



ESARDA

The European Safeguards
Research and Development
Association

Creation

Created in 1969, ESARDA is a **network of organisations** including national regulatory authorities, nuclear facilities operators, research centres and universities, aiming to bring together the international nuclear safeguards community.



Network of Organisations

Who's who?

ESARDA Steering Committee

PARTY	COUNTRY	STATUS
AREVA	France	Party
ATI	Austria	Party
CEA	France	Party
CINCAN	Romania	Party
EDF	France	Party
ENEA	Italy	Party
ETC	Germany	Observer
European Commission	DG ENER	Party
European Commission	DG JRC	Party
FZJ	Germany	Party
HAEA	Hungary	Party
EK	Hungary	Party
IRSN	France	Party
INETUR	Spain	Party
NCSU (North Carolina State University)	USA	Associated member
WNL	United Kingdom	Party
NRG	The Netherlands	Party
NRI UJV	Czech Republic	Associated member
NRPA	Norway	Party candidate
ONR	United Kingdom	Associated member
Oak Ridge National Lab	USA	Party
PIA	Poland	Associated member
PNINL	USA	Associated member
Sandia National Lab	USA	Party
SCKCEN	Belgium	Party
Sellafield	United Kingdom	Associated Member
SFOE	Switzerland	Party
SSM	Sweden	Party
STUK	Finland	Party
SUJB	Czech Republic	Party
UKAEA	United Kingdom	Party
University of Hamburg	Germany	Party
University of Liege	Belgium	Associated
University of Tennessee	USA	Party
University of Uppsala	Sweden	Party
URENCO	Germany	Party
VATE SI	Lithuania	Party
Westinghouse	United Kingdom	Party
WRR	Germany	Party

- ESARDA is currently formed by
- 33 Parties from the European Union (EU),
- 9 non-EU Associated Members,
- 10 Individual Members,
- bound by the ESARDA Agreement.
- ESARDA holds a 'Memorandum of Understanding' with the APSN, AFCONE, ENEN and a 'Letter of Intent' by the INMM.

Agreement



ESARDA Agreement
(JRC Ref. N° 22613-2004-12 SONEN ISP BE)

THEREFORE, THE PARTIES AGREE AS FOLLOWS:

