



STEERING GROUP MEETING
December 15, 2023

Meeting Minutes
(CRR/EAN/SG/54)

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Participants:

ALLISY-ROBERTS Penelope	EFOMP	United Kingdom
ANDRESZ Sylvain	CEPN	France, Scientific Secretary
BANGSGAARD Jens Peter	SIS	Denmark
CROÜAIL Pascal	CEPN	France, Vice-chairman
FIJULJANIN Selma	SRPA	Slovenia
FOLKERT Draaisma	NRG	The Netherlands
KABRT Franz	AGES	Austria
KULKA Ulrike	BfS	Germany
LORIOT Gwenaëlle	CEA/INSTN	France
MORGAN Julie	UKHSA	United Kingdom, Secretary
MULAS-PEREZ Arturo	CSN	Spain
NUCCETELLI Cristina	ISS	Italy
O'CONNOR Barry	EPA	Ireland
ROESLER Stefan	CERN	Switzerland
STRITT Nicolas	SFOPH	Switzerland, Treasurer
SYNNOTT Hugh	EPA	Ireland
VENOSO Gennaro	ISS	Italy
VERMEERSCH Fernand	SCK CEN	Belgium, Chairman
VONLANTHEN Patrick	SFOPH	Switzerland

Apologies for absence:

ECONOMIDES Sotirios	EEAE	Greece
HANSSON Petra	SSM	Sweden
MALGORZATA Sneve	DSA	Norway

Guests

BRADLEY Mark	ISIS	United Kingdom
CLIFTON-CLIMAS Sarah	ISIS	United Kingdom
JOHN Warren	BfS (RadoNorm)	Germany
OKYAR Burçin	IAEA	Austria

Distribution:

- Members of the EAN Steering Group,
- IAEA and observers,
- EFOMP and EUTERP contact persons.

The [Documents XX] discussed during the meeting are available in the private area of the EAN website < www.eu-alara.net >: Activities / EAN Documents and Publication / Steering Group meeting. Member shall use the following information to log-on:

login: lastname

password: ean-lastname

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Agenda

The Agenda [[Document 0](#)] was sent to the Members before the meeting.

Discussion on financial aspects

The minutes of the Administrative Board meeting (CRR/EAN/AB/38) and the PowerPoint slideshow prepared by Nicolas Stritt [[Document 1](#)] present information about the 2023 budget and the 2024 provisional budget.

New representative in EAN

- Nicolas Stritt has indicated that his workload at SFOPH will make him step down from EAN activities. Mr. Patrick Vonlanthen who participated to the meeting will be the new representative of SFOPH in the EAN.
- A new Treasurer needs be elected at the next renewal of the Bureau in May 2024.
- Mrs. Gwenaëlle Lorient has succeeded to Mr. Paul Livolsi in representing CEA-INSTN. She is basically involved in radiation protection teaching and related activities at CEA-INSTN Saclay.
- Mr. Peter Bangsgaard is representing the National Institute for Radiation Protection/ Danish Health and Medicines Authority (SIS) in Denmark where his main area of work is hospital (oncology).
- Mrs. Ulrike Kulka has indicated that a new representative from BfS will be appointed in 2024.

EAN workshop n°20

The EAN workshop n°20 "ALARA in interventional radiology and nuclear medicine" took place from 2–4 October 2024 in AGES, Vienna, Austria. Sylvain Andresz prepared a slideshow presenting the main results of the workshop [[Document 2](#)]:

- The attendance and practical matters.
- The feedback from participants collected by online survey [[Document 3](#)]. The feedbacks were very positive (100% ranked the workshop good or very good in every sounded aspects);
- And the fallouts which include an article in the EAN Newsletter (published in November 2023), a memorandum in the Journal of Radiological Protection summarizing the main points and recommendations (under revision by the co-authors). It has been noticed that a summary of the workshop has already been published in the Society for Radiological Protection Newsletter by one of the participants (which incidentally testify of the impact of the workshop).

The quasi-absence of the working-staff was regretted by the participants. How to reach them remain an unsolved question.

The participants have identified several pending questions, and one is about the usage of alpha-emitters which has the potential to be very efficient in treatment when brought close to cancerous cells but also raise specific challenges in radiation protection (staff, waste, ...). Alpha-emitters are now becoming to be used in clinical phase and the Members agree that the topic requires some attention from the EAN in the future.

