



European ALARA Network

STEERING GROUP MEETING

December 15th, 2015 – CEPN, Fontenay-aux-Roses, France

**Meeting Minutes
(CRR/EAN/SG/40)**

Final version

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December 2015

Participants:

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SAXEBOL Gunnar	NRPA	Norway
SHAW Peter	HPA	UK, EAN Secretary
STRITT Nicolas	SFOPH	Switzerland, EAN Treasurer
SYNNOTT Hugh	EPA	Ireland
VERMEERSCH Fernand	SCK•CEN	Belgium, EAN Chairman

Apologies for absence:

ALLISY Penelope	EFOMP (<i>observer</i>)	
HEFNER Alfred	Seibersdorf Laboratories	Austria
KROPACEK Jan	SUJB	Czech Republic
LIVOLSI Paul	CEA/INSTN	France
SCHMITT-HANNIG Anne-Marie	BfS	Germany
ZONTAR Dejan	SRPA	Slovenia

In the absence of:

BREDDAM Kresten	NIRP	Denmark
CARVALHO Fernando	ITN	Portugal
EINARSSON Gudlaugur	GR	Iceland
LEHTINEN Maaret	STUK	Finland

Diffusion:

Members of the EAN Steering Group, IAEA and observers, RECAN, ARAN, ALARA NORM Network, EFNDT, EFOMP, EUTERP and EFRS contact persons.

The documents distributed during the meeting are available in the private area of the EAN website (see list in Annex A).

Please use the following information to log-on:

login: lastname

password: ean-lastname

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1. DISCUSSION ON FINANCIAL ASPECTS

Information on the final accounts 2015 and the budget 2016 can be found in the minutes of the Administrative Board meeting (CRR/EAN/AB/23).

2. ACTIVITIES ABOUT NORM AND BUILDING MATERIALS IN ITALY¹

Cristina Nuccetelli (ISS) kindly presented the Italian activities on the implementation of the Euratom/2013/59 Directive in Italian law. In particular, “Task Group 6b” gathering Italian authorities, universities etc. is in charge of the implementation of the articles related to Naturally Occurring Radioactive Materials (NORM).

Currently in Italy, activities using NORM are considered as practice if the level of dose is > 1 mSv/y (for workers) and/or > 0.3 mSv/y (for population). It shall be noted that the Euratom/96/29 Directive considers NORM activities as practice *a priori*, with an exemption if the received dose are below 1 mSv/y. Incidentally, the question of the significance of the dose criteria of 1 mSv/y is raised; is it a reference level? An exemption level etc.

Exemption levels expressed in activity concentrations are also introduced by the Euratom/2013/59 Directive. The exemption levels are 1 Bq/g for ²³⁸U and ²³²Th, and 10 Bq/g for ⁴⁰K. Task Group 6b is working on the introduction of these in Italian law with the

¹ N.B. EAN Members have decided to replace the former round table for ALARA News with a presentation made by a Member on a topic of its choice.

The ALARA News can still be sent to Sylvain Andresz (sylvain.andresz@cepn.asso.fr) and they will be gathered in a separate document available on the EAN website.

objective of not modifying the existing level of protection (i.e. 1 mSv/y for workers and 0.3 mSv/y for population). Calculations for various scenarios of exposure show that the level of protection will be achieved in all situations, with the exception of construction workers. This case will be notified as an exception in the law (this approach is preferred compared to classify the concerned workers as occupationally exposed).

Task Group 6b is also facing the issue of implementing the management of building materials. The Directive requires an individuating list of all materials (e.g. some lava with high ^{232}Th content can be found in Italy) and the use of an activity concentration index " I " to ensure that the dose criteria of 1 mSv/y is met for each building material. It appears that the use of I is not straightforward as it requires the list and fraction of all the components used in the building material – these data are rarely available and verifiable, for concrete for example. Furthermore, index I is conservative and not designed for thin and hollow material (brick, etc.).

Huge amount of NORM residues are produced and authorities push for their re-use, in building materials for example. A database with the radiological content of more than 22,000 European samples of building material (fly ash, slag, etc.) has been used to form two hypothetical concrete.

- When fly ashes or furnace slags are used in the cement, I is < 1 in all cases.
- When fly ashes or furnace slags are used in the cement and also as aggregates, I can be > 1 .

The Task Group proposed the use of a more realistic index function of density $I(\rho, d)$ to reduce the number of "false positive" obtain with I . The use of $I(\rho, d)$ can be seen as an example of optimization.

The issue of radon is still to be tackled by the Task Group. Notably radon can have two origins: soil and building materials themselves.

