

European ALARA Network

Experience with networking to
support optimisation in practice

From 1996 to 2019

From 1996 to 2017

- 1996: EAN founded by the European Commission
 - cooperation of experts from various European organisations mediated by the European ALARA training course
 - European financial support from 1996 to 2004
- 2005: Evolution to a self supporting network
 - EAN a legal entity, non-profit organisation under French law
 - Coordination: CEPN (Fr) , PHE (UK)
- 2009: Evolution from 8 to 20 Members
 - Continuation of the EAN association; Strategic Agenda for 2010-2015
- 2014: Continuation of the EAN association
 - EAN Strategic Agenda for 2015-2020

EAN objectives

- The objectives of the network are defined in the EAN “*Terms and Conditions*”, which were formally signed by all the Members



Promote the implementation of the ALARA principle for the protection of worker, public and patient exposures in all situations



Engage stakeholders in ALARA and provide a focus and a mechanism for the exchange and dissemination of information, knowledge and practical experience



Identify and investigate topical issues of common interest to further improve the implementation of ALARA

EAN organisation

- Three entities operate the network
 - **Bureau:** Chairperson, Vicechair, Treasurer and Secretary;
 - Coordination of the network
 - Nominated by the Administrative Board
 - **Administrative Board (AB):** representatives from 9 organisations (regulatory body, research centre, licence holder)
 - Meets 2 × a year
 - Financially supporting the network and managing the budget
 - Resources comes from fees (between 4,000 and 8,000 €/year)
 - **Steering Group (SG):** representative from 16 organizations (AB+4)
 - Define goals and work programs coherent with the objectives and define the means and planning to achieve them

EAN organisation

Steering group Members, participating to the Administrative Board

BfS – Federal Office for Radiation Protection,
Germany

CEPN – Nuclear Protection Evaluation Centre,
France

CSN – Nuclear Safety Council, Spain

INSTN/CEA – National Institute for Nuclear
Science and Technology, France

EPA – Environmental Protection Agency, Office of
Radiological Protection, Ireland

NRPA – Norwegian Radiation Protection
Authority, Norway

PHE – Public Health England, United Kingdom

SCK•CEN – Belgian Nuclear Research Centre,
(represents FANC, Belgoprocess, Belgian
Association for Radiation Protection and
Belgonucléaire) Belgium

SFOPH – Swiss Federal Office of Public Health,
Switzerland

SSM – Swedish Radiation Safety Authority,
Sweden

SUJB – State Office for Nuclear Safety, Czech
Republic

Other Steering group Members

EKOTEH Dosimetry Co., Croatia

GAEC – Greek Atomic Energy Commission, Greece

GR – Icelandic Radiation Safety Authority, Iceland

ISS – Italian Institute of Health, Italy

Seibersdorf Laboratories GmbH, Austria

SIS – National Institute for Radiation Protection,
Denmark

SRPA – Slovenian Radiation Protection
Administration,

STUK – Radiation and Nuclear Safety Authority,
Finland

Achievements in Networking

- **The EAN ALARA Newsletter**
- **The EAN workshops**
- **European surveys**
- **EAN website**
- **EAN subnetworks and working groups**
- **Formal cooperation with other European organisations and networks**

Achievements in Networking

- **The EAN ALARA Newsletter**

- 42 issues published (2 × year)
- Technical and scientific papers, comparisons of regulations and practice, recommendations from workshops, ALARA news, FAQ ALARA
- Largely distributed (> 2,000 openings)
- Subscription^A is free!



^A Electronic subscription: <http://eepurl.com/b-JZmD>

Editorial

You may have noticed this Newsletter has something new. What's the change?
The EAN logo!

We tried to choose something more modern in style but, of course, still illustrating the founding principle of the Network.
In the same vein, we have also changed the layout of the website: you can have a look and comment.

