

TRASNUSAFE

FP7 – Fission-2009-5.1.1

EURATOM Fission Training Schemes – Coordination Action

Training Schemes on Nuclear Safety Culture (FP 7)

Presentation outline

- ▶ Preamble: characteristics of nuclear safety culture, European views, the European Passport
- ▶ Objectives and structure of the project
- ▶ Beneficiaries
- ▶ Short presentation of the Work Packages
- ▶ Schedule of milestones and deliverables
- ▶ User Groups
- ▶ Project Co-ordination Committee
- ▶ Quality Assurance Committee
- ▶ General Assembly

Characteristics of nuclear safety culture

- ▶ A continuous collective effort and commitment to keep high safety standards
 - ▶ at all steps of design, construction, operation and dismantling of nuclear installations,
 - ▶ including transport of fuel, waste, and other radioactive materials like medical radio-isotopes
- ▶ The requirement to match the ALARA goals
- ▶ Based on
 - ▶ Knowledge and understanding, research, experience feedback,
 - ▶ Training and communication,
 - ▶ **Management** commitment,
 - ▶ Assessments (links with QA)
 - ▶ Regulation (including production of new standards) and control

European views

- ▶ **Two goals: harmonisation and mobility:**
- ▶ **Harmonisation:** Council directive on Nuclear safety (25th June 2009)

*“Member States shall ensure that the national framework in place requires arrangements for **education and training** to be made by all parties **for their staff** having responsibilities relating to the nuclear safety of nuclear installations in order to maintain and to further develop expertise and skills in nuclear safety.”*

- ▶ **Mobility:** the idea of a “European Passport” acquired through training (education).

Harmonisation: the training courses

- ▶ Validate the **training courses**:
 - ▶ *a priori*: mainly validate
 - ▶ contents,
 - ▶ supports,
 - ▶ control of the acquired skills and competences set in place by the course provider
 - ▶ *a posteriori*: mainly through
 - ▶ course feedback
 - ▶ assessment of the professional impact (collective, i.e. not individuals)

- ▶ Levels of this validation process:
 - ▶ Employer
 - ▶ National regulator (may require additional / independent type of control of skills and competences for accreditation)
 - ▶ **EU level (mutual recognition of the accredited courses:** Process similar to the accreditation of the testing labs.?)
 - ▶ International (WENRA, IAEA)

