

Coming events

9th June 2021

12th NERIS General Assembly

20-22 October 2021

6th NERIS Workshop and Barcelona, Spain and/or On-line.

10-14 October 2022

European Radiation Protection Week



NERIS

EUROPEAN PLATFORM
ON PREPAREDNESS
FOR NUCLEAR AND RADIOLOGICAL
EMERGENCY RESPONSE AND RECOVERY

EDITORIAL

Issue 19 – March 2021

In Memory of Ciara McMahon

As most of you have already been informed, our colleague, Ciara McMahon, passed away suddenly on January this year. This news was received by all of us with great sadness.

Ciara McMahon was Director of the Office of Radiological Protection at the Irish Environmental Protection Agency. Being involved in NERIS research activities for many years, Ciara was so kind with everybody and greatly committed to promoting emergency response and recovery preparedness. All the NERIS community had the pleasure to appreciate Ciara's commitment and professionalism at the occasion of the organisation of our workshop in Dublin in 2018. We will never forget. 2 years ago, Ciara was elected to the NERIS management board. Her enthusiasm, activities and involvement were really appreciated by all of the board.

Our deep thoughts to Ciara's family, friends and colleagues, Ciara will be greatly missed by all the NERIS community.

Thierry Schneider – CEPN (France) – President of the NERIS Platform

Feedback from recent events

Update of the NERIS Roadmap

Following the publication of the updated NERIS SRA in November 2019, the process of updating the NERIS long-term roadmap was initiated in parallel to the preparation of the Joint Roadmap on Radiation Protection Research established in 2020 within H2020 CONCERT EJP.

The present Roadmap is an update of the first NERIS Roadmap established in November 2017. A series of exchanges was organised after the European Radiation Protection Week meeting held in October 2019 in Stockholm. Initially, the process envisaged for updating the NERIS Roadmap included the organisation of an open meeting prior to the NERIS workshop to be held in Barcelona at the end of May 2020. Due to COVID-19 crisis, the NERIS management board decided to organise a series of video-conference meetings between mid-March and end of May 2020 and to establish 3 working groups, involving mainly members of the NERIS management board and R&D committee, to address each of the challenge areas defined in the NERIS SRA.

Following the consultation of the NERIS community, the updated NERIS roadmap has been published on May 29, 2020. The Roadmap is available for download on the NERIS website (<https://www.eu-neris.net/>).



Issue 19

<< March 2021 >>

Feedback from recent events



11th General Assembly: 17th June 2020

The eleventh NERIS General Assembly was held via web-meeting, on June 17th 2020. There was a large participation of NERIS members for this General Assembly despite the special circumstances with the pandemic crisis of COVID-19 imposing the organisation of the General Assembly remotely.

Concerning membership: in 2019, the Federal Agency of Nuclear Control - FANC (Belgium) joined the NERIS Platform as a supporting organization, the University of Warwick (UK) withdrew from the Supporting Organisations due to a revision of its activities. 2 new organisations joined the NERIS Platform as member: the Canadian Nuclear Laboratories - CNL (Canada), and the Ruder Boskovic Institute – IRB (Croatia). At the time of the General Assembly, 67 organisations were members of NERIS with 27 Supporting Organisations.

The president of the the Platform noted the main activities since the last general Assembly:

- ▶ The update of the NERIS SRA and Roadmap,
- ▶ The adoption of the Joint Roadmap for RP research,
- ▶ The finalisation of several European research projects within CONCERT: CONFIDENCE, TERRITORIES, ENGAGE, SHAMISSEN-SINGS,
- ▶ The contribution to ICRP TG93 report public consultation,
- ▶ Webinars: the contribution to SHARE-NERIS webinar on transition phase, the organisation of a NERIS webinar on Chernobyl fires.



Joint Roadmap for radiation protection

The H2020 CONCERT European Joint Programme gave the opportunity to contribute to the integration of research across radiation protection, through the building of a joint research roadmap for Europe.

This project brought together the six European radiation protection research platforms (ALLIANCE, MELODI, NERIS, EURADOS, EURAMED, SHARE) around the definition of the Joint Roadmap for Radiation Protection in Europe (EJP CONCERT D3.7, 2019).

This document defines priority areas and strategic objectives for co-operation across radiation protection and provides a vision for a European radiation protection research programme to 2030 and beyond, by presenting joint research challenges in the context of existing and potential exposure scenarios, including the preparation of emergency response and recovery from nuclear or radiological events.

“Game changers” are introduced, as research issues that, when successfully resolved, have the potential to impact substantially and strengthen the system and/or practice of radiation protection for humans and/or the environment through:

- 1) significantly improving the evidence base of risks,
- 2) developing principles and recommendations,
- 3) developing standards based on the recommendations and,
- 4) improving practice.