But what does not change is the spirit of the Network. The Newsletter, the website, the workshops, – and all the EAN Members behind them continue to be the core components of the EAN. We recently organised a workshop on the application of the ALARA principle in 'emergency exposures situations' and you will find down below some of its outcomes (pp. 2 - 16).

Surveys are also an effective way to share experience and you will find the results of a survey regarding radiation protection practices in dental radiography (p. 17).

The young generation is not forgotten; the Youth Club of the French Society for Radiation Protection and the Rising Generation Group of United Kingdom Society for Radiation Protection have drafted a survey intended for the young generation in radiation protection (p. 19).

Please share this survey to the young RP you know.






The EAN is not a closed network. If you are interested we cordially invite you to join.

The EAN Newsletter Editorial Board –
Sylvain Andreat, Julie Morgan, Pascal Crovati and
Fernand Vermeersch.

Achievements in Networking



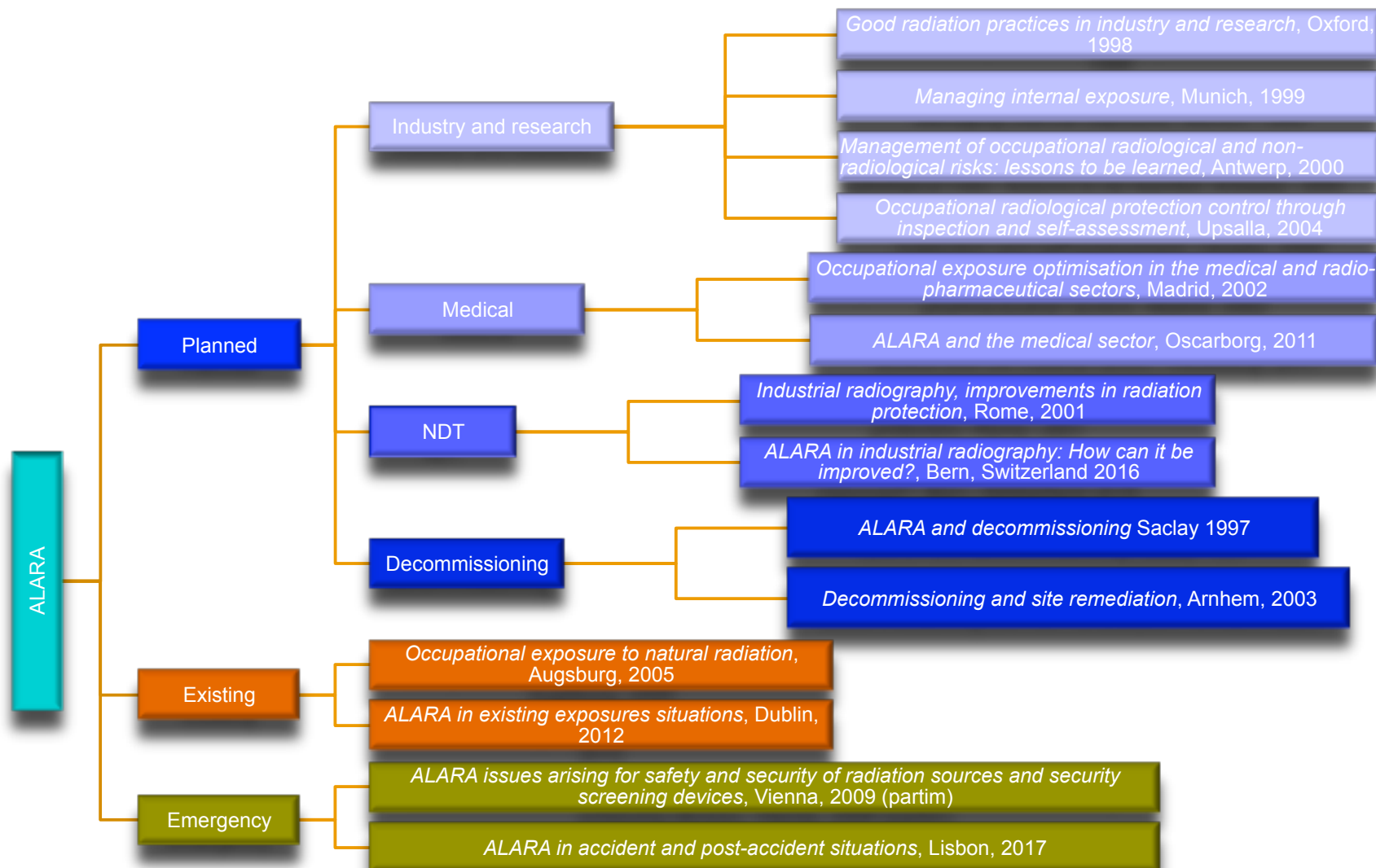
Top locations by opens

	United Kingdom	374	31.1%
	Spain	151	12.6%
	Austria	128	10.6%
	Germany	82	6.8%
	France	72	6.0%

Achievements in Networking

- **The EAN workshops**
 - **18 have been organised**; on relevant and various topics
 - **More than 1,200 participants**; between 50 to 80 at each workshop, from 10 to 20 countries
 - Mixing authorities, manufacturers, trainers, experts, research etc.
 - Plenary presentations + working groups
 - ***Conclusions and Recommendations*** produced and aiming to be disseminated
 - EU, ICRP, IAEA, national authorities, operators, education & training organism etc.
 - Common themes from Conclusions and Recommendations
 - Improve safety culture/RP/ALARA culture;
 - Harmonize and develop good training standards;
 - Involvement in risk management;
 - Set up adequate system for feedback from incidents
 - Last conclusions published in the *Journal of Radiological Protection*

Achievements in Networking



Achievements in Networking

- **European surveys**
 - **8 surveys organized**; on request
 - Disseminated with the help of the Members
 - Synthesis is distributed to the participants and later published on the website



Delineation and access to regulated areas