[EAN mini-workshop](#)

The European NORM Association (ENA) is planning its next workshop at ISS-Istituto Superiore di Sanità, Rome, Italy from 15 to 17 May and will host a session organized by the EAN on the 'optimization application in the NORM field'. Cristina Nuccetelli has prepared a slideshow with the main points of the conference [[Document 4](#)].

A EAN working group named EAN TG-NORM has been constituted in September 2023 to interact with ENA and prepared the session that will last half-a-day. The following presentations/speakers have been proposed:

- A remake of Optimisation of protection. The cornerstone of radiation protection. A view on the NORM industry (presented at the Italian RP congress, September 2023) by Fernand Vermeersch;
- The open and pending questions in the management of NORM from the RadoNorm project and how to address theses – a proposition by Ulrike Kulka;
- Julie Morgan proposed: The Management of waste containing NORM – The UK framework
- The ICPR system for the optimization of NORM exposure and challenges in application – by Sylvain Andresz;
- The Members have agreed to look for other contributors and feedback to the working group.

Cristina Nuccetelli is the 'gatekeeper' between EAN and ENA programme committee and will inform the TG as information become available. The TG will meet in the beginning of 2024 to elaborate the list of presentations/speakers for the session.

[Topics for EAN Workshop 21](#)

Three options for the topic of workshop 21 have been discussed: (1) Inspecting ALARA, (2) ALARA for small modular reactor (SMR) or (3) ALARA in transport.

A workshop on Inspecting ALARA can touch upon the training of inspectors, RP culture, give a focus on internal inspections but the members recognized that the audience of the workshop will be specific, that other networks (ex. HERCA) are more relevant to address the topic, that the weight of the (national) regulation might provide limited room to draft applicable recommendation and finally that the topic is of low-priority.

SMR is a trendy topic that has protracted many attentions in the recent years and several international organizations have already initiated activities: the Nuclear Energy Agency, the ISOE, IAEA, also national regulators. In 2025, a workshop on SMR can investigate the design phase only (layout, maintenance, ...) and also bearing in mind that no dose prognosis has been calculated so far. It might be possible to direct the workshop to investigate and discuss how to implement practical experience in a new design and in particular how the experience of research reactors can be implemented in the design of SMR and propose recommendations. Yet some Members questioned if there will be enough material in 2025 to build a workshop and reminded that intellectual property/industrial competition might limit the manufacturers and the vendors to detail their technological choices.

The Members concluded that the topic is interesting and important but needs to be explored further to feel-out whether the topic is mature enough to plan a workshop in 2025 or postponed.

The last option is the transport of radioactive materials which has never been the subject of an EAN workshop so far. The diversity of radioactive materials transported is very wide, so will be the diversity of the exposure situations and circumstances, making it a rich-by-nature topic. The members devised on many questions: the interface between the carriers and the loaders/receivers (might not be always ALARA), the case of transport incident (with recent experience in Switzerland with radioactive materials carried on in a plane), the case of international shipment and also transit. Among the transverse issues, the inspection of transport and the RP culture of the exposed individuals have been identified. All in all, ALARA for transport touched upon many – if all – the sectors (industry, medical, even SMR...) inviting to explore each domain in the workshop.

The Members agreed that this topic is the most relevant: the objective is to plan the workshop in March-April 2025, the venue and place will be decided at the EAN meeting in May 2024 (Petten in The Netherlands has already been proposed by Folkert Draaisma).

EAN representation at the 'Journées ALARA' in June 2024

The 'Journées ALARA' are a 2-days conference planned by the French Society of Radiation Protection on a bi-annual rhythm. The programme of the 2024 conference is built by the Programme Committee in order to show recent and exemplary applications of the optimization principles under many situations/circumstances. The Members agreed that the EAN could propose a presentation about the objectives and the activities of the EAN since the beginning, all the more so since the guiding thread of the 2024 edition is the past, present and future of ALARA.

After the EAN meeting Sylvain Andresz contacted the Programme Committee to propose the presentation (it can be delivered by any EAN members attending the conference) and the proposal was well received. Writing an abstract of the presentation will be the next step.