Feedback from recent events



NERIS webinars

Covid-19 has made it impossible to have our yearly NERIS workshop in 2020. Instead of having enjoyed Barcelona while discussing new research and developments in the field of nuclear and radiological emergency preparedness, response and recovery, NERIS explored the online alternatives by (co-)organizing two webinars. The large attendance to these webinars demonstrated the need for exchange and interaction in the field.

“Key challenges for managing a transition phase: lessons from Chernobyl and Fukushima accidents”

This first webinar was organized in collaboration with the Share platform on May 13, 2020.

The webinar focused on the lessons from Chernobyl and Fukushima for ‘the transition phase’ of an accident, gave insight from a variety of top experts on the transition phase in nuclear or radiological emergency situations and reflected on the relationships to the Covid-19 context.

The webinar got 304 online participants and has got 682 views. It is still available for those who missed it via the following link: <https://www.youtube.com/watch?v=Seth7QVx8BM&feature=youtu.be>

Webinar on Chernobyl Wildfires

The second webinar organized by NERIS discussed the Chernobyl wildfires of April 2020. Quite some concern among the European population was observed about the (potential) re-distribution of radioactivity present in the environment since the accident in 1986 by the wildfires in and near the Chernobyl exclusion zone.

Several institutes performed assessments, ranging from dose impact for the fire fighters up to the potential effect and Cs-137 detections in large parts of Europe. Different assessments methods were discussed ranging from dosimetry and whole body counting of fire fighters, airborne monitoring in national and international networks, atmospheric dispersion modelling, including inverse techniques and the use of satellite information to define source parameters.

Also the communication of the assessments towards the public was discussed and the impact on the ecosystem in a collaboration with the ALLIANCE platform. In the panel discussion the collaboration between institutes and further research was discussed. 350+ participants followed the webinar on May 28, 2020 and presentations and recording are available from the NERIS website (<https://www.eu-neris.net/>).

NERIS participated also in a third webinar related to “Balancing action and longer-term outcomes during a time of crisis” organized on April 24, 2020 by the SHARE platform (see for more details: <https://www.ssh-share.eu/share-webinars/>).

Although we look forward to see colleagues again in physical workshops, the topical webinars have been very much appreciated and is a good format to exchange on topical issues.

Johan Camps (SCK•CEN)

Feedback from recent events



ICRP Publication on Radiological protection of people and the environment in the event of a large nuclear accident

This new publication of the International Commission on Radiological Protection (ICRP) provides a framework for the protection of people and the environment in the event of large-scale nuclear accidents, drawing on the feedback experience from the Chernobyl and Fukushima accidents.

Among the different topics covered by this publication, it is worth to highlight the selection of the reference level for the long-term phase, the radiation protection of the responders, the co-expertise process and the lifting of protective actions.

The selection of the reference level for the long-term phase

The setting of a reference level for the implementation of the optimisation principle in the long-term phase has been largely discussed. The Commission finally adopted the following wording:

“For the long-term phase, the reference level should be selected in the lower half of the recommended band of 1–20 mSv per year for existing exposure situations, taking into account the actual distribution of doses in the population and the societal, environmental and economic factors influencing the exposure situation. The objective of optimisation of protection is a progressive reduction in exposure to levels towards the lower end of the band and below if possible.”

It is emphasized that the implementation of protective actions should not only take into account radiological factors, but also societal, environmental and economic aspects to protect health, guarantee sustainable living conditions for the affected people, suitable working conditions for workers and maintain the quality of the environment.

In this context, the Commission does not set a value applicable whatever the situation, but introduces flexibility in order to allow the adoption of the most suitable value for the reference level for a given situation, taking also into account the evolution of the situation over time.

Radiation protection of responders

Responders, who may be those most at risk, have also been given special attention in these new recommendations. For these people, the aim is to ensure appropriate protection and suitable working conditions. In this perspective, a distinction is made between people on site (in the damaged installation) and off site (in the affected territories) and the three phases of the accident (early, intermediate and long-term). The notion of responders encompasses a variety of people in terms of background and status, degree of preparation and training in radiation protection. For the protection of responders on the site, the reference level during the initial phase should generally not exceed 100 mSv, while recognizing that higher levels, of the order of some 100 mSv, may be allowed for some of them in exceptional circumstances to save lives or prevent further degradation of the installation leading to catastrophic conditions. Lower reference levels can be selected depending on the situation, including the severity of the accident.

During the intermediate phase, the reference level for the protection of responders should not exceed 100 mSv. For the long-term phase, the reference level for the protection of responders should not exceed 20 mSv per year with possible special provisions limited in time.

The Commission recommends that the responsible organisations take all practical measures to avoid an unnecessary accumulation of exposures for those involved in the early and intermediate phases. For the protection of off-site responders, the Commission recommends selecting a reference level not exceeding 100 mSv for the early phase and 20 mSv per year for the intermediate phase. For the long-term phase, the reference level should be selected in the lower half of the 1 to 20 mSv per year band, and consistency with public protection should be maintained when the intervention takes place in the middle of the population.