Radiation protection of Aircraft crew (2 X)



Dose constraints



Radon exposure management



The implementation of the European Directives 96/29 and 97/43 in national regulations



The management of radioactively contaminated soils



Potential exposures in nuclear installations



The Diagnostic Reference Levels (DRLs) in Europe

Achievements in Networking

- **EAN website :** www.eu-alara.net
- Important media for diffusing information – publication of all the work
- Between 150 to 300 visitors/month

The screenshot displays the European ALARA Network website. The header features the ALARA Network logo and a navigation menu with links: Home, Activities, About EAN, Supports, Contact us, and Links. A search bar is also present.

The main content area highlights "Issue 40 - November 2017" of the newsletter, published on 06 November 2017. It lists several articles, including "The Conclusions and Recommendations from EAN workshop 17 on the application of ALARA in emergency exposure situations" by S. Andresz (CEPN, France), J. Morgan (PHE, United Kingdom), F. Vermeersch (SCK-CEN, Belgium), and P. Crouail (CEPN, France). Other articles include "Justification, Optimisation and Dose Limitation following Nuclear Accident - an ICRP Perspective" by A. Nobet (PHE, United Kingdom), "Optimisation and Robustness of Intervention Strategy in Emergency Exposure Situations" by S. Nestorowska Madjumarova and C. Robinson (IAEA), "On the Use of Thyroid Shielding in Dental Radiography- Result of a Survey" by S. Andresz (CEPN, France), J. Holroyd (PHE, United Kingdom), "A Survey for the Young Generation in Radiation Protection", and "As usual: ALARA News and FAQ ALARA (Quiz)".

Below the newsletter section, there is a section for the "17th European ALARA Network workshop on 'ALARA in emergency exposure situations'", published on 24 May 2017. It includes the workshop's aims and objectives, stating that emergency exposure situations can arise from nuclear accidents, malicious or terrorist acts, or any other unexpected radiological event. It emphasizes the need for a quick response and sustainable countermeasures and remedial actions to avoid or reduce adverse short-term and long-term consequences. Radiation exposures can be received by the public, first responders, workers, and volunteers engaged in the post-accident recovery.

