



STEERING GROUP MEETING
November 30th, 2016 – CEPN, Fontenay-aux-Roses, France

Meeting Minutes
(CRR/EAN/SG/42)

Final version
Written by: Sylvain Andresz, Pascal Crouail, CEPN, France

December 2016

Participants:

ANDRESZ Sylvain	CEPN	France
CROÜAIL Pascal	CEPN	France, Vice-chairman
HEFNER Alfred	Seibersdorf Laboratories	Austria
MORGAN Julie	PHE	United Kingdom, Secretary
NUCCESELLI Cristina	ISS	Italy
PEREZ-MULAS Arturo	CSN	Spain
STRITT Nicolas	SFOPH	Switzerland, Treasurer
SYNNOTT Hugh	EPA	Ireland
VERMEERSCH Fernand	SCK•CEN	Belgium, Chairman
SAXEBOL Gunnar	NRPA	Norway

Apologies for absence:

ALLISY Penelope	EFOMP (<i>observer</i>)	
ECONOMIDES Sotirios	EEAE	Greece
KROPACEK Jan	SUJB	Czech Republic
LIVOLSI Paul	CEA/INSTN	France
NOVAKOVICK Mladen	EKOTEH	Croatia
SCHMITT-HANNIG Annemarie	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:

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1. DISCUSSION ON FINANCIAL ASPECTS

Information on the final provisional accounts 2016 and the budget 2017 can be found in the minutes of the Administrative Board meeting (CRR/EAN/AB/25).

2. APPLICATION OF THE RISK-MATRIX METHOD FOR RADIOTHERAPY

Mr. Arturo Perez-Mulas (CSN) kindly made a presentation regarding the application of a risk-matrix methodology for radiotherapy facilities in Spain (Annexe A, item 2). This work is summarized by the publication of IAEA TecDoc *Application of the Risk Matrix Method to Radiotherapy* (TecDoc No. 1685, 2016).

Radiotherapy is recognized to be a complex process, involving multiples professionals (oncologist, physicist, radiotherapy technician, etc.) and with potential accidental exposure. For these reasons, radiotherapy received special attention in both IAEA safety standards and Euratom Directive 2013/59 (article 63, Accidental and Unintended Exposures). A systematic methodology is required to prevent events and identifies vulnerable aspects of the process: the risk-matrix methodology in TecDoc 1685 is one way to achieve this.

A 'risk' is defined as:

$$\begin{aligned} \text{Risk} &= \text{frequency [of an initiating event, in year}^{-1}\text{]} \\ &\times \text{probability [of all barriers failing]} \\ &\times \text{consequences} \end{aligned}$$

The level for the *frequency* and *probability* variables can be High, Medium, Low and Very Low; the levels of the *consequences* variable can be Very High, High, Medium and Low. The risk-matrix is a combination of the level for the frequency, probability and consequences. Hence, the three variables, each of which has four levels, can be combined in 64 different ways in a 3 dimensions risk-matrix (4 × 4 × 4).

The Forum of Nuclear and Radiation Safety of Regulatory Agencies in Latin America (FORO) drafted the original TecDoc No. 1685 in Spanish and elaborated a model of events and failures and a software to evaluate automatically the risk given the variables. This document has been published recently in English, translated by IAEA, which will help spreading this methodology. The effect on

the risk of event-frequency reducers, barriers and consequences reducers can be spotted and evaluate easily. However, this model is not directly applicable in Spain who has some differences and procedures and equipment than that considered in the FORO.

CSN initiated in 2013 the project of ‘translating’ the software into Spanish context with the help of concerned stakeholders (organizations, reference hospitals). As a result, three documents, including one practical guidebook, have been published in Spain. The FORO software has been adapted and then benchmarked against the SAFRON system data (SAFRON stands for Safety in Radiation Oncology and is the IAEA voluntary reporting and learning system of radiotherapy incidents and near misses). This benchmarking shows good results.