EAN Members welcomed Cristina's presentation and underlined its quality. It has been noted that the application of the ALARA process should preferably be based on realistic assessment rather than conservative ones (leading to too much control).

3. INFORMATION REGARDING ALARA NETWORKS SUPPORTED BY IAEA

C. Lefaure presented an update of the activities of the ALARA networks supported by IAEA. The last coordination meeting of these networks dates back to December 2014, at the occasion of the Vienna International Conference on Occupational Radiation Protection.

ISEMIR has organised two Working Groups; one on interventional cardiology (2009) and one on industrial radiography (2010). These groups haven't met since 2012 but have performed successful worldwide surveys on procedures, doses and practices regarding radiological protection. Their work lead to the publication of two IAEA Tec-Doc (n° 1735 and n° 1747 in 2014). The aim of the Working Groups is now to elaborate databases to allow benchmarking, as is done with the ISOE database on occupational exposure in NPP. The construction of the databases has started but no analysis tool has been elaborated due to limited financial and human resources. However, a single displaying tool has been developed. Companies can compare their results on 8 topics with the 1st quartile, 2nd quartile etc. with the help of a spider web graphic. This work can be advertised at the occasion of EAN Workshop n°16.

REPROLAM is working in close collaboration with FORO (the equivalent of HERCA for Latin America). The network has established working groups on dosimetry and industrial radiography and a workshop on industrial radiography will be organised in Brazil in 2016. The financing comes from regulatory bodies and companies.

After years of inactivity, RECAN has set up steering group with the financial support of IAEA. RECAN plans to organize a workshop (the topic is unknown) and is looking for financial funding.

ARAN has no clear leadership and is looking for independent funding and stability.

The establishment of one or two African ALARA networks is planned by IAEA for 2016.

C. Lefaure concluded by informing the Members that the French national network of RPO/RPE is now a non-profit organization. He added that French RPE and RPO consider that their regional and national networks have become genuine stakeholders in the radiation protection field.

4. UNITED KINGDOM REVIEW ON HIGH ACTIVITY SEALED SOURCES / CLEARANCE LEVEL

PHE is undertaking a review of the use of High Activity Sealed Sources (HASS), notably to identify alternatives technologies. P. Shaw sent an email to the EAN Members on this matter in October 2015 and received 11 replies (including Iceland). Globally, it appears that similar reviews are also undertaken in Norway and France and that other responding countries haven't set up any actions.

P. Shaw also pointed out that the exemption and clearance levels for artificial radionuclides have evolved in Euratom/2013/59 (compared to the former Directive). Some levels remain unchanged, but other have risen or decreased, for example from 10 Bq/g to 1 Bq/g for ^{14}C , from 1 Bq/g to 0.1 Bq/g for ^{137}Cs etc. P. Shaw underlined this could possibly raise difficulties, notably regarding the volume of radioactive material to manage in decommissioning activities.

P. Shaw asked the Members if they have any experience and feedback on the impact of a decreased in the exemption levels stated in the Euratom/2013/59 Directive **Action: All**

Members – e-mail to P. Shaw Peter.Shaw@phe.gov.uk.

5. EAN STRATEGIC AGENDA 2015 – 2020

5.1. Interaction with European Projects/Organizations in radiation protection – Possible cooperation with NERIS

The mission of the NERIS Platform is to establish a forum for dialogue and methodological development between all European organisations and associations taking part in decision making of protective actions in radiological emergencies and recovery in Europe. For its part, EAN has identified post-accident situations as a “key ALARA issue” in the 2015 – 2020 Strategic Agenda.

After discussion with T. Schneider, Chairman of NERIS, P. Croûail informed the Members that NERIS welcomed the idea of a joint workshop EAN-NERIS. The topics to be addressed should be in line with the objectives of the two organizations, for example “how far to go in protective actions for workers in waste management in post-accident situations?”. SHAMISEN representatives can also be involved in this Workshop.

Action: *P. Croüail will draft possible scope and topics to be addressed and will circulate the document to the Members + reflection on the involvement of SHAMISEN*

The venue of the workshop is to be decided; Spain, Italy or Norway are suggested. To limit the financial burden, a university can be targeted to hoist the workshop. The date of the Workshop should be carefully chosen for not being in conjunction with other radiation protection events (e.g. National Congress of French SFRP in June 2017).

5.2. Update on the extension of membership

F. Vermeersch has contacted NRG and N. Stritt the nuclear safety authorities of Netherland, but no answer has been received and they will continue to try to get in touch **Action:** *F. Vermeersch, N. Stritt*.

