

## NEPTUNO Project

Within the 6<sup>th</sup> Euratom research and training programme on nuclear energy (2002-2006), the European Commission supports the project "Nuclear European Platform of Training and University Organisations", NEPTUNO.

**NEPTUNO integrates European education and training in nuclear engineering, nuclear safety and other nuclear disciplines with the major objectives to secure qualified curricula in nuclear education at European universities according to the Bologna declaration and to harmonize professional training and accreditation schemes.**

The **NEPTUNO project** builds on the achievements of the 5<sup>th</sup> European Framework Programme, which led to the establishment of the **European Nuclear Education Network - the ENEN Association**. The NEPTUNO project will enhance the harmonization of professional accreditation criteria and the associated training programmes across the European Union. The "International Seminar on the Nuclear Fuel Cycle" is a pilot training course planned for this purpose.

The expected result is:

- an operational network of institutions for academic education at the Master, doctoral and post-doctoral level;
- complemented with research organizations, regulatory bodies and industrial partners supporting research and development, bench-training and continual learning schemes.

The project is carried out under the coordination of the French National Institute for Nuclear Sciences and Technology (INSTN) by a consortium of 35 partners, including 25 universities and 10 research institutes or private companies from 19 countries. Twenty-six partners are also members of ENEN.

### Websites / Contact Persons

➤ **NEPTUNO Project** <http://www.sckcen.be/neptuno/>

• **Joseph Safieh**

Institut National des Sciences et Techniques Nucléaires, Centre CEA de Saclay,  
Bât 395 - F-91191 Gif-sur-Yvette Cedex, France  
[joseph.safieh@cea.fr](mailto:joseph.safieh@cea.fr)

➤ **ENEN Association** <http://www.enen-assoc.org>

• **Peter De Regge**

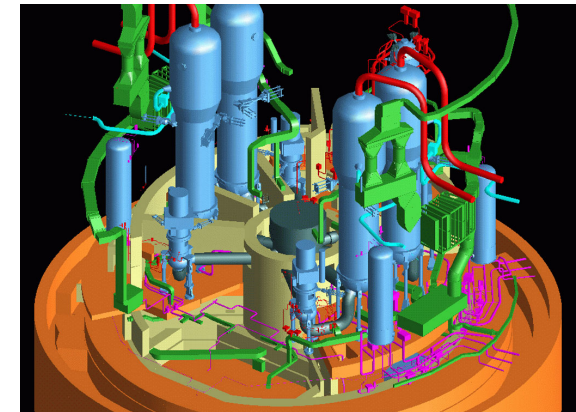
Institut National des Sciences et Techniques Nucléaires, Centre CEA de Saclay,  
Bât. 395 - F-91191 Gif-sur-Yvette Cedex, France  
[peter.de.regge@sckcen.be](mailto:peter.de.regge@sckcen.be)  
[sec.enen@cea.fr](mailto:sec.enen@cea.fr)



**NEPTUNO**  
Nuclear European Platform for  
Training and University Organisations



## Training Course on Nuclear Safety



**Saclay, France**  
**April 4<sup>th</sup> - 22<sup>nd</sup>, 2005**

## Training course on nuclear safety

This course is organized as a part of the Nuclear European Platform of Training and University Organizations (NEPTUNO) within the framework of the 6<sup>th</sup> Euratom research and training programme on nuclear energy (2002-2006). It will be held at the INSTN (National Institute for Nuclear Sciences and Technology), a higher education institution established within the French Atomic Energy Commission (CEA).

A second edition of this course will be organized in 2006 by the European Nuclear Education Network (ENEN Association) at the Technische Universität München (TUM).

### Public

The course participants are expected to be professionals currently employed by regulatory bodies, reactor operators and technical support organizations.

They will be expected to fit at least one of the following criteria :

- Have at least a university degree in engineering or science related to nuclear technology;
- Have two to three years successful professional experience beyond university in the nuclear field;
- Be in a first or second-level supervisory position or in a working level position with potential promotion.

### Objectives

The course is focused on PWR type reactors and includes some specific presentations on BWR and VVER reactors.

After following this course, the participants should be able to describe:

- The basic safety-related characteristics of nuclear reactors such as the high inventory of radioactive nuclides;
- The defense-in-depth concept with its levels of defense, such as the successive physical barriers, the protective safety systems of high reliability and the accident management procedures;
- The need for a clear definition of responsibilities concerning the reactor operator and regulatory body as well as the necessity for a constructive interaction between them;
- The principles of safety culture, in which each safety-related issue receives the priority commensurate with its importance;
- The human performance as determined by, among others, a well-designed man-machine interface, clear operating procedures and well focused training programmes;
- The principles of deterministic and probabilistic safety analysis;
- The principles of quality assurance and quality control in all phases of the design, construction and operation of a nuclear reactor.

### Programme

- I Design of a Nuclear Power Plant
- II) Basic principles of nuclear safety
- III) Radiation protection in nuclear facilities
- IV) Safety classification of structures, systems and components
- V) Internal and external hazards
- VI) Deterministic accident analysis
- VII) Probabilistic safety analysis
- VIII) Human performance
- IX) Operational safety
- X) Surveillance programmes - Maintenance
- XI) Severe accidents
- XII) Plant renewals, modifications and upgrades
- XIII) Regulatory control
- XIV) Emergency preparedness and response
- XV) Safety culture

### Methods

Conferences, courses.  
Working groups.  
Emergency exercise.  
Visits.

**Place:** Saclay, France

**Duration:** 3 weeks

• April 4<sup>th</sup> - 22<sup>nd</sup>, 2005

**Registration deadline:**

• February 25<sup>th</sup>, 2005

**Registration fees:**

• 3 000 €

**Information:**

Patrick JOUENNE

Phone +33 1 69 08 99 23

Fax +33 1 69 08 99 50

**Registration:**

Estelle DENIS

INSTN / UERTI / ENEN

CEA - Centre de Saclay

Bât. 395

F-91191 Gif-sur-Yvette Cedex

Phone +33 1 69 08 35 33

Fax +33 1 69 08 99 50

sec.enen@cea.fr