As the method cannot be applied without the involvement of the whole team (at least the oncologist, the physicist and the radiotherapy technician), one indirect advantage of the method is that professionals have to get in touch and discuss about their procedures, the equipment etc. Furthermore, the software has proven to be a good incentive for practitioner to advocate for improvement of procedures or equipment.

Mr. Perez-Mulas drew some perspectives: the software can be fed with an specific model to be applicable for industrial radiography (this has already been done by FORO) and nuclear medicine and advanced radiotherapy techniques.

EAN has been approached by ICRP with regard to a forthcoming publication on the application of the system for radiological protection in industrial radiography. The Members noted that the risk-matrix method could be highlighted in the ICRP publication. **ACTION: In this perspective, Mr. Fernand Vermeersch will contact Richard van Sonsbeek, member of the ICRP TG106.**

3. EPA GRADED AUTHORIZATION MANAGEMENT INFORMATION SYSTEM

Mr. Hugh Synnott (EPA) kindly presented the Irish EPA new system for managing licencing and inspection process (Annexe A, item 3). The project has undergone through two phases:

Phase 1. – Licensing. EPA elaborated an online system intended for licence holders to allow them amending and renewing their license. After a trial on the beta version and inclusion of the feedback, the system was launched in March 2015. Mr. Synnott demonstrated the procedure to amend a license online. The system allows modifying the details of the license, the premises, personnel and material. The licence-holder can also upload documentation (*e.g.* risk-assessment) to the attention of EPA. Any amendment to the licence has to be approved by EPA.

Phase 2. – Inspection. The system can now also generate site-visit planning for EPA inspectors. Scheduling an inspection can be announced or not to the licence holder. If announced, specific documentation may be requested in advance and the licence-holder will upload it in the system. Site-visit questions can also be generated (depending on the licence) and send to the licence-holder prior to the inspection.

This system was initiated because the former IT system was becoming obsolete. One objective was also to reduce paper work and management overwork. Today, EPA considers its work more efficiently. Plus the amount of paper transaction has dropped. The general feedback from the license holders is quiet positive and the system is seen as a good improvement.

In the next future, the payment system (for licence) will be implemented. The system will also be extended to dentist licence-holders. The graded-authorization approach as stated in the Euratom Directive 2013/59 should also be looked at. (To this regard, see *How does Greece plan to implement the new BSS in its regulatory context when it comes to the graded approach?*, from Mr. S. Economides on the EAN website).

4. RELATION WITH PHE

Mr. Peter Shaw has changed assignment and will leave EAN. **ACTIONS: Bureau:** A letter will be drafted and send to Mr. Shaw to thank him for his years of strong involvement in the EAN.

Mrs. Julie Morgan (PHE, Didcot) participated to the meeting in replacement of Mr. Shaw. She is the new PHE contact person for EAN and the new Secretary. She will take over the activities of Mr. Shaw within EAN. All the Members presented a warm welcoming address to Mrs. Morgan!

5. INTERACTION OF EAN WITH OTHER ORGANIZATIONS

5.1. EAN_{NORM}

The next workshop of the EAN_{NORM} is planned from 5 to 7 December 2016 at Stockholm, Sweden (this has been announced on the EAN website). Mrs. C. Nuccetelli presented the programme to the EAN Members. The impact of the Euratom Directive 2013/59 is a topic of particular interest. Another emphasized topic is the use of NORM in building materials. To this matter, a specific workshop will be organized by EAN_{NORM} and MERONORM with the objective of setting up a unique European platform with regard to NORM.

5.2. ICRP

Mr. Fernand Vermeersch participated to the 2016 meeting of Senior Representatives of organizations in formal relations with ICRP that took place in Vienna 24th November 2016. He presented the current activities of EAN and notably the results of EAN workshop No. 16 and announced EAN workshop No. 17 (Annexe A, item 4).

Mr. Vermeersch also announced to ICRP that the ALARA Book is in process of completion and will be finalized in February 2017.

ICRP plans to draft plain-language documents in the future. Members have acknowledged that EAN, given its experience and contacts with end-users, may be involved in this process.

