



E&T in the Nuclear Fields: a priority to achieve high levels of Nuclear Safety Culture

Notes for the Public Hearing on the “new Nuclear Safety Directive”

Walter Ambrosini, President of ENEN

EU Parliament

Committee on Industry, Research and Energy (ITRE)

Brussels, February 12th, 2014

THE ENEN ASSOCIATION

The European Nuclear Education Network is

***a non-profit international organization established on
22 September 2003 under the French Law of 1901***

***Its mission is the preservation and further development of expertise
in the nuclear fields by higher education and training through:***

- promotion of networking for education and training in Europe
- favouring borderless mobility of students and teachers
- providing attractiveness for young and motivated students
- leading relevant EU Projects for E&T and R&D among which EFTS
- qualifying itself as a reference institution for the cross-cutting issue of E&T in the nuclear fields: **a “bridge” academia ↔ stakeholders**

***Involves 49 Universities or University clusters,
8 Research Institutions, 5 Industrial Bodies
and 2 International Agencies or Societies***

THE ENEN ASSOCIATION

Acknowledgement by the EU Council (1-2 December 2008)



*“The Council welcomes the existence within the European Union of coordinated teaching and training leading to qualifications in the nuclear field, provided notably by the **ENEN**. The Council hopes that, with the help of the EU, **ENEN** and its members will continue to develop the coordination of nuclear education and training in Europe.”*

Signature of Practical Arrangements with IAEA



2009



2013

PRESENT NEEDS FOR E&T IN THE NUCLEAR FIELDS IN EUROPE

A recent report by the European Human Resources Observatory - Nuclear (EHRO-N) states that:

“The supply of nuclear engineering students and students having had a nuclear energy-related subject in their studies (between 1800 and 2800 in the EU-27 graduated in 2009) cover some 45%-70% of the demand for nuclear experts by the nuclear energy sector in the EU-27...

... A worrying observation is that by 2020 nearly 50% of nuclear experts employed today will retire...”

There is the need to maintain E&T in the Nuclear Fields in EU Countries:

- risk to decrease competitiveness in front of non-EU Countries
- 28% of electricity in EU is produced by nuclear energy
- need of personnel for design, operation, research, decommissioning, waste disposal from power and medical applications of nuclear energy and management of possible emergencies
- nuclear safety culture, to be properly nurtured at the University and the Industry stages in professional growth

PRESENT NEEDS FOR E&T IN THE NUCLEAR FIELDS IN EUROPE

Definitions of Nuclear Safety Culture

“...the core values and behaviours resulting from a collective commitment by leaders and individuals to emphasize safety over competing goals to ensure protection of people and the environment” (INPO)

“Safety Culture is that assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance” (INSAG-4 and 15)

Considering:

- *the interconnection of the electrical grids in Europe*
- *the potential borderless impact of nuclear accidents*
- *the present objective of borderless mobility for E&T and employment*

*it is reasonable to conceive the promotion of education, training and research in the nuclear field as **an inescapable cross-border commitment not to be discontinued in any European Country, no matter its sovereign decisions in relation to their energy mix***

**SUPPORTING EDUCATION AND TRAINING IN THE NUCLEAR FIELD
IS NECESSARY TO ASSURE NUCLEAR SAFETY
THROUGHOUT EUROPE AND BEYOND**

NUCLEAR SAFETY CULTURE

“Nuclear safety is a collective responsibility. The concept of nuclear safety culture applies to every employee in the nuclear organization, from the board of directors to the individual contributor. No one in the organization is exempt from the obligation to ensure safety first” (INPO)

Categories of the “traits of a healthy nuclear safety culture” (INPO):

- **Individual Commitment to Safety** (Personal Accountability, Questioning Attitude, Effective Safety Communication)
- **Management Commitment to Safety** (Leadership Safety Values and Actions, Decision-Making, Respectful Work Environment)
- **Management Systems** (Continuous Learning, Problem Identification and Resolution, Environment for Raising Concerns, Work Processes)

Appropriate education and training are necessary to acquire the knowledge, skills and personal attitudes that are needed to behave according to this paradigm

THE NUSHARE PROJECT

- Originated as a **Euratom Education, Training and Information (ETI)** initiative proposed by the Cabinets of Commissioner for Research and Innovation and of the Commissioner for Energy after Fukushima
- A "**Support action**" of 4 years duration, launched under the modified Euratom work programme 2012 through a "grant to named beneficiary" (i.e., the ENEN Association) and started early in 2013
- Objective of NUSHARE is to develop and implement Education, Training and Information (ETI) programmes aimed at strengthening nuclear safety culture
 - **Target Group 1**: Policy decision makers and opinion leaders at the level of national or regional governments, parliaments, international organisations, scientific communities involved in crisis management as well as journalists and other opinion leaders
 - **Target Group 2**: Nuclear Regulatory Authorities and Technical Safety Organisations at the level of staff members of those organisations
 - **Target Group 3**: Electric utilities and systems suppliers at the level of responsible personnel, in particular managers of organizations operating nuclear facilities (electric utilities) and of suppliers of such facilities (vendors, engineering companies).