I. Purpose and Activities.

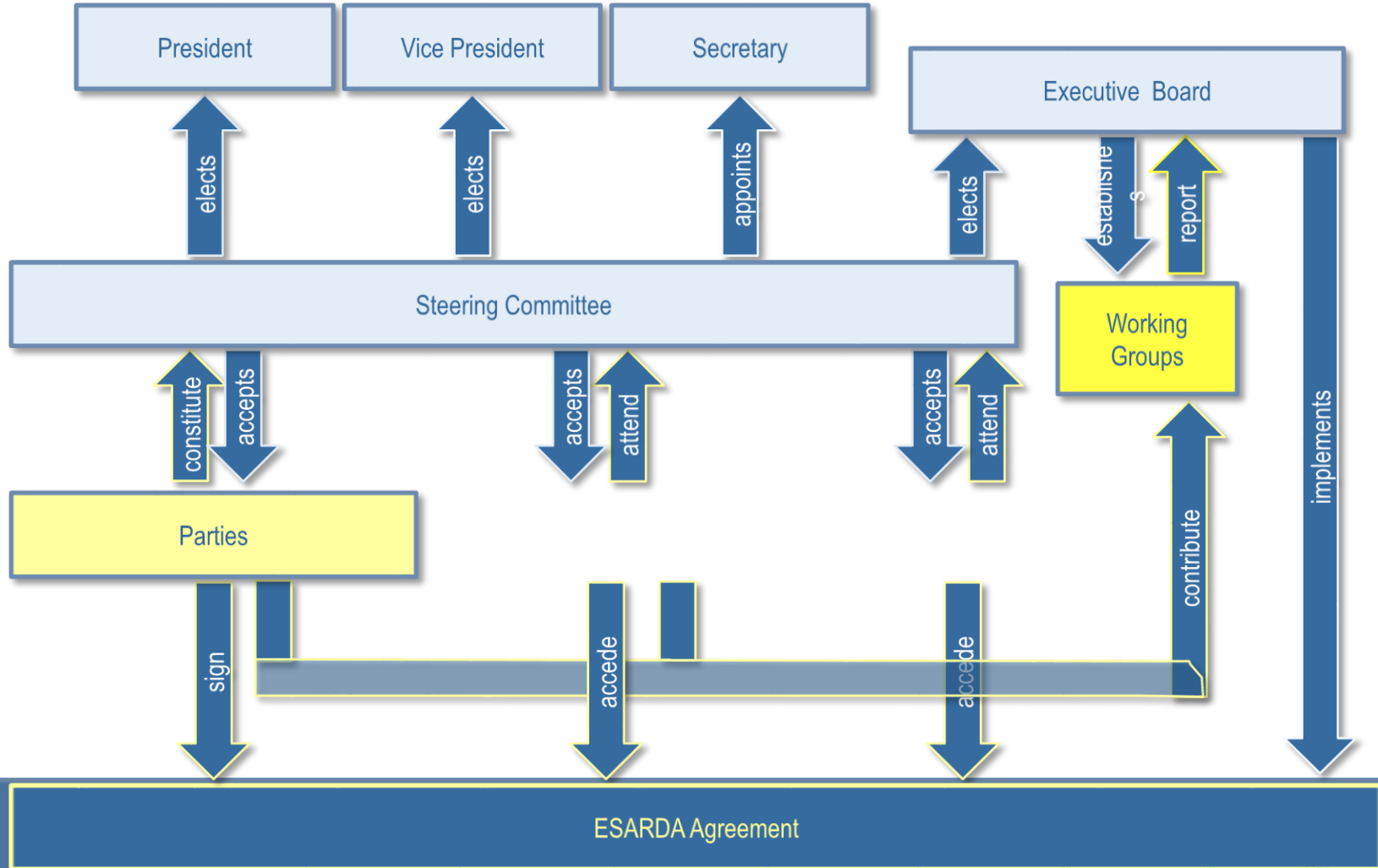
Article 1 Purpose

The purpose of the ESARDA Agreement shall be:

- To improve the quality, the efficiency and cost-effectiveness of nuclear material safeguards, including nuclear material management and accountancy;
- To seek the views of all those concerned in the application of safeguards so that problems preventing their effective, efficient and economic application may be identified and solved;
- To facilitate collaboration on research and development in safeguards and related fields and its application;
- To propose research and development programmes in the light of identified safeguards and nuclear non-proliferation topics which require investigation and to facilitate collaboration;
- To take benefit and stimulate synergies with other verification regimes and technologies;
- To increase the understanding of safeguards by improving communications with the public and other experts.

- ESARDA Contract that came into force on the 15 March 2005.
- Download from the 'About' section of the ESARDA website:
https://esarda.jrc.ec.europa.eu/images/files/miscellaneous/ESARDA_agreement-22613-2004-12-SONEN-ISP-BE-signed.pdf

Management



Working Groups

Discipline-oriented Working Groups

- Techniques and Standards for Destructive Analysis (DA)
- Techniques and Standards for Non Destructive Analysis (NDA)
- Containment and Surveillance (C/S)

Horizontal Issues Working Groups

- Implementation of Safeguards (IS)
- Verification Technologies and Methodologies (VTM)
- Final Disposal (FD)
- Export Control (ExC)
- Training and Knowledge Management (TKM)



Publications



The **ESARDA Bulletin** is the academic peer-reviewed journal featuring scientific and technical articles related to safeguards and verification. The Bulletin is published twice a year and is currently under review for indexation.

The **ESARDA Connector** is the Newsletter dedicated to disseminating activities within the association. It features news, events, working group reports, as well as technical articles.

Events

The **Annual Meetings** provide an opportunity for collaboration and the exchange of scientific information.

Typically, about 150-250 specialists attend the biennial open "Symposium on Safeguards and Nuclear Material Management", approximately 100-150 papers are being presented.

Alternating with open symposia, a biennial internal meeting takes place where all ESARDA working groups convene.



Document Repository



ESARDA relies on **CIRCABC** for the storage and sharing of documents.

CIRCABC is the European Commission's collaborative platform, which offers an easy distribution and management of documents.

ESARDA Course

The JRC DNSS and ESARDA organise the academic **ESARDA Course on Nuclear Safeguards and Non-Proliferation**, which is recognised by the European Nuclear higher Education Network.