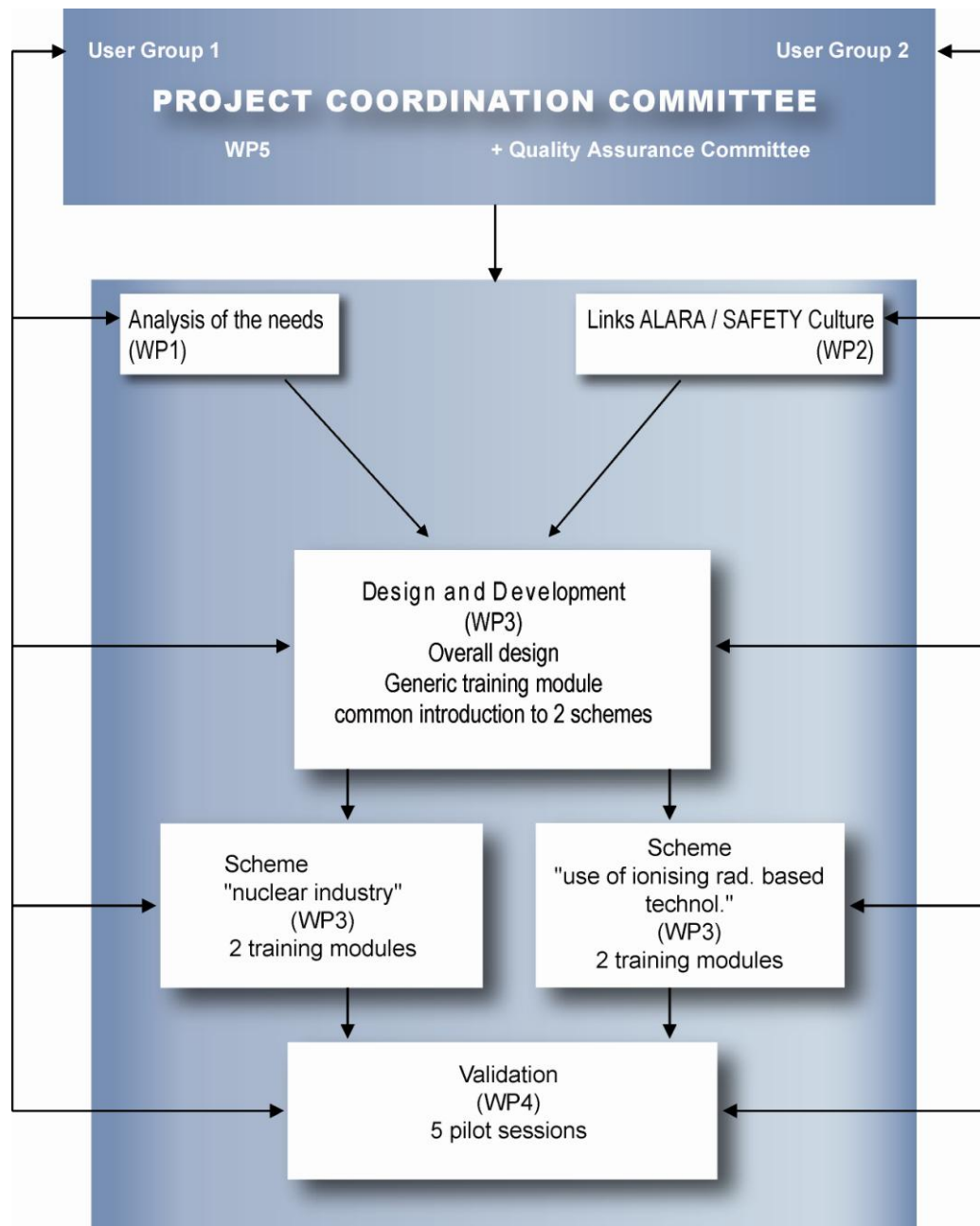
In red: contribution / extension of this project in the field of nuclear safety culture

Mobility: “The European Passport” the trainees (individuals)

- ▶ *First step*: competence of the national regulator:
 - ▶ validate the skills and competences of a **trainee** acquired through a validated training course (i.e. including a validated type of control of skills and competences)
- ▶ *Second step*: competence of the national regulator:
 - ▶ complete the control of the skills and competences of the **trainee** in view of accreditation to a specific task
- ▶ *Third step*: competence of WENRA or...(?):
 - ▶ mutual recognition of the national processes

Objectives

- ▶ TRASNUSAFE aims at
 - ▶ **designing, developing and validating**
 - ▶ **two** training schemes on nuclear safety culture
 - ▶ with a **common basis**
 - ▶ for professionals operating at a high level of **managerial** responsibilities in nuclear installations.
- ▶ One training scheme: related to the **nuclear industry**,
- ▶ The other: related to the installations making use of **ionising radiation** based technology.



Beneficiary		WP1 (Analysis)	WP2 (ALARA/NSC)	WP3 (D&D)	WP4 (Validation)	PCC (Co-ordin.)	UG-I UG-M
TECNATOM	E	x	x	xx		x	
SCK•CEN	B	xx	x	x	x	x	
ITN	P	x	x	x	x		
JSI	SLO	x		x	x		
CEPN	EU	x	xx	x		x	
EAN	EU		x	x			
UCL	B	x	x	x		xx	
UPB	RO	x	x	x	x		
UNIMAN	UK			x	xx	x	
STUBA	SK		x	x			
CIRTEN	I	x		x			
UPM	E	x		x			
ND-DACMT	UK	x		x			
ENEN	EU					QA	
CNCAN	RO					x	xx
TRACTEBEL	ENG. B					x	xx
EITA	EU						x
SNN	RO						x
SEAS	SK						x

A3.2: What it costs

Project Number ¹	249674	Project Acronym ²	TRASNUSAFE
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One Form per Project