On the right side, there is a "NEXT EVENTS" section listing upcoming events: "Next Workshop: not yet known", "Next Steering Group meeting: not yet known", and "Next Sub-Network and WG events" which includes "ERFAN: not yet known", "ALARA Culture: not yet known", "NORM: not yet known", and "NDT: not yet known".

At the bottom right, there is a "Login Form" with fields for Username and Password, a "Remember Me" checkbox, and a "Log in" button. There are also links for "Forgot your username?" and "Forgot your password?".

At the bottom of the page, the URL <http://www.eu-alara.net/> is displayed.

Achievements in Networking

- **EAN sub-networks and working groups**
- When a topic/sector should be discussed deeper
 - 2002: **EASN** – European ALARA Sub-Network on Research Reactors (closed in 2009)
 - 2003 : European ALARA Network on **NDT** (Non-Destructive Testing)
 - 2005 : **ERPAN** – European Radiation Protection Authorities Network (continues to meet 1 year)
 - 2007 : **EAN_{NORM}** : European ALARA Network for Naturally Occurring Radioactive Material (merged in 2017 with EU NORM to create European NORM Association)
 - 2009 : **EMAN** : European Medical ALARA Network (terminated in 2012)

Achievements in Networking

- Working groups on
 - **ALARA Training** (*no longer active*)
 - **ALARA Tools** (*no longer active*)
 - **ALARA Culture** (2009): Elaboration of a book: ***ALARA: A practical Guidebook***
- **Establishment by IAEA of ALARA networks based on EAN organisation**
 - **RECAN** – European and Central Asia
 - **ARAN** – Asia and Pacific
 - **+ 2 African ALARA Networks (2018)**

Achievements in Networking

- **Formal cooperation** with other European organisations and networks have been established
- Observer, participation in EU projects; organisation of joint workshop etc.
 - **EFNDT**: European Federation for NDT
 - **EFRS**: European Federation of Radiographer Societies
 - **ESR**: European Society of Radiology
 - **EFOMP**: European Federation of Organisations for Medical Physics
 - **NERIS**: The European platform on preparedness for nuclear and radiological emergency response and recovery
 - **EUTERP**: European Platform on Training and Education in Radiation Protection
 - **ENETRAP**: European Network on Education and Training in Radiological Protection
 - **EURADOS**: European Radiation Dosimetry Group
 - **ISOE**: International System of Operating Exposure

Examples of impacts

- **Conceptual framework of RP** : influence on ICRP (ex. RP06 paragraph 133 (dose coefficients and low radon emanation from W9))
- EAN is now a Specific Liaison Organization of ICRP
- **Regulatory body activities** : Modification of regulatory requirements and/or radiation protection regulations and practices (ex. national plan in Norway)
- **EU research**: participation of EAN in
 - the SMOPIE project (internal exposure from Industrial Natural Sources (W1&3));
 - EURAIDE (European Accident and Incident Data Exchange)
 - TRASNUSAFE (Training Scheme on Nuclear Safety Culture)
- **Devices**: development of an alarm device called “sentinelle” for advising when the NDT source is not back in the container (W5)
- Establishment of **database** on radiation protection incidents: RELIR/OTHEA:
<http://relir.cepn.asso.fr/index.php/en.html>

Challenges

- **EAN Strategic Agenda 2015-2010: topics to be tackled:**
 - Acting as a platform to collect the views/practices from the field and provide them to the relevant organisations HERCA, ICRP and European Commission
 - Find a new dynamic to collaborate with other organizations like EFOMP, EMAN, EFRS.
 - Involvement of the younger generation
- **Facing a diminution of the number of Members / Resources**
- Improving the EAN visibility and openness
- Encouraging the participation of new members, of new stakeholders