ICRP asked two questions with regard to reasonableness and Mr. Vermeersch elaborated some elements of answer (Annexe A, item 5). **ACTION: All:** can review and complete these elements and send them to Mr. Vermeersch.

5.3. ERPAN

Mr. Nicolas Stritt (SFOPH) presented the European radiation protection authority network ERPAN recent activities. ERPAN met 16th of June 2016 for one day for exchanging information and keeping the networking active. 12 persons were there, with representatives of United Kingdom, Spain, Ireland, Norway, France, Belgium, Greece, Switzerland, and Netherland. Presentations and discussions about the following topics took place:

- New incidents revision panel in Spain;
- New online licensing and inspection system in Ireland;
- Implementation of the BSS in UK;
- Estimation of the exposure of the Greek population to ionizing radiation;
- SAFRON enhancement for risk assessment in Spain;
- Result of cyclotrons audit used for the production of radiopharmaceuticals in Switzerland;
- Events related to patient radiotherapy in France: experience feedback from ASN toward professionals.

During 2016, ERPAN also communicated through email and performed different surveys and asked questions about several aspects of ALARA or radiation protection, like waste issues in nuclear medicine, limit on the dose rate and instantaneous dose rate (IDR) for the design of new therapy facility and radiation protection in interventional radiology.

To be noted, Stephen Fennel, ERPAN Chairman, has recently received a promotion and will no longer be in a position to participate or contribute to ERPAN. The board (Secretary, Chairman, Deputy) has to be renewed anyway in 2017 and will discuss this issue on the next meeting.

5.4. Other organizations

CONCERT. – Mr. Pascal Croüail informed the Members that the CONCERT 1st call for projects has been published. The topics of interest are (1) improvement of health risk assessment associated with low dose/dose rate radiation and (2) reducing uncertainties in human and ecosystem radiological risk assessment and management in nuclear emergencies and existing exposure situations, including NORM. Three projects have been pre-selected (one in Topic 1 and two in Topic 2) but it is not yet official.

The 2nd call will be published soon: an open consultation on draft priority texts proposed by Radiation Protection Research Platforms and experts in Social Sciences and Humanities, was open for comments till 30/11/2016. The proposed Call Topic 1, entitled “Health” covers (1) low dose effects, (2) dosimetry and (3) radiation protection related to medical application of ionising radiation. The proposed Call Topic 2 covers research related to (1) environment, (2) emergency and (3) social sciences and humanities (SSH).

EFNDT. – The cooperation agreement EAN – EFNDT has been signed by both parties. The original is currently kept by EFNDT.

However no further feedback following EAN workshop n°16 on industrial radiography has been received.

HERCA. – HERCA launches in November 2016 a radiation protection campaign at European scale to assess patient radiation protection (justification) in industrial radiography. A number of national radiation protection authorities will conduct a special series of inspections in radiology departments and practices. The aim of these inspections is to assess the application of the justification principle. Leaflet and press release have been published (see Annexe A, item 6).

6. EAN ACTIVITIES

6.1. EAN workshop No. 17

Mr. Sylvain Andresz presented (Annexe A, item 7) to the Members the progress of the planning of EAN workshop No. 17 on the application of the ALARA principle in emergency exposure situations that will be held near Lisbon from 15-17 May 2017. The workshop is organized in cooperation with NERIS, whose 3rd workshop will immediately follow EAN workshop.

Location has been decided and arrangements are on-going with the hosting organization (*Instituto Superior Technico*). The programme is in good shape and in the process of completion. A website has been designed to register to EAN and/or NERIS workshop:

<http://www.planetReg.com/EANworkshop17NERISworkshop3>.

Note that special rates apply for organizations that are part of EAN or NERIS.

ACTION: All: distribute and advertise the workshop toward their organization and contacts.