Participant number in this project ^o	Participant short name	Estimated eligible costs (whole duration of the project)				Total receipts	Requested EC contribution
		Coordination / Support (A)	Management (B)	Other (C)	Total A+B+C		
1	UCL	85,815.60	113,400.00	0.00	199,215.60	0.00	177,633.91
2	TRACTEBEL	23,425.00	0.00	0.00	23,425.00	0.00	0.00
3	SCK.CEN	116,524.00	0.00	20,265.00	136,789.00	0.00	73,182.11
4	TECNATOM	213,325.00	0.00	0.00	213,325.00	0.00	114,128.88
5	ITN	89,714.40	0.00	25,200.00	114,914.40	0.00	51,232.67
6	JSI	66,655.00	0.00	16,118.00	82,773.00	0.00	44,283.56
7	UPB	72,370.80	0.00	18,900.00	91,270.80	0.00	81,383.13
8	UNIMAN	41,677.20	0.00	37,800.00	79,477.20	0.00	70,867.17
9	CEPN	87,893.00	0.00	0.00	87,893.00	0.00	47,022.75
10	ENEN	63,900.00	0.00	0.00	63,900.00	0.00	56,977.50
11	EITA	28,110.00	0.00	0.00	28,110.00	0.00	0.00
12	EAN	129,277.20	0.00	0.00	129,277.20	0.00	57,636.08
13	SNN	15,000.00	0.00	0.00	15,000.00	0.00	0.00
14	STUBA	72,370.80	0.00	0.00	72,370.80	0.00	64,530.63
15	CIRTEN	66,206.40	0.00	0.00	66,206.40	0.00	59,034.04
16	SEAS	4,800.00	0.00	0.00	4,800.00	0.00	0.00
17	UPM	40,122.00	0.00	0.00	40,122.00	0.00	42,930.54
18	CNCAN	17,400.00	0.00	0.00	17,400.00	0.00	0.00
19	ND-DACMT	31,113.00	0.00	0.00	31,113.00	0.00	33,290.91
TOTAL		1,265,699.40	113,400.00	118,283.00	1,497,382.40	0.00	974,133.88

WP 1 Analysis of the training needs

- ▶ Month 1 to 12
- ▶ Total effort: 12.5 p.m.
- ▶ Lead: SCK•CEN
- ▶ Other participants: UCL, TECNATOM, ITN, JSI, UPB, CEPN, STUBA, UPM, ND-DACMT
- ▶ Objectives:
 - ▶ To obtain **quantitative** information of the provisional fluxes of managers in charge of safety that can be expected for general or specific trainings on nuclear safety culture.
 - ▶ To obtain **qualitative** information on the characteristics of the potential trainees, their scientific background, their professional environment, their responsibilities, and their expectations.

WP 1 Analysis of the training needs

► Methods:

- develop, validate and apply a questionnaire using most appropriate channels in different regional areas
- Stimulate expression of needs and inform about the project through regional two-day seminars (presentation of the project, lectures by distinguished experts)
 - North Sea and Scandinavia (UCL and ND-DACMT)
 - Rhine (SCK•CEN)
 - Atlantic – Mediterranean Sea (ITN and UPM)
 - Black Sea (UPB)
 - Danube (JSI and STUBA)
- Analyse the data, prepare a data base and a report (SCK•CEN, TECNATOM and CEPN)

WP 1 Analysis of the training needs

► Deliverables

No	Name	Lead benef.	Del. date
D 1.1	Questionnaire and selection of regional target groups in charge for questionnaire follow-up	SCK•CEN	3
D 1.2	Results of the analysis of the training needs: data base	SCK•CEN	12

► Milestones

No	Name	Lead benef.	Del. date	Comments
I.1	Questionnaire	SCK•CEN	3	Questionnaire realised + QA
I.2	Regional seminars	SCK•CEN	10	Reports of 5 seminars avail.
I.3	Synthesis report	SCK•CEN	12	Report + UG valid. + QA

WP 2 Relationships between 'radiation protection and ALARA' and 'safety culture'

- ▶ Month 1 to 10
- ▶ Total effort: 14.5 p.m.
- ▶ Lead: CEPN
- ▶ Other participants: UCL, SCK•CEN, TECNATOM, ITN, UPB, EAN, STUBA
- ▶ Objectives:
 - ▶ To clarify the links between the ALARA concept used in radiation protection and the nuclear safety culture

WP 2 Relationships between 'radiation protection and ALARA' and 'safety culture'

► Methods:

- Consider the radiological specificity of each situation (nuclear plant, medical installation, etc.)
- Organise two reflection groups: one with EUTERP, and one with EAN
- Produce a document that will summarise the conclusions of the reflection groups, and prepare a PhD thesis proposal on the topic of this WP.