Efficiency demonstrated

- EAN is ...
- **a forum for discussions** between stakeholders who otherwise would have little or no opportunity to interact.
- **a media of information** with regard to ALARA
- actively **sharing and disseminating practices and experience** to help raise standards
- **a time-saving search tool** providing a rapid means of getting answer to question, through a contact list of experts or by the use of surveys
- **an alerting mechanism**: information on incidents can be disseminated quickly; new RP issues can be identified and disseminated
- **EAN is entirely based on the sharing of common objectives in the improvement of radiation protection communication and on the motivation and enthusiasm of its Members**



To the attention of organization with an interest in the ALARA principle.

Dear Sir or Madam,

The European ALARA Network (EAN) was created in 1996 by the European Commission to further European research on optimization of radiation protection (ALARA), and to facilitate the dissemination of good ALARA practices between Member States.

Since 2005, EAN has been a self-supporting network (registered as an independent legal entity under French law) with an international reputation for promoting the practical implementation of ALARA in all sectors where ionising radiation is applied. Nuclear Evaluation Protection Centre (CEPN, France) took on the role of the Network Coordinator, with Public Health England (PHE, United Kingdom) acting as assistant co-ordinator.

The objectives of EAN are to:

- Promote a wider and more uniform implementation of the ALARA principle for the protection of workers, patients and the public in all radiation exposures situations.
- Provide a focus and a mechanism for the exchange and dissemination of information from practical ALARA experiences.
- Identify and investigate topical issues of common interest to further improve the implementation of ALARA and the protection of persons.

EAN regularly organizes Workshops on specific topics related to the optimisation of radiological protection. The presentations, conclusions and recommendations of each Workshop can be found on the EAN website (www.eu-alara.net). The European ALARA Newsletter is published every 6 months, which includes ALARA-related articles (evolution of regulations, results of research, feedback from ALARA operations, lessons learned from incidents, etc.) as well as experts' viewpoints and other ALARA information and news.

The activities of EAN have been supported for many years by its member organisations making available their experts and also contributing by hosting ALARA workshops. In addition, 75 % of these organisations provide an annual coordination fee, which is typically 7000 EUR (or sometimes less). A founding principle of EAN is that such fees are not mandatory – membership is open to all. However, without these contributions, EAN would not be able to operate. We would like you to consider sponsoring EAN through providing an annual coordination fee. In doing so, you would automatically become a member of the EAN Administrative Bureau, and help ensure the continued success of EAN.

Please do not hesitate to ask for further information.

EAN Chair
Fernand VERMEERSCH, SCK • CEN
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Version as 05th June 2019



TERMS AND CONDITIONS FOR THE OPERATION OF THE EUROPEAN ALARA NETWORK (EAN)

Revised version as of June 05th 2019

PREAMBLE

The European organizations listed in the Annex I of these Terms and Conditions (hereinafter referred to as “Steering Group Members”);

CONSIDERING that, as recommended by the International Commission on Radiological Protection (ICRP), the principle of optimization of protection (ALARA principle), is the cornerstone of the system of radiological protection for workers, public and patients in all exposure situations;

CONSIDERING that, there is a common interest in sharing experiences on methods, procedures, training, monitoring systems, etc. related to the practical implementation of ALARA;

CONSIDERING that, there is also a common interest in identifying gaps and challenges including research and development to further improve the practical implementation of ALARA;

CONSIDERING that, for the above mentioned reasons there is still progress to be made to reach more coherence and homogeneity in radiation protection, to harmonise policies and practices and to make a better use of national and European experiences, efforts and resources;

CONSIDERING that, the exchange and analysis of information on individual and collective doses, as well as on existing protection actions, are essential for the effective implementation of ALARA programs;

CONSIDERING that, it is in the interest of the protection of workers, public and the patients that regulatory authorities, utilities, international organizations, and all other relevant stakeholders cooperate in the implementation of the ALARA principle;

CONSIDERING that, cooperation and networking between all concerned stakeholders, is favouring the worldwide development and dissemination of the ALARA culture in all exposure situations;

AGREE to participate in the operation of the European ALARA Network (hereinafter referred to as “EAN”) under the Terms and Conditions set out below.