6.2. EAN workshop No. 18

French IRSN has contacted Mr. Croüail and informed him that EAN might be consulted in 2018 with regard to the transport of radioactive materials. Riskaudit and IRSN are currently drafting a survey dealing with transport regulations, technical arrangement, dosimetric criteria and reference levels used, etc. Mr. P. Croüail has been informed that the network will be contacted to participate to this survey. This could be the opportunity for EAN to organize a workshop on the topic of ALARA in transport of radioactive material.

ACTION: All: to check if there are enough topics of discussion and issues in transport of radioactive material to fuel a workshop. It has been noted that this job can be more easily achieved if the exact content of the survey is known (**ACTION: P. Croüail:** to communicate on this matter when the elements are released by Riskaudit).

The Members also proposed other topics for a workshop:

- Radiological risks vs. other risks or how to optimize radiation protection with respect to other risks (the ‘holistic’ approach) (Mr. Vermeersch);
- ALARA in the research environment (Mrs. Morgan);
- Optimization of radioactive releases/effluents in the environment: models, conservatism, etc. (Mr. Stritt);
- Overview of the available ALARA tools and how to select them (Mr. Saxebol).

ACTION: All: to check if there are enough topics of discussion and issues here to fuel workshops.

The location and date of EAN workshop No. 18 are to be decided.

6.3. EAN Newsletter

A new sending method using a mailing server has been tested for EAN Newsletter 38 of October 2016. The new format allows adding pictures, logo/icon, button to click on etc. in the email. It is believed that the email looks more attractive and ‘professional’. Furthermore this sending method allows tracking the opening rate of the Newsletter. For example, as of 7th November 2016, the EAN Newsletter was open more than 1,000 times. United-Kingdom, France, Norway and Germany are the top locations by opening. Positive feedbacks regarding the new sending method have also been received from China, Canada or Brazil. This shows the worldwide distribution of the Newsletter. Taking the opportunity of the new sending method, the layout of the Newsletter has been modified for what is considered a neater layout (see also EAN Logo below).

There is currently no article to be published in EAN Newsletter 39, whose publication is planned February-March 2017.

ACTION:

- **Mr. Perez-Mulas** agreed to draft a paper with regard to the application of the risk-matrix method for radiotherapy.
- **Mr. Synnott** agreed to draft a paper regarding the application of the radon action plan in Ireland.
- **Mr. Vermeersch** has initiated the elaboration of an article dealing with the application of ALARA principle in a research centre, but this article is not finished yet.

Mrs. Nuccetelli and **Mr. Novakovic** will be contacted by the Editorial Board. The application of the ALARA principle in the Austrian Hadron Therapy Centre (**Mr. Hefner**) could wait until beginning of operation of the Centre.

6.4. EAN Logo

A contest has been launched in Newsletter 38 to find a new logo for EAN. Contestants have sent their proposal. EAN Members have marked their preference for one logo, but it will be asked to the contestant to propose different versions of colours and fonts for better visibility (**ACTION: S. Andresz**).

6.5. Retirement

Mr. Saxebol informed EAN that he will be retired in June 2017. He is pleased to inform the network on who will be his substitute.

7. DATE OF NEXT MEETING

The next Administrative Board and Steering Group meetings will take place on **June 14th 2016** at CEPN premise at Fontenay-aux-Roses. A diner will be organized in Paris 13th June evening.

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

1. Meeting agenda.
2. *Application of the Risk-Matrix Analysis for Radiotherapy in Spain*, Mr. A. Perez-Mulas
3. *EPA Graded Authorization Management Information System*, Mr. H. Synnott.
4. *Activities of the European ALARA Network* presented at ICRP meeting with Special Liaison Organizations in November 2016, Vienna, Mr. F. Vermeersch.
5. Draft of the first answers to ICRP questions on tolerabelness, Mr. F. Vermeersch.
6. *HERCA Inspection Week Leaflet and Press Release* (thanks to Mr. N. Stritt)
7. *Presentation to EAN with regard to EAN workshop No. 17, EAN Newsletter 38 and EAN Newsletter 39*, Mr. S. Andresz.