WP 2 Relationships between 'radiation protection and ALARA' and 'safety culture'

► Deliverables:

Del. No.	Del. Name	Lead benef.	Delivery date
D 2	Report on the links between ALARA concept and safety culture as they result from the conclusions of the reflection groups	CEPN	10

► Milestones:

No	Name	Lead benef.	Del. Date	Comments
2.1	Reflection groups	CEPN	2	Mission statement of the reflect. Groups completed + QA
2.2	Report ALARA/safety cult	CEPN	10	Report + UG validation + QA

WP 3 Design and Development of training schemes

- ▶ Month 2 to 48
- ▶ Total effort: 64.5 p.m.
- ▶ Lead: TECNATOM
- ▶ Other participants: UCL, SCK•CEN, ITN, JSI, UPB, UNIMAN, CEPN, EAN, STUBA, CIRTEN, UPM, ND-DACMT
- ▶ Objectives:
 - ▶ Based on the results of the analysis of the needs, and on the concepts of safety culture and ALARA principle, to design two training schemes consisting of a set of training modules
 - ▶ To design and develop one generic training module
 - ▶ To design and develop four specialised training modules
 - ▶ To define and experiment the qualification modes of the trainers adapted to the profiles of the trainees

WP 3 Design and Development of training schemes

► Methods:

- General design of the two training schemes and organisation of design reviews. The selection of the topics will be based on the results of the analysis (WPI) (TECNATOM, CEPN, EAN, ND-DACMT).
- Analysis of existing training modules (UNIMAN)
- Design and Development of the common generic module (UCL, TECNATOM, EAN)
- Coordination of design, and development of the 4 other modules (shared by 4 x 2 beneficiaries)
- Verification of the overall coherence pedagogical and technical (SCK•CEN, TECNATOM, JSI, UPB, CEPN, STUBA)
- Training of the trainers (TECNATOM)
- Resumption of the design and development of the prototypical modules for final validation (TECNATOM, ITN, JSI, CEPN, STUBA, CIRTEN)

WP 3 Design and Development of training schemes

► Deliverables:

Del. No.	Del. Name	Lead benef.	Delivery date
D 3.1	Specifications of the training schemes	TECNATOM	18
D 3.2	Generic module	TECNATOM	24
D 3.3	Specialised module 1.1	CIRTEN	30
D 3.4	Specialised module 2.1	JSI	30
D 3.5	Specialised module 1.2	STUBA	36
D 3.6	Specialised module 2.2	ITN	36
D 3.7	Training of the trainers	TECNATOM	38
D 3.8	Verification of the coherence and resumption	TECNATOM	48

WP 3 Design and Development of training schemes

► Milestones

No	Name	Lead benef.	Date	Comments
3.1	Analysis existing modules	UNIMAN	6	Report
3.2	General design	TECNATOM	18	Report + UG valid. + QA
3.3	Common generic module	TECNATOM	24	Report on contents + UG valid. + QA
3.4	Specialised module 1.1	CIRTEN	30	Report on contents + UG valid. + QA
3.6	Specialised module 2.1	JSI	30	Report on contents + UG valid. + QA
3.7	Specialised module 2.1	STUBA	36	Report on contents + UG valid. + QA
3.8	Specialised module 2.2	ITN	36	Report on contents + UG valid. + QA
3.9	Training of the trainers	TECNATOM	38	Report
3.10	Resumption of the 2 schemes	TECNATOM	48	Report of the final contents of the 2 schemes + UG valid. + QA

WP 4 Validation of the training schemes

- ▶ Month 30 to 45
- ▶ Total effort: 12 p.m.
- ▶ Lead: UNIMAN
- ▶ Other participants: SCK•CEN, ITN, JSI, UPB
- ▶ Objectives:
 - ▶ To test and assess the training schemes by means of five pilot sessions consisting in teaching the prototypes of the five modules.