Relation with ICRP

ICRP TG-106 High Activity Sealed Sources (HASS). Fernand Vermeersch informed the Members that the TG-106 met 5 December and presented a synthesis of the recent activities and progress of the TG [Document 5]. The TG has started the writing of the publication and Fernand Vermeersch is especially working on the part about the application of the radiological protection system for HASS where the *ALARA Book* published by EAN is useful. A technical question about the exposure of the staff involved in Non-Destructive Testing was asked and Julie Morgan answered that according to data history from the field, the staff exposure is < 1 mSv/y according to t

EAN is a Special Liaison Organization (SLO). Fernand Vermeersch shared the document he has prepared for the SLO meeting that took place 23rd September at Bristol, United Kingdom [Document 6]. The document reminds the key ALARA themes that structure the EAN Strategic Agenda 2021–2026 and summarizes the most recent EAN activities that can be of interest of the ICRP (representation in conference and workshops). The EAN is a SLO since 2013 and the relationship has recently produced *ICRP workshop on the review and revision of the system of radiological protection: a focus on research priorities—feedback from the international community*, Journal of Radiological Protection (DOI 10.1088/1361-6498/acf6ca) co-authored by the EAN Bureau.

ICRP TG-127 on the type of exposure situations and the categories of exposure. Sylvain Andresz is member of TG 127 (not on behalf of the EAN). The first meeting of TG127 was in April 2023 and Sylvain Andresz presented the synthesis of the EAN webinar (8 December 2022) – more generally, he can use EAN productions and networking capacities if needed. Notably the EAN TG on NORM might choose to align some activities with questions/reflections emanating from the ICRP.

Vancouver Call for action. Fernand Vermeersch informed the EAN that the ICRP has issued 'The Vancouver call for action to strengthen expertise in radiological protection worldwide' which was elaborated partly with the feedback of SLO. Fernand Vermeersch has later circulated the article [Document 7].

PIANOFORTE Call

The European Partnership for Radiation Protection Research (PIANOFORTE) regularly open calls for research project on identified topics. For example, the topic n° 3 of the last call (2023) was on the development of risk assessment and risk management approaches and technological capabilities to cope with scenarios arising from threats due to war or armed conflicts situations or natural disasters taking into consideration social, ethical, and legal issues. Projects RRADEW and PREDICT have been selected and their partners (inclusive of some EAN members/former members) will begin activities in 2024. It has been proposed that the EAN remain attentive to the topics of the next call (2024).

Newsletters

The EAN newsletter 50 was published in November 2023 with a new email service (Brevo) with better layout and design. The newsletter includes a special editorial with a looking back

on the content of EAN Newsletter 1 (1996), the management of radon at Kinsarvik (from DSA) 11 years after an article on the same topic), result of dose exposure assessment to NORM for the workers and the public in Italy (from Cristina Nuccetelli and Venoso Gennaro and contributions from ARAN, EUTERP and SHAMISEN-SINGS).

For the next issues (March 2024), a list constituted with older and new proposals have been drafted:

- ALARA in the licencing of RECUMO facility (Recovery of Uranium from Mo-99 Production) (**Fernand Vermeersch**). The subject can also be presented live at the occasion of an EAN meeting
- The Swiss Radium Action Plan, which will conclude in 2024 (**Nicolas Stritt** and SFOPH contributors).
- The online radiation protection portal in Switzerland (**Nicolas Stritt**).
- The update of the new radon map in Ireland (Allison Dowdall, after contact made by **Sylvain Andresz**);
- Re-Offer to AFAN to publish (**Sotirios Economides** and **Sylvain Andresz**);
- Search in RELIR database (radiation protection incident) if incidents can be deemed relevant to be translated and published in the Newsletter. This action can also stimulate future contribution to RELIR.
- A summary of a NucAdvisor report on public exposure (**Folkert Draaisma**).
- Radiation Protection Challenges at ISIS facility (**Mark Bradly** and **Sarah Clifton-Climas**, see below).
- Other contributions are possible!

Opportunities to represent EAN at conference/congress

The idea of representing the EAN at the IRPA international congress in July 2024 (Orlando, Florida, United States) has been hypothesized, perhaps with a poster.

Opportunities for EAN survey

Considering that the topic of EAN workshop n°21 will be 'ALARA for transport', it might be worthwhile for the network to launch a survey on any points relevant for investigation, for example:

- How is the transport justified? Optimized?
- How is the loading/unloading done from a radiation protection perspective?
- How is the radiation protection programme examined in the countries? ...

The members are invited to think about questions they would like to investigate and inform the EAN Bureau who will be in capacity to engage the survey.