THE NUSHARE PROJECT

- **First phase**: estimated duration: 16 months / Development of concepts and basic programmes (NUSHARE ETI Catalogue and Action Programme)
 - **Stakeholders' Meeting (Brussels, March 13-14, 2014) (see below)**
 - **Special Event**, to be organized after completion of the 1st phase of the project with the aim of informing the public and the media about the NUSHARE programmes
- **Second phase**: estimated duration up to 3 years / Execution of the proposed action program, including pilot courses and actual course delivery



www.nushare.eu

THE NUSHARE PROJECT

**The NUSHARE Project,
as a service to the European citizens,
aims at enhancing and better spreading nuclear safety
culture principles, in line with the emphasis
on this aspect in the proposed amendments
to the “nuclear safety directive”**

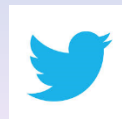
**ENEN accepted to undertake this highly visible and critical
endeavour in view of the benefits that it will bring to the
safe development of nuclear energy in Europe**

RECOMMENDATIONS

- The worries motivating the creation of ENEN, e.g., the threat to the competitiveness of the European Union in the nuclear energy field, are still justified and suggest a renewed commitment in the post-Fukushima era
- There are strong motivations to ask all the European Countries not to discontinue but to enhance education and training efforts in the nuclear field, no matter the specific energy mix chosen by each Country in its sovereignty (e.g., in the amended Article 7 of the Nuclear Safety Directive)
- Efforts like the one of ENEN to harmonise and obtain mutual recognition of competences acquired in the nuclear field should be accompanied by provisions to overcome the regulatory barriers that make difficult the cross-border mobility of experts and technicians
- The stability of policies at least at EU level is necessary to develop harmonised and durable education and training schemes aiming at improving **safety** levels
- Specific means should be established to ease and support the mobility of students and trainees in the nuclear fields

ENEN Web Sites and Web Pages

www.enen-assoc.org



NUSHARE Stakeholders' Meeting Flyer



Objectives

- Inform about the NUSHARE project and its education, training and information programmes;
- Provide opportunities for stakeholders to express their priorities regarding actions addressing competences related to safety culture;
- Identify suitable ways for interested parties to participate in the NUSHARE project.

The meeting is expected to contribute to establishing and implementing a catalogue of relevant European education, training and information programmes to be presented to a larger public and the media in spring 2014.

Who should attend?

- Individuals and organisations sharing interest in education, training and information programmes related to nuclear safety culture;
- Potential users of NUSHARE programmes;
- Training providers interested in participating in the implementation and EU-wide dissemination of NUSHARE programmes.

FP7 Project NUSHARE Stakeholders' Meeting

Information

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<http://www.nushare.eu>

Registration

The meeting Registration is free of charge.
Please confirm your participation
using the registration form in the following site:

<http://www.nushare.eu/registration.html>

Registration deadline is February 14, 2014

Venue

Husa President Park Hotel
Boulevard du roi Albert II, 44
1000 Brussels – Belgium

Brussels North railway station



**Education, Training and
Information Programmes to
Strengthen Safety Culture
Competences**

Stakeholders' Meeting

*Stakeholder Needs
and Participation*

Brussels | March 13-14, 2014



NUSHARE Stakeholders' Meeting Flyer



The NUSHARE Project

NUSHARE is a FP7 project implementing a European Education, Training and Information initiative proposed by the Commissioner for Research and Innovation and the Commissioner for Energy after the Great East Japan Earthquake and Tsunami on 11 March 2011 (Fukushima). Its main objective is to develop and implement education, training and information programmes strengthening competences required for achieving excellence in nuclear safety culture at the European level.

NUSHARE addresses the specific needs of different stakeholders by programmes for three target groups:

- Policy makers and opinion leaders at the level of governments, parliaments, international organisations, scientific communities, journalists;
- Staff members of Nuclear Regulatory Authorities and Technical Safety Organisations (TSOs);
- Electric utilities, systems suppliers, and providers of nuclear services at the level of responsible personnel, in particular managers.

Partners

NUSHARE has been launched through a grant to the European Nuclear Education Network (ENEN) Association. The responsibilities for the main tasks are with the French "Institut National des Sciences et Techniques Nucléaires" (INSTN) of the CEA, the German "ISaR Institute for Safety and Reliability", Spanish "Tecnatom" and "Universidad Politécnica de Madrid", and the European Nuclear Safety Training and Tutoring Institute (ENSTTI).

The project is open for participation of further organisations in later stages of the work programme.

Stakeholders

The NUSHARE project partners strive for the systematic consideration of the needs of end users of NUSHARE programmes and for involving further organisations in their implementation. Exchanges with stakeholders, i.e. individuals and organisations sharing interest in the NUSHARE objectives without being NUSHARE partners, are fostered

- to present and disseminate experience on embedding safety culture
- to identify the stakeholder's needs and suitable ways to address them within the NUSHARE programmes,
- to increase the participation of stakeholders in pilot actions, in the implementation, and in the EU-wide dissemination of NUSHARE programmes

Programme

Thursday, March 13th, 2014

12:00 Welcome

- Why NUSHARE and for whom?
European Commission
- Challenges in imbedding safety culture
Invited speech
- Presentation of the NUSHARE Project
 - overview and status of work
 - target group "policy makers and opinion leaders"
 - target group "regulators and TSOs"
 - target group "utilities and industry"
 - NUSHARE catalogue of education, training and information programmes
- Introductory presentations of stakeholders
 - a view from the civil society
 - a regulators' view
 - a utility view
- Conclusions and recommendations for the 2nd days' working group discussions


Friday, March 14th, 2014

- Parallel working group discussions on NUSHARE approaches and programmes
 - policy makers and opinion leaders
 - regulators and TSOs
 - utilities and industry
- Panel discussion and conclusions

16:00 End of Meeting

Thank you for your attention !

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