WP 4 Validation of the training schemes

► Methods:

The organisation of each pilot session involves the following steps:

- Preparation of the detailed contents, and discussion with a set of representatives of the Nuclear Sector, design of the final programme
- Preparation of the budget
- Enrolment of the lecturers and facilitators
- Advertisement through the ENEN web site and leaflets, and other means
- Final preparation of the pedagogical supports (lecture notes, case studies, round tables, etc...)
- Registration and logistics
- Implementation of the course
- Evaluation of the course, and reporting, proposals of improvements for the next session of the course.

There is no request for funding the costs of the above mentioned items because it is assumed that registration fees required from the trainees of the five pilot sessions will compensate these costs.

WP 4 Validation of the training schemes

► Deliverables:

Del. No	Del. Name	Lead benef.	Delivery date
D 4.1	EUROCOURSE 1	UPB	36
D 4.2	EUROCOURSE 2	SCK•CEN	39
D 4.3	EUROCOURSE 3	ITN	39
D 4.4	EUROCOURSE 4	JSI	42
D 4.5	EUROCOURSE 5	UNIMAN	42

► Milestones:

No	Name	Lead benef.	Date	Comments
4.1	Pilot session-EUROCOURSE 1	UPB	36	Report pilot session + UG validation + QA
4.2	Pilot session-EUROCOURSE 2	SCK•CEN	39	Report pilot session + UG validation + QA
4.3	Pilot session-EUROCOURSE 3	ITN	39	Report pilot session + UG validation + QA
4.4	Pilot session-EUROCOURSE 4	JSI	42	Report pilot session + UG validation + QA
4.5	Pilot session-EUROCOURSE 5	UNIMAN	42	Report pilot session + UG validation + QA

WP 5 Co-ordination and Quality Assurance

- ▶ Month 1 to 48
- ▶ Total effort: 29.5 p.m.
- ▶ Lead: UCL
- ▶ Other participants: all
- ▶ Objectives:
 - ▶ To co-ordinate the project
 - ▶ To establish the user groups and link with them
 - ▶ To make a presentation of the project for further contacts with external groups (IAEA/SCART, INPO, NRC, EUTERP, EAN...)
 - ▶ To have a web-site for internal and external communication
 - ▶ To operate the project under appropriate QA
 - ▶ To conclude the project by means of a final report

WP 5 Co-ordination and Quality Assurance

► Methods:

- Co-ordination ensured by a co-ordination committee composed of the leaders of WP1 (SCK•CEN), WP2 (CEPN), WP3 (TECNATOM), WP4 (UNIMAN), the leaders of the two user groups (TRACTEBEL, CNCAN), and chaired by the project co-ordinator (UCL). Thus, 7 persons in total
- Activities of the User Groups (TRACTEBEL, EITA, SNN, SEAS, CNCAN, as well as those who will be asked to contribute after the start of the project).
- A QA Committee of ENEN will be established, and will monitor and assess the quality of the project (ENEN).
- A project presentation document will be prepared and updated (UCL, TRACTEBEL, ND-DACMT), and a website page will be established in- or linked to- the ENEN Association website (UCL, TRACTEBEL, ENEN, ND-DACMT) and updated.
- The final report will be prepared by the Coordinator and JSI based on all deliverables, and submitted to all participants for corrections and suggestions.

WP 5 Co-ordination and Quality Assurance

► Deliverables:

Del. No.	Del. Name	Lead benef.	Delivery date
D 5.1	Project presentation	UCL	1
D 5.2	Web-site	ENEN	2
D 5.3	Terms of reference for two user groups	UCL	2
D 5.4	Specifications of QA system	UCL	2
D 5.5	Project internal assessment	ENEN	48
D 5.6	1 st Periodic Report	UCL	18
D 5.7	2 nd Periodic Report	UCL	36
D 5.8	Final Report (and co-ordination of the project)	UCL	48
D 5.9	Final plan for the use and dissemination of foreground	UCL	45

WP 5 Co-ordination and Quality Assurance

► Milestones

No	Name	Lead benef.	Date	Comments
5.1	Kick-off meeting (GA)	UCL	0	Report
5.2	Project presentation	UCL	1	Presentation materials
5.3	Web-site	ENEN	2	Web-site operational
5.4	User Groups	UCL	2	Terms of reference approved
5.5	Specifications of QA system	UCL	1	Report
5.6	PCC meeting	UCL	6	Report + QA validation
5.7	PCC and GA meetings	UCL	12	Report + QA validation
5.8	PCC meeting	UCL	18	1 st Periodic Report + QA valid.