An IAEA Update: Collaboration and Cooperation with regional ALARA networks under ORPNET

Burçin Okyar from the IAEA has been invited to present the Occupational Radiation Protection Networks - ORPNET [Document 8] which main goal is to promote optimization of the occupational radiation protection, acting as an worldwide umbrella in support of regional and national networks with an interest in ALARA, to facilitate exchanges and sharing of information and practices.

The main instruments of ORPNET are:

- The Occupational Radiation Protection Action Plan (2003);
- The website, established in 2010. Burçin Okyar detailed the website's main pages and features. Newsletter and News are regularly shared via the website as well as survey (when one is going, the last one collected information on NORM occupational exposure in water supply and treatment);
- Factsheet (on NORM, on ORPNET, ...)
- Webinars which are addressed to a wide audience (regulators, professionals, technical service providers, etc.) depending on the topic.

Burçin Okyar updated the Members on the status and the activities of the other ALARA networks:

- REPROLAN (Latin America Occupational Radiation Protection Optimization Network) who principally performs surveys and inter-comparison (IC) exercises (ex. personal dosimetry) and participate to international events.
- ARAN (Asia and the Pacific Regional ALARA Network) which has been rebooted in 2021 and is drafting its strategic agenda to address the specific challenges for ALARA in the Asia and Pacific region; rapid pace of development of nuclear energy capacities, panoply of medical and industrial nuclear installation, low ratio of occupational exposed workers to name but three. So far 6 topical working groups have been set up to. ARAN also perform IC exercises.
- AFAN (African ALARA Network) is mainly targeting its activity on the planning of webinars (for 2024, 5 topics are already identified) and a newsletter.

Burçin Okyar concluded by insisting that ALARA is not an easy topic to grasp, and NORM is 'a hot potato' that require regulation, infrastructure, trained staff, characterization capacities that are missing in many countries. The ORPNET will play a role in providing data and information, educational material, support, assistance, and networking capacities to the radiation professionals worldwide to address the challenges.

All the Members thanks Mr. Okyar for the presentation on the ORPNET activities. EAN can play a mentoring role and assistance to some of these 'new' networks. The IAEA will pay attention to maintain synergies and collaboration between EAN and the other ALARA networks.

Restriction of Exposure at ISIS

Mark Bradley, assisted with Sarah Clifton-Climas, Radiation Protection Advisers, delivered a presentation on the ISIS Facility. ISIS is a research facility generating neutrons and muons by accelerating ions with a LINAC and a synchrotron and making them hit targets: 2 target station to create neutrons and 1 for muons.

Such facility can generate multiple radiation protection issues and the dose constraint is 3 mSv/y or 0.2 mSv/24h for classified workers. A specific zoning based on dose rate is applicable.

When the beam is operating, the neutron and gamma dose rate are so elevated that most areas behind the shielding made of steel and concrete are inaccessible. Engineering interlock, keys management, warning light are used to ensure no human presence while the

beam is on. When the beam is off, the surface and the air are activated and contaminated and procedural control are required (ex. swipe card, exposure restriction).

Mark Bradley then presented the development of a refurbishment project aiming to replace failed piece (collimator) inside the most activated areas of the facility with projected gamma dose rate up to 90–220 mSv/h and 7–8 mSv/h in other areas prompting a very careful planning of the activities. Among the factors to achieve ALARA (which were numerous):

- The precise dose mapping using aerial drone,
- The use of remote handling and the smart handling of the remove component (using the least activated component to shield the most active as the system is being dismantled) were highlighted.

The maximum dose was 2.2 mSv and the collective dose 22 man.mSv (among the team of 20, 3-4 individuals received most of the dose).

During the discussion, Mark Bradley underlined that the facility was designed without taking much of radiation protection and ALARA into account and that 'historical heritage' has to be dealt with today. The installation also generates solid waste and activated air. Mark Bradley acknowledge that 'dose budgeting is mind-blowing difficult' and very careful dose management is made possible thanks to the on-site Health Physics department.

Finally, Mark Bradley and Sarah Clifton-Climas agreed to prepare a contribution for the next issue of the Newsletter.

Next meetings: date and place

The next Administrative Board and Steering Group meetings are planned **14 May 2024** at ISS, Rome, Italy, just before the ENA conference 15-17 May at the very same place.
