

**Regional Training Course on
Safety Assessment to Assist Decision Making
ANL, Argonne, IL, USA (October 15-26, 2012)
Tentative Calendar and Lectures- Week 1**

Time	Monday 15 October 2011		Tuesday 16 October 2011		Wednesday 17 October 2011		Thursday 18 October 2011		Friday 19 October 2011	
	Lecture Topic	Faculty	Lecture Topic	Lecturer	Lecture Topic	Lecturer	Lecture Topic	Lecturer	Lecture Topic	Lecturer
8:00 AM	Distribution of Funds to Course Participants									
8:30 AM	Welcome to ANL's NE Division Hussein Khalil, Director; Tom Ewing, Associate Director; Sunaree Hamilton, Course Director; Remarks: Joe Braun (ANL), Misho Dusic (IAEA); Site Safety Lecture	Jeff Ulliam	Areas of Safety Analysis: neutronic, thermal-hydraulic, structural, etc.	F. D'Auria	Safety Assessment of General Design Aspects- Single Failure Assessment, Redundancy/ Independence/Diversity, System Interactions and Dependencies	F. D'Auria	Introduction to Small and Modular Reactors (SMRs)	J. Sienicki, ANL	Overview of DSA in New U.S. Plants	L.W. Deitrich
9:30 AM	BREAK		BREAK AND Group Photo (Near Building Entrance)		BREAK		BREAK		BREAK	
10:00 AM	Deterministic Safety Analyses in the IAEA Safety Standards	M. Dusic	Deterministic Safety Analysis for DBA and BDBA: Conservative vs. Best Estimate Approach- Sensitivity and Uncertainty Analysis	F. D'Auria	User Effects	N. Cavlina	Introduction to Small and Modular Reactors (SMRs) -- Continuation (Q&A)	cont'd.	Overview of DSA in New U.S. Plants --continuation, (Discussion, Q&A)	L.W. Deitrich
11:00 AM	Effect of the Fukushima Accident on the IAEA Safety Standards	M. Dusic	Severe Accident Management Programs at NPPS	M. Dusic	Updating Safety Analyses Report	N. Cavlina	Event Classification	L.W. Deitrich	Case History of Decision Making at an NPP	Vera Moiseytseva
12:00 PM	LUNCH		LUNCH		LUNCH		LUNCH		LUNCH	
1:00 PM	Use and Conduct of the Safety Assessment	F. D'Auria	Fundamentals of Plant Systems	R. Blomquist	History of DSA and PSA in the U.S.	J. Braun	Group Reports on Fukushima Exercise	All	INPO Findings on Fukushima Accident	J. Braun
2:00PM	Computer Models in Licensing	N. Cavlina	Nuclear Safety, Licensing, and Regulation in the USA	J. Braun	Introduction to PSA -- Lecture 3	J. Braun	Exercises from DSA Lectures and Homework	A. Jackura	Introduction to PSA - Lecture 5	J. Braun
3:00PM	BREAK		BREAK		BREAK		BREAK		BREAK	
3:15 PM	Introduction to PSA - Lecture 1	J. Braun	Exercise from Intro to PSA	A. Jackura	What Happened at Fukushima?	J. Braun	Safety Culture in Nuclear Facility Operations	J. Braun	DSA and PSA in the Decision Making Process -- A Lecture by Chuck Kling	J. Braun
3:30 AM										
4:00 PM	CP-1 The World's First Man-Made Nuclear Reactor- Lecture	J. Braun	Introduction to PSA - Lecture 2	J. Braun	Exercise regarding Fukushima Accident.	J. Braun, All	Introduction to PSA - Lecture 4	J. Braun	Discussion of Week 1 Topics	All
4:30 PM	CP-1 The World's First Man-Made Nuclear Reactor- Musuem Visit	J. Braun								
5:00 PM	ADJOURN		ADJOURN		ADJOURN		ADJOURN		ADJOURN	

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Tentative Calendar and Lectures- Week 2**

Time	Monday		Tuesday		Wednesday		Thursday		Friday	
	22 October 2011		23 October 2011		24 October 2011		25 October 2011		26 October 2011	
	Lecture Topic	Lecturer	Lecture Topic	Lecturer	Lecture Topic	Lecturer	Lecture Topic	Lecturer	Lecture Topic	Lecturer
8:30 AM	L.3.1 Introduction to PSA	Zoltan, Kovacs, IAEA Expert, Relko Ltd., Slovakia	L.3.2.3 Data Analyses	IAEA-- John Preston	L.3.2.9 External Hazards PSA	George Klopp	L.3.3. C Level 2 PSA: Overview of Severe Accident Codes	George Klopp	L.3.8 PSA at US NPPs Living PSA: Applications to On-line Maintenance	Roy Linthicum, Exelon
9:30 AM	(Cont.)	Zoltan, Kovacs, IAEA Expert, Relko Ltd., Slovakia	L.3.2.4 Analyses of Dependencies including CCF's	IAEA-- John Preston	(Cont.)	George Klopp	L.3.4 Overview of Level 3 PSA	George Klopp	(Cont.)	Roy Linthicum, Exelon
10:30 AM	<i>BREAK</i>		<i>BREAK</i>		<i>BREAK</i>		<i>BREAK</i>		<i>BREAK</i>	
11:00 AM	L.3.2 Overview of Level 1 PSA	John Preston, IAEA Expert, UK	L.3.2.5 Human Reliability Analysis	IAEA- Zoltan Kovacs	L.3.2.10 Low Power and Shutdown PSA	IAEA-John Preston	L3.5 Integrated IRIDM	IAEA-John Preston	Feedback Session-Course	All
12:00 PM	<i>LUNCH</i>		<i>LUNCH</i>		<i>LUNCH</i>		<i>LUNCH</i>		Closing Ceremony-Certificate Presentation	Artur, Joe, Participants
1:00PM	3.2.1 Init. Events Analysis	IAEA-John Preston	L.3.2.6 Analysis of Level 1 PSA Results	IAEA-Zoltan Kovacs	L.3.2.11 PSA Software Overview/Demo	Artur Lyubarskiy, IAEA	L.3.6 Applications of PSA in Regulation	USNRC Mark Cunningham	<i>ADJOURN</i>	
2:00PM	L.3.2.2. System Analysis	IAEA- Zoltan Kovacs	L.3.2.7-8 Internal Fires and Flood PSA	George Klopp, USA	L.3.3. A Level-2 PSA: Interface with Level 1- PSA	George Klopp	Cont.	USNRC Mark Cunningham		
3:00 PM	<i>BREAK</i>		<i>BREAK</i>		<i>BREAK</i>		<i>BREAK</i>			
3:15 PM	L.3.2.2. System Analysis (Cont.)	IAEA- Zoltan Kovacs	L.3.2.7-8 Internal Fires and Flood PSA (Cont.)	George Klopp, USA	L.3.3. B Level-2 PSA: Tasks Overview	George Klopp	L.3.7 PSA in the IAEA Safety Publications	Artur Lyubarskiy		
4:00 PM	Q & A Session	ALL	Q & A Session; Short Exercise	Participants' teams, Instructors	Q & A Session Exercise on Level-1 and Level-2 PSA	Participants' Teams, Instructors	Q & A Session Exercise on PSA and IRIDM: 3 Teams	Participants' Teams, Instructors		
5:00 PM	<i>ADJOURN</i>		<i>ADJOURN</i>		<i>ADJOURN</i>		<i>ADJOURN</i>			