Continuation next page

WP 5 Co-ordination and Quality Assurance

► Milestones (end)

No	Name	Lead benef.	Date	Comments
5.9	PCC and GA meetings	UCL	24	Report + QA validation
5.10	PCC meeting	UCL	30	Report + QA validation
5.11	PCC and GA meetings	UCL	36	2 nd Periodic report + QA validation
5.12	PCC meeting	UCL	42	Report + QA validation
5.13	Final report	UCL	48	Report + QA validation
5.14	Project assessment	ENEN	48	QA report
5.15	PCC and GA meetings	UCL	48	Approval of final report and QA report; approval of final state of the dissemination plan

Schedule of milestones and deliverables (Year 1)

Month	Milestone No.	Deliverable No.
1	5.2; 5.5	D 5.1
2	2.1; 5.3; 5.4	D 5.2; D 5.3; D 5.4
3	1.1	D 1.1
4		
5		
6	3.1; 5.6	
7		
8		
9		
10	1.2	D 2
11		
12	1.3; 5.7	D 1.2

Schedule of milestones and deliverables (Year 2)

Month	Milestone No.	Deliverable No.
13		
14		
15		
16		
17		
18	3.2; 5.8	D 3.1; D 5.6
19		
20		
21		
22		
23		
24	3.3	D 3.2

Schedule of milestones and deliverables (Year 3)

Month	Milestone No.	Deliverable No.
25		
26		
27		
28		
29		
30	3.4; 3.6; 5.10	D 3.3; D 3.4
31		
32		
33		
34		
35		
36	3.7; 3.8; 5.11	D 3.5; D 3.6; D 4.1; D 5.7

Schedule of milestones and deliverables (Year 4)

Month	Milestone No.	Deliverable No.
37		
38	3.9	D 3.7
39	4.2; 4.3	D 4.2; D 4.3
40		
41		
42	4.4; 4.5; 5.12	D 4.4; D 4.5
43		
44		
45		D 5.9
46		
47		
48	3.10; 5.13; 5.14; 5.15	D 3.8; D 5.5; D 5.8

User groups

- ▶ Objective: optimise relevance and usefulness of the work at EU level
- ▶ Positions open to more potential Users (by co-optation)
 - ▶ - in the UG – I (Industry, Regulators)
 - ▶ - in the UG – M (Nuclear Medicine, Transport, Regulators)
- ▶ Commitment of a User: 1 person-month over 4 years
- ▶ Benefit for a User: free participant(s) to the pilot sessions (EUROCOURSES)

Project Co-ordination Committee (PCC)

- ▶ Composition: 7 Members: Co-ordinator + 4 WP leaders + 2 User Groups leaders (each member has a proxy)
- ▶ A representative of the Commission invited to all meetings
- ▶ Meets twice a year
- ▶ Mission:
 - ▶ Decisions on corrective actions
 - ▶ Co-ordination of activities of next 6 months and beyond
 - ▶ Report to GA
 - ▶ Report to European Commission

Quality Assurance Committee (QAC)

- ▶ Established by- and composed of Members of ENEN Association
- ▶ Composition to be approved by PCC (possibly: ENEN + INSTN + TTK + BME)
- ▶ Members of QAC appointed by GA
- ▶ Missions:
 - ▶ Establishes the rules for oral and written internal communication
 - ▶ Checks if the rules are followed in the deliverables
 - ▶ Reports on deviations to PCC

General Assembly (GA)

- ▶ Composition: all beneficiaries of the Co-ordination action (including extra members of the user groups)
- ▶ Meetings: kick-off + once a year + extra meetings upon request of at least 5 participants belonging to at least 3 different countries
- ▶ Power of attorney to at max. 1 other member
- ▶ Decisions taken at the majority of 2/3