There is no further update regarding the extension of membership. It is reminded that a list of actions has been decided for Members (see CRR/EAN/SG/38²) and that the extension of Membership and the rejuvenation of EAN should be a constant preoccupation for every Member **Action:** *All Members*.

5.3. Next Newsletter (February 2016)

In the absence of articles, EAN Newsletter 36 which was planned in Autumn 2015 has been postponed to February 2016. Several articles have been proposed by Members:

- Application of the ALARA principle in a research centre **Action:** *F. Vermeersch who agreed to send the article by March 2016*.
- An article related to the new approach in the management of NORM/building material in Italy. **Action:** *C. Nuccetelli, who is working on it*.
- A description of the Radium Action Plan in Switzerland (former clock industry using luminescent painting). **Action:** *N. Stritt*.
- An article on the optimization of the Zagreb waste facility dedicated to radioactive sources. **Action:** *M. Novakovic*. Parts of the subject are confidential but the article can be focused on the application of the optimization principle in this situation and the actions engaged.
- As it is a first-of-its-kind, EPA can provide a description of its Radon National Plan **Action:** *H. Synnott who agree to send this article*.
- The recommendation of PHE on the hand-held dental radiography equipment can also be published **Action:** *P. Shaw by May 2016*.

² Extract from CRR/EAN/AB/38:

- “Finland: STUK will be contacted through NERIS (**Action:** *P. Croüail*)
- Portugal: ITN will be contacted by letter; the objective is to have a new contact person (**Action:** *P. Croüail will draft the letter and F. Vermeersch will send it*).
- Iceland: GR will be contacted (**Action:** *G. Saxebol*).
- Netherland: NRG will be contacted by letter (**Action:** *F. Vermeersch*) and, in parallel; the national authority will be contacted (**Action:** *N. Stritt*).
- Estonia: will be contacted (**Action:** *C. Nuccetelli*).
- Lithuania and Bulgaria could be contacted through the RECAN network. **Action:** *M. Novakovic*”

- The Spanish guidelines on the management of pregnant workers at hospital are under review and the results can be later published in the EAN Newsletter **Action: A. Mulas-Perez**.
- An article describing an over-exposure accident involving a non-destructing device. **Action: D. Zontar to be reminded by S. Andresz**.
- Application of the ALARA principle at the Austrian Hadron Therapy Centre. **Action: A. Hefner to be reminded by S. Andresz**.

The deadline for the submission of article is the end of February 2016.

EAN has been solicited by General Electric Healthcare regarding DRL values and data export in the medical field. Answers received from EAN Members have fed GE's 'DoseWatch' solution. General Electric representatives will be contacted as they might be interested to use the EAN Newsletter to advertise their tool **Action: S. Andresz, P. Croüail**.

Furthermore NERIS members could be invited to publish articles in EAN Newsletter (notably to enhance collaboration in the objective of a joint-workshop EAN-NERIS): feedback experience from Fukushima, position of NERIS on ALARA in post-accident, etc. **Action: P. Croüail**

5.4. EAN Workshop 16th, Bern, Switzerland

Nicolas Stritt presented the main information coming from the Programme Committee meeting that took place the day before at CEPN.

The next EAN workshop devoted to "*ALARA in Industrial Radiography*" (14 – 16 March 2016) will finally take in the new building of the Federal Office for Public Health. Meeting rooms are available for 70 participants. A technical visit will be organized at SWAN ISOTOPEN company, which produced radio-isotopes using a cyclotron. City sightseeing (Bern Münster) and conference dinner are also planned.

There is currently 12 registered participants and advertisement is necessary:

- Members are in charge of advertising the Workshop **Action: All Members**. Information related to the Workshop – and notably workshop's website link: www.ean-workshop-16.ch – have been put on EAN website.
- N. Stritt and P. Shaw will draft an invitation email **Action: N. Stritt, P. Shaw** that will be widely distributed through the EAN mailing list **Action: S. Andresz**. This e-mail should be sent before Christmas season.

The deadline for registration is 31st January 2016.

The programme is not finished but is in progress of finalization. The Programme Committee will meet in Bern Sunday 13th March 2016.

5.5. Relations with ICRP

ICRP and Special Liaison Organizations (SLO) met 19th October 2015 in conjunction with the 2nd ICRP Symposium, in Seoul, South Korea. This is the third meeting between ICRP

and SLO. F. Vermeersch, who represented EAN, provided the Members a summary of the meeting (see Annex). After structured communication (welcome and presentation of ICRP initiatives to collaborate more closely with stakeholders), open discussion between ICRP and SLO representatives took place about risk communication and promotion of radiation protection culture. SLO recognized that ICRP publications are of great value but are understandable by specialists only (this statement was already made in 2013) and plain language materials are needed. Specific suggestions and recommendations from SLO to ICRP were formulated.