Feedback from recent events



ICRP Publication on Radiological protection of people and the environment in the event of a large nuclear accident (continued)

The co-expertise process (continued)

The adoption of the “co-expertise process” during the intermediate and long-term phases is also an approach widely highlighted in these new recommendations. This process of cooperation between experts, professionals and local stakeholders aims to share local knowledge and scientific expertise in order to assess and better understand the radiological situation, to develop protective actions to protect people and the environment, and improve living and working conditions.

This co-expertise process is an integral part of the practical implementation of the principle of optimisation based on the involvement and accountability of stakeholders. From an ethical point of view, the “co-expertise process” contributes to the restoration and preservation of human dignity. This process should contribute to the emergence of appropriate and sustainable protective actions. For its practical implementation, the importance of providing dedicated resources to support the experts and professionals involved in these processes is emphasized. This co-expertise process should make it possible to identify and implement local projects contributing to the socio-economic development of the affected communities. These projects, which can be of a very diverse nature (educational, social, commemorative, cultural, environmental, economic, etc.), should take into account both radiological and non-radiological factors, and help to improve the protection of people and the environment, as well as the well-being of people and the quality of life of the local community.

The Commission recommends that the authorities promote the establishment of this co-expertise process and invite the main representative stakeholders and in particular the local populations to participate in preparedness for post-accidental situation as well as in the management of the successive phases of the accident.

The lifting of protective actions

Experience shows that, in practice, lifting the protective actions implemented during the early and intermediate phases is a difficult decision. This requires that the actions are no longer considered necessary and that this assessment is shared. The lifting of an action often involves the implementation of other actions more suited to the situation. In the long-term phase, exposures to people, fauna and flora are gradually reduced over time due to the combined effects of protective actions and natural processes such as radioactive decay.

Therefore, years after a nuclear accident (or even decades in the case of a severe accident), it is worth considering whether to maintain, modify or terminate protective actions. Such a decision should be taken with the participation of relevant stakeholders. It is specified that the fact that the exposures are lower than the reference level does not automatically mean the end of the long-term phase, since there is a possibility of further reducing them and it is necessary to remain vigilant in order to avoid any increase in exposure.

The Commission recommends maintaining an appropriate long-term monitoring program and organizing the transmission of the practical radiological protection culture, even when the protective actions have been completed, in order to ensure the continuity of vigilance with regard to the residual radiological situation and its evolution.

ICRP, 2020. Radiological protection of people and the environment in the event of a large nuclear accident: update of ICRP Publications 109 and 111. ICRP Publication 146. Ann. ICRP 49 (4). (<https://www.icrp.org/>)

Thierry Schneider (CEPN)

Upcoming events

WHO REMPAN coordination meeting: 22-24 March 2021

The 16th coordination meeting of the WHO-REMPAN, the global expert network on Radiation Emergency Medical Preparedness and Assistance - will be held on-line from 22 to 24 March 2021.

NERIS General Assembly: 9th June 2021 14:00-17:00 (CET)

The NERIS General Assembly for 2021 is organized on 9th June 2021 14:00-17:00 (CET), via web meeting.

6th NERIS Workshop new date: 20-22 October 2021

The NERIS Workshop 2021, focusing on "Operational and research achievements and needs to further strengthen preparedness in emergency management, recovery and response" is postponed to 20-22nd October 2021.

To comply with the already implemented and upcoming sanitary measures related to the spread of COVID-19 and its variants, part of the Workshop will be shared on-line.

The Workshop will be held in presential or on-line following the evolution of the context, more information will be shared in the coming months.

This will be an opportunity to discuss and exchange views with NERIS Members, international organisations and European Research communities on research developments and priorities for the European NERIS Platform.

As a reminder, plenary sessions will be organised on topics related to the following challenges:

- ▶ Operational aspects: from theory to practice
- ▶ Disaster management and resilience in communities
- ▶ Preparedness for a sustainable recovery: including non-radiological consequences and effects
- ▶ Updating handbooks, guidelines and recommendations to support decision making
- ▶ Future research needs

The workshop will also welcome speakers presenting other topics related to the NERIS SRA not mentioned above.

European Radiation Protection Week new date: 10-14 October 2022

The European Radiation Protection Week of 2020 to be held in Estoril (Portugal) is postponed to 10-14 October 2022. It has a perfect balance between charm and excellent tourist facilities. The town has fine restaurants, very good hotels and the largest casino of the Iberian Peninsula. Within the Estoril and Cascais region one finds beaches, championship grade golf courses and historic towns (e.g. Sintra) to explore.

We expect ERPW-2020 to be a memorable event, rich of achievements, from the scientific as well as from the social point of views and formulate our best wishes that you profit from the Portuguese hospitality and the charming atmosphere of Estoril and Cascais as well as of Lisbon.