ARTICLE 1 - Objectives of EAN

In accordance with these Terms and Conditions, the Steering Group Members referred to in the first paragraph of the Preamble, cooperate together in the operation of the EAN to:

- Promote a wider and more uniform implementation of the ALARA principle for the management of worker, public and patient exposures in all situations,
- Provide a focus and a mechanism for the exchange and dissemination of information from practical ALARA experiences,
- Identify and investigate topical issues of common interest to further improve the implementation of ALARA.

ARTICLE 2 - EAN Main activities

To achieve the abovementioned objectives, EAN develops the following activities:

- Topical ALARA Workshops: they are organised on a regular basis with the aim of sharing experiences, promoting debates and drawing conclusions and recommendations to be widely diffused and disseminated toward relevant stakeholders,
- Working groups and sub-networks: they are established on topics of particular interest. Sub-networks are meant to be sustainable, whereas working groups are created for a limited period of time. Participation is on a voluntary basis.

- ALARA Forum: it allows launching requests, reviews and exchange of information on specific topics.

- European ALARA Newsletters: it is published twice a year to disseminate practical cases of ALARA implementation, examples of good practices, lessons learned, workshop conclusions, ALARA information, etc.

- EAN website: it offers a broad public access to all EAN abovementioned activities and other relevant ALARA information

The participation to the abovementioned EAN activities is not limited to Steering Group Members, but it is subject to the agreement of the EAN Steering Group and the organizers of the activities.

EAN, according to priorities and available resources, can cooperate with other regional ALARA networks, and professional organizations, and can also participate to national and European research and development projects relevant with the enhancement of ALARA.

The Steering Group, with regards to the needs, trends and developments and availability of resources, may decide new activities or a cessation of activities within EAN.

ARTICLE 3 - EAN Steering Group

EAN is operated by a Steering Group, consisting of the representatives of the organizations having signed the present “Terms and Conditions”.

The Steering Group meets twice a year to:

- Define annual goals and work programs coherent with the general objectives of EAN,
- Define the means and the planning for achieving these goals, and
- Perform a follow-up of their implementation.

As far as the work program is concerned, the Steering Group has to take decisions on:

- The topics for the ALARA Workshops,
- The contents of the European ALARA Newsletters,
- The contents of the EAN website,
- The selection of topical issues or events relevant to European radiation protection practices,
- The selection of topics for establishing sub-networks or working groups,
- The policy for publication or any other form of dissemination of the results of the work of EAN

At each meeting, Steering Group Members exchange key information on radiation protection in their respective country with a specific focus on ALARA.

Every 5 years, the Steering Group assesses the work performed by the network and identify the work programme for the next 5 years.

The Steering Group operates and reaches its decisions to the greatest possible extent on a mutually agreed basis.

International and regional organisations may be invited to participate to the Steering Group meetings as observers.

ARTICLE 4 - Administrative Board

The budget of EAN is managed by the Administrative Board, composed of the Members financially supporting EAN.

The Administrative Board meets twice a year at the occasion of the Steering Group meeting.

Once a year, the Administrative Board elects representatives of its Members to act as the Chair, the Vice-Chair, the Treasurer and the Secretary, who form the Bureau of EAN.

The Chair of the European ALARA Network is the Chair of the Administrative Board.

ARTICLE 5 - Coordination

The technical and administrative management of EAN is ensured by a Coordination Team, composed of CEPN and HPA staff members.