Improvement of collaborative working is much sought after by ICRP, but the resources of its Committees are limited. As a first step, ICRP granted SLO primary contacts access to private area of ICRP website and notably access to the library of Publications.

On D. Cool's initiative (Chairman of ICRP Committee 4), ICRP plans to set up a Task Group on industrial radiography. F. Vermeersch put forward several names of EAN Members and this will be discussed formally by Committee 4.

It has been pointed out that elements coming from the ICRP Task Group will be linked with some of the discussions and topics of EAN Workshop n°16. D. Cool and ICRP members are welcomed to participate to the Workshop **Action: F. Vermeersch, to contact D. Cool.**

6. EAN SUBNETWORKS AND WORKING GROUPS: ERPAN

The European Radiation Protection Authorities Network (ERPAN) is working well and the contacts between regulatory bodies are well established. The last meeting of ERPAN took place 10th of June 2015 at ASN premises in Montrouge³. The presentations and discussions dealt with:

- Theft of radioactive material and the way the regulatory bodies handle the case.
- Incident with a gammagraphy source.
- New inspection methodology.
- Radium Action Plan in Switzerland.
- Consideration of an application for an exemption from licensing for affected lamps.

Questions were raised during 2015 about several aspect of ALARA or radiation protection. Different surveys were performed to see how the regulatory bodies are dealing with radiation protection/ALARA issues like:

- Requirements for lead aprons in radiology.
- Waste issues in the nuclear medicine field with ²²³Ra.
- Use of new radiopharmaceutical in nuclear medicine (¹⁷⁷Lu).
- Interventional radiology.

The next ERPAN meeting will be again held in France, *a priori* 16th June 2016 after the EAN Steering Group meeting.

7. OTHER BUSINESS

7.1. ALARA Book

³ Please note that the presentation of this meeting have been put on line on the private area of EAN website (Main Menu/Sub-networks/ERPAN/Presentation)

C. Schieber (CEPN) presented the progress of the ALARA Book. Version 7 of the guidebook has been issued but some chapters still need completion.

Perspectives:

- Version 7 of the ALARA Book will be distributed to the Steering Group to gather comments and inputs **Action: S. Andresz for the distribution and All Members for comments by the end of January 2016.**
- The authors will finalize the book and met at SCK•CEN Mol premises for a conclusion meeting (date to be decided).

After editorial review and obtaining an ISBN/ISSN number, the ALARA Book will be displayed on the EAN Website, ideally on a specific section to be created (e.g. “What is ALARA ?”).

It has been noted that educational materials can be elaborated with the help of the ALARA Book.

7.2. CONCERT

CONCERT European Joint Programme aims at structuring and organising future radiation protection research in Europe (<http://www.melodi-online.eu/CONCERT.html>). The first trans-national call for projects is likely to open January 2016 (deadline: April 2016).

Work Package 2 of CONCERT is dealing with the identification of Strategic Research Agendas (SRA), with subtasks 2.6 aiming to create SRA on social sciences and safety culture in radiation protection. As part of the activities, the sub-subtasks partners (2.6.1 Ethics and justification; 2.6.2 Risk communication and perception; 2.6.3 Safety culture) will consult experts from research institutes, organizations and professional networks. C. Schieber, 2.6.3 Task Leader, informed the Members that EAN will be engaged in order to identify new research needs in the field of safety culture, in particular radiation protection culture, and more broadly safety governance. The results of the process will help formulating research topics to be included in the strategic research agenda for social sciences and humanities.

8. DATE OF NEXT MEETING

The next Steering Group meetings will take place on **June 15th 2015** at CEPN premises at Fontenay-aux-Roses.

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ANNEX A. LIST OF DOCUMENTS DISCUSSED DURING THE STEERING GROUP MEETING

1. Meeting agenda.
2. *Activities about NORM and Building Materials in Italy*, C. Nucceteli
3. *3rd Programme Committee Meeting EAN Workshop n°16*, N. Stritt.
4. *Meeting of Senior Representatives of Organizations in Special Relation with ICRP – Feedback of Seoul Meeting to EAN Members*, F. Vermeersch.
5. *Optimization of Radiation Protection Guidebook (ALARA Book) – Presentation to EAN*, C. Schieber.