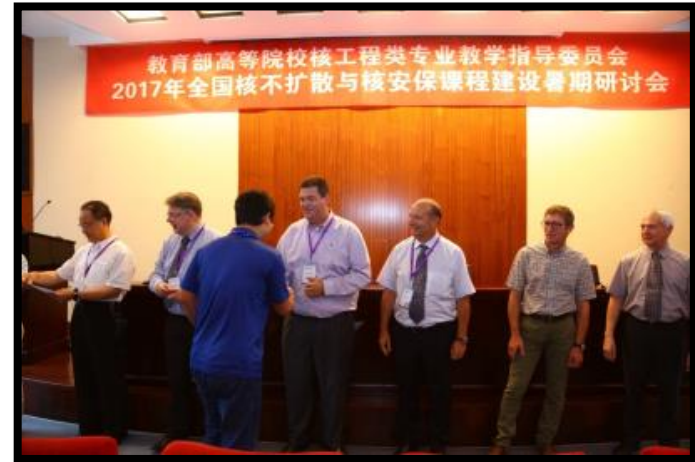
This compact one-week course is open to masters degree students, in particular nuclear engineering students, but also to young professionals and international relations/law students.



ESARDA Outreach in Education and Training



Malaysia 2013



China 2017



Thailand 2014

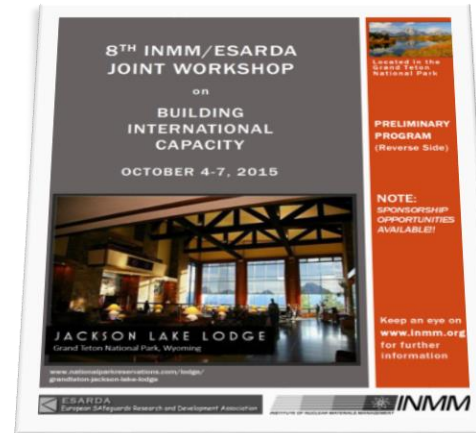


South Africa & Algiers
2018

Regional Training Course on Nuclear Safeguards and Non-Proliferation for South African region Centurion (Pretoria), 12-16 February 2018

	Mon. Feb. 12th	Tue., Feb. 13th	Wed., Feb. 14th	Thu., Feb. 15th	Fri., Feb. 16th
09:00	Opening Ceremony (JL, WJ, KA)	History of Non-Proliferation (QM)	Implementing NPT (QM)	Inspection on Site (SP)	Uranium Mining Group Exercise (CV)
10:00					
10:00	Nuclear Fuel Cycle (JL)	NDA II (neutron counting) & DA introduction (KA)	Group Exercise (QM)	Information Collection & Analysis (JB)	Inspection of a Research Reactor (VL)
11:00					
11:00	Break/Group Picture	Break	Break	Break	Break
11:20					
11:20	Material & Facilities Subject to Safeguards (WJ)	NPT (QM)	Case Study (JL)	Uranium Mining Safeguards Requirements (CV)	Questionnaire, Assessment
12:20					
12:20	Lunch	Lunch	Lunch and Technical Visit (12:20-17:00)	Lunch	Lunch
13:45					
13:45	Physical Protection (AH)	NM Account and Control Principles (SP)	Lunch and Technical Visit (12:20-17:00)	Satellite Imagery (JB)	Certificate Delivery Debriefing and Way Forward
14:45					
14:45	NDA I (gamma spec.) (KA)	Practical Exercise (SP)	Lunch and Technical Visit (12:20-17:00)	Combating R/N Illicit Trafficking (WJ)	Group Picture Closing
15:45					
15:45	Break	Break	Lunch and Technical Visit (12:20-17:00)	Break	
16:05					
16:05	Safeguards and Nuclear Export Arrangements (S. Africa, Via JL)	Nuclear Trade Regulation (S. Africa, Via JL)	Lunch and Technical Visit (12:20-17:00)	Safety/Security of R. Sources (KA)	
17:05					
		Cocktail 18:00-19:30			
				Social Diner, 19:30-22:00	

Other Activities



Joint ESARDA/ INMM
Workshops,
every 3-4 years;
7-10 Oct, 2019, Japan



Specific Workshops,
e.g. on the SLA – held May 17, 2019



ESARDA aims at bringing together all those involved in safeguards, so that progress and continuous improvement in international safeguards can be achieved efficiently and to a professional standard.