



INSC Project MC3.01/13

EC Contract N° NSI/2014/343-969

“Training and Tutoring for experts of the NRAs and their TSOs for developing or strengthening their regulatory and technical capabilities”

Regional Training Course

Basic nuclear safety concepts, regulatory function, licensing management and decision making

South Africa, Pretoria – December 7 – 11, 2015

Hotel Protea Centurion

Cnr Gordon Hood and Hendrik Verwoerd Ave

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Course Objective

The training course will present the basic concepts of nuclear safety with focus on the regulatory review and evaluation function related to the licensing process. The safety objectives, principles and requirements of the main NPP technologies including RW management facilities, will be presented together with their evolution in the last decades, in particular in the development of Defence in Depth (DiD) principles after the severe accidents of Three Mile Island, Chernobyl and Fukushima.

The course will discuss the requirements for: independence among levels of the DiD, redundancy, independence, diversification, equipment qualification, use of probabilistic safety analysis, RW management activities, decommissioning of nuclear facilities and transport of radioactive material. Attention will be given to IAEA safety standards and EU approaches including WENRA safety objectives and reference levels.

Particular attention will be given to the Nuclear Regulatory Authority (NRA) function for licensing and oversight of nuclear facilities with reference to: establishing of safety objectives and requirements, planning of activities, management of documentation, coordination of internal review work of the NRA, planning and carrying out regulatory inspections, coordination of interfaces with the applicant (licensing process dialog) and involved institutions, coordination of external technical support (TSO) and related challenges. Practical applications and elaboration are included in the program.



Course Daily Program

Monday 7 th December 2015	
08.30 – 9.00	Registration
9.00 – 13.00	Welcome , Organizational Aspects, Training Objective, Training Program
	EU legal framework and infrastructure for Nuclear and Radiation Safety - A. Madonna (ITER)
13.00 – 14.00	NPP safety functions and safety objectives (IAEA and WENRA) - A. Madonna (ITER)
	Lunch
14.00 – 17.00	Regulatory function in defining safety objectives, principles and requirements for NPP - M. Gregoric (ITER)
	Defense in depth principle for a nuclear facility - M. Gasparini, A. Madonna (ITER)
	Main safety requirements for a NPP - M. Gasparini, A. Madonna (ITER)

Tuesday 8 th December 2015	
9.00 – 13.00	Roles and responsibilities of licensee and regulatory authority – A. Madonna (ITER)
	Regulatory licensing , licensing process and licensing steps - M. Gregoric (ITER)
	External support to regulatory authority in EU - A. Madonna (ITER)
13.00 – 14.00	Lunch
14.00 – 17.00	Regulatory Inspection, inspector competence, attitude and enforcement actions - M. Gregoric (ITER)
	Conduct of inspections, reporting and use in the regulatory process – S. Pheto (NNR)
	Radiation protection requirements for facilities and environment – L. Mpete (NNR)

Wednesday 9 th December 2015	
9.00 – 13.00	Safety requirements for RW management - T. Pather (NNR)
	Regulatory requirements for RW storage and disposal - T. Pather (NNR)
	Content of SAR for Nuclear facility - M. Gregoric (ITER)
13.00 – 14.00	Lunch
14.00 – 17.00	Practical Application

Thursday 10 th December 2015	
9.00 – 13.00	NRA management of Licensing process and decision making - A. Madonna, R. Janke (ITER)
	Regulatory review of SAR for a Nuclear facility – P. Bester (NNR)
	New regulatory challenges for new reactor design – R. Janke (ITER)
13.00 – 14.00	Lunch
14.00 – 17.00	Practical Application

Friday 11 th December 2015	
9.00 – 13.00	Safety conception of NPP and regulatory use of PSA - R. Janke, A. Madonna (ITER)
	Feedback from Fukushima accident - R. Janke (ITER)
	Decommissioning of nuclear facilities: strategy, approach and requirements - M. Dionisi (ISPRA)
13.00 – 14.00	Lunch
14.00 – 17.00	Course summary
	Questionnaire
	Opinion from trainees
	Training Minutes