years in Europe in our domain
- The second research CONCERT call would be issued at the beginning of the 2017

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Thank you for your attention

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