The Coordination Team is in charge of:

- Preparing the Steering Group meetings and providing the necessary secretary and support,
- Issuing all management and administrative documents,
- Managing and maintaining the EAN website,
- Constituting, together with the EAN Chair, the Editorial Board of the European ALARA Newsletter, and publishing it.
- Preparing and disseminating the conclusions and recommendations of the ALARA Workshops.
- Disseminating results of the working groups and sub-network activities,

- Preparing an annual report on EAN activities to be agreed by the Steering Group.

Each year, the Coordination Team presents a budget validated by the Administrative Board. Once a year, the Coordination Team presents a financial report, which is approved by the Steering Group.

ARTICLE 6 - Resources

Being submitted to the Administrative Board approval, the financing of EAN operation and coordination is ensured by:

- The annual fees given by the EAN supporting organizations,
- In-kind contributions of the organisations ensuring the coordination of EAN (i.e. organisations of the Coordination Team).

The financing of EAN activities is ensured by:

- The direct support by the Members of the costs associated with their participation to EAN activities,
- Funding from national and European projects.

The financing of the Workshops is ensured through participant's fees, host country support and sponsoring.

EAN does not financially support the participation to the sub-networks and working groups. They should seek adequate funding and other resources from national bodies and international organizations.

ARTICLE 7 - National contact persons

To facilitate the operation of the Network, Members of a given country nominate one or more national contact person(s).

The main role of the national contact persons is to be the link between EAN and their national radiation protection community.

The national contact persons promote EAN activities and disseminate EAN information and documents to relevant stakeholders throughout their country by all needed means.

The national contact persons inform the Steering Group about national information, events and requests related to ALARA from their country.

If needed, they create national ALARA groups to favour the exchange of information between EAN and their national radiation protection community.

ARTICLE 8 - Withdrawal

Any Member of the Steering Group may withdraw from the Steering Group at any time by giving in advance written notice to the Administrative Board.

In case of major circumstance, a member of the Bureau may withdraw before the end of his mandate.

ARTICLE 9 - Language

The working language of EAN is English.

ARTICLE 10 - Final provisions

As agreed by the Steering Group, these Terms and Conditions replace the first version of 1st January 2005. They will enter into force on 1st July 2010 and will remain for a period of five years from that date. They may be extended thereafter by agreement of the Steering Group Members.

These Terms and Conditions and their Annexes may be revised and amended by the Steering Group at any time, in writing.

I undersigned.....

agree to the above terms and conditions

(signature)

Date:

On behalf of:

.....

... ..

(participating organisation)

Country.....

Annex I. EAN Steering Group and Administrative Board Members as of June 5th 2019

- BfS (Federal Office for Radiation Protection, Germany) - Administrative Board Member
- CEPN (Nuclear Protection Evaluation Centre, France) - Administrative Board Member
- CSN (Nuclear Safety Council, Spain) - Administrative Board Member
- EKOTEH Dosimetry Co. (Croatia)
- EEAE (Greek Atomic Energy Commission, Greece)
- GR (Icelandic Radiation Safety Authority, Iceland)
- PHE (Public Health England, United Kingdom) - Administrative Board Member
- INSTN (National Institute for Nuclear Science and Technology, France) - Administrative Board Member
- ISS (Italian Institute of Health, Italy)
- DSA (Norwegian Radiation and Nuclear Safety Authority, Norway) - Administrative Board Member
- EPA (Environmental Protection Agency, Ireland) - Administrative Board Member
- SCK•CEN (Belgian Nuclear Research Centre, Belgium) - Administrative Board Member
- Seibersdorf Laboratories (Austria)
- SFOPH (Swiss Federal Office of Public Health, Switzerland) - Administrative Board Member
- SIS (National Institute for Radiation Protection, Denmark)
- SRPA (Slovenian Radiation Protection Administration, Slovenia)
- SSM (Swedish Radiation Safety Authority, Sweden) - Administrative Board Member
- STUK (Radiation and Nuclear Safety Authority, Finland)
- SUJB (State Office for Nuclear Safety, Czech Republic)