



## EC 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”

## Training Course

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### Regulatory inspections (oversight) during siting and construction phases

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**Mannheim - July 18 – 22, 2016**

TÜV SÜD Energietechnik GmbH Baden-Württemberg  
Dudenstr. 28, 68167 Mannheim, Germany

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### Course Objective

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The training course will provide the knowledge of the regulatory inspection process with special regard to on-site activities during siting and construction phase with respect to site works, construction/mounting of structures and systems, installation of major components, quality assurance and safety culture.

It will provide the presentations on inspections regarding: mechanical equipment, pressure retaining components, steel constructions, electrical equipment, I&C systems.

The training will consider all aspects relevant for effective regulatory inspection activity: role of inspector, inspector conduct and relationship with the licensee, preparation of inspection link with analysts performing safety review of SSC, use of onsite documentation and operating records, etc.

The key aspects, and typical findings from past experience of regulatory inspections, related to regulatory oversight of: site works, siting relevant activities, civil works during start of construction, mounting of safety systems during construction and testing during commissioning will be presented and discussed.

Requirements for management system and quality assurance for NPP construction and importance of equipment qualification and regulatory oversight during fabrication and onsite will be discussed. Reference standards and guidelines for inspection will be addressed.

Two Practical Applications and one Technical Visit are foreseen.



## Course Daily Program

Monday July 18 <sup>th</sup> , 2016	
08.30 - 09.00	Registration
9.00 – 12.45	Welcome, Organizational aspects
	Training objective & programme - A. Madonna (ITER)
	EU infrastructure for Nuclear and Radiation Safety - A. Madonna (ITER)
	Regulator's role and functions - A. Madonna (ITER)
12.45 – 13.45	Introduction to EU Nuclear Energy, existing and in construction NPPs - L. Holt (TÜV SÜD ET)
	Lunch
13.45 – 17.45	Legal framework and organization arrangements of NRA for inspection of safety related SSCs on NPP construction - D. Baumann (TÜV SÜD ET)
	IAEA and international safety standards for inspection during siting phases of NPP – E. Vittori (ISPRA)
	Regulatory inspections during site qualification – E. Vittori (ISPRA)

Tuesday July 19 <sup>th</sup> , 2016	
9.00 – 12.45	IAEA and international safety standards for inspection during construction and components manufacturing of NPP – E. Vittori (ISPRA)
	Inspection of buildings and structures of a nuclear facility: reference design documents and construction work at site – E. Vittori (ISPRA)
	Requirements for Management System and Quality Assurance for NPP construction - J. Venker (TÜV SÜD ET)
12.45 – 13.45	Lunch
13.45 – 17.45	Engineering scope in construction of NPP (main SSC) - J. Kröger (TÜV SÜD ET)
	Safety classification and design and manufacturing standards for NPP structures, systems and components with perspective of regulatory oversight - J. Venker (TÜV SÜD ET)
	Inspection of mechanical equipment (design documents, manufacturing, final products and their installation) - R. Göhner (TÜV SÜD ET)

Wednesday July 20 <sup>th</sup> , 2016	
9.00 – 12.45	Inspection of pressure retaining components (design documents, manufacturing, final products and their installation) - R. Göhner (TÜV SÜD ET)
	Inspection of steel constructions (design documents, manufacturing, final products and their installation) - A. Huber (TÜV SÜD ET)
	Regulatory review and inspections during fabrication and on-site (FAT, SAT) German experience - R. Göhner (TÜV SÜD ET)
12.45 – 13.45	Lunch
13.45 – 17.45	<b>Technical visit</b> to Westinghouse Electric Germany including Presentation on AP1000 PWR design and new build projects (especially Sanmen, China)
	<b>Practical Application on</b> <i>Comparison of international norms and standards for design and construction and regulatory inspections focused on a case study concerning inspections</i> - M. Sedlaczek & W. Hienstorfer (TÜV SÜD ET)

Thursday July 21 <sup>st</sup> , 2016	
9.00 – 12.45	Inspection of electrical equipment - R. Schrädt (TÜV SÜD ET)
	Inspection of I&C systems and equipment (systems architecture, qualification of hardware and software) - T. Jesberger (TÜV SÜD ET)
	Importance of Equipment Qualification and regulatory oversight during fabrication and onsite - D. Baumann (TÜV SÜD ET)
12.45 – 13.45	Lunch
13.45 – 17.45	<b>Practical Application on</b> <i>Regulatory inspection program for a civil structure (or a system) during construction phase</i> - M. Sedlaczek & W. Hienstorfer (TÜV SÜD ET)

Friday July 22 <sup>nd</sup> , 2016	
9.0 – 12.45	Commissioning of a NPP: test program and regulatory oversight – A. Schulze (TÜV SÜD ET)
	Assessment of the management of the licensee, the vendor and contractor organizations - S. Özdür (TÜV SÜD ET)
	Role and Experiences of a TSO in oversight of NPP realization and commissioning - S. Schafhaupt (TÜV SÜD ET)
12.45 – 13.45	Lunch
13.45 – 17.45	<i>Course Summary Questionnaire Trainees Opinion Training Minutes Certificates awarding</i>