

Curriculum of “Tsuruga Summer Institute on Nuclear Energy 2008”

Day 1st: September 8 (Mon) at Wakasa Wan Energy Research Center (WERC)

September 12, 2008

	Items	Outline	Remarks
AM	(9:00-9:20) ◆ Opening Address	Opening address *	*Principal of this school: Professor Niki (Fukui University) Fukui Prefecture: Mr. Asahi (Vice-governor)
	(9:20~9:40) ◆ Orientation		
	(9:40-10:30) ◆ Comprehension Test (Pre-Test)	Implementation of a preliminary survey of the student's knowledge level regarding nuclear energy, environment issue, nuclear power plant, etc. as a pre-test	Aiming at learning fundamental issues Total: 100 questions
	(10:40-12:00) ◆ Lecture- I: “Energy Situation in Japan & Contribution of FBR”	Learn about energy situation in Japan based on the latest data and introduction strategy of FBR cycle and its investment effect	<Instructor> JAEA: K. Ono (Group Leader of Cycle Analysis Group, Innovative Reactor System R&D Division)
PM	(13:00-13:15) ➤ Result Report of “Overseas Educational Training in INSTN/SACLAY 2007”	Result of “Overseas Educational Training in INSTN/SACLAY in 2007” reported by a participant*	*Reporter: Mr. M. Sugiura (M2 of Fukui University)
	(13:15-13:30) ◆ Preparation for English Discussion (Self-introduction)	-Discussion divided into 7 groups -Involving foreign researchers/engineers who are joining to JAEA and foreign students of Fukui University (7 peoples) -Also one observer is provided to each group*	*Staffs of Fukui University & Fukui University of Technology
	(13:30-13:50) ◆ Preparation for English Discussion (Explanation of Discussion Manual)	➤ Explanation of discussion manual (How to do discussing?)	

(13:50-14:20) ◆ Preparation for English Discussion (Division of Roles)	➤ Division of roles: Selection of leader, secretary, data creation staffs and presenter	
(14:30-15:40) ◆ Discussion among Trainees	<u>Discussion Theme</u> - Public Acceptance of Nuclear Energy	
(15:50-16:20) ◆ Summarization of Discussion	➤ Summarization of result of discussion ➤ Making of presentation paper	
(16:30-17:40) ◆ Presentation of Discussion Result	➤ Oral presentation in English ➤ 10 minutes for presentation (8 minutes for oral and 2 minutes for Q & A)	
(17:40-17:50) ◆ Evaluation of Discussion Result	➤ Whole Comment for discussion results	Commentator: Assistant Professor Asai (Fukui University)
(17:50-18:00) ◆ Questionnaire Survey	Conduct the questionnaire survey every day *	This result is analyzed and reported on the final day.
(18:00-) ✓ Moving by Bus	Moving from WERC to Kushikawa	
(18:30-) ◆ Reception	➤ Wine Party*	*At JAEA Kushikawa guest house

Day 2nd: September 9 (Tue) at INITC (JAEA), Mihama NPP (KEPCO), Tsuruga Unit 3/4 (JAPCO), JAEA Decommissioning Center Fugen

	Items	Outline	Remarks
AM	(9:00-10:20) ◆ Lecture - II: “ Safety Measure and Public Acceptance for LWR ”	Learn about safety measures based on the actual accident and how atomic energy is accepted in society.	<Instructor> INSS:
	(10:30-11 :50) ◆ Lecture - III: “ Point View of FBR Safety ”	Learn about FBR safety via fundamental point of view for security of FBR, concept of safety design and feature of FBR safety, etc.	<Instructor> JAEA: Dr. M. Konomura (Senior Researcher of Innovative Reactor System R&D Division)
PM	(12:50-13:00) ✓ Moving by Bus	-Moving to Mihama NPP from INITC	
	(13:00-14:30) ◆ Site Tour - I: “ Mihama NPP ” (KEPCO)	-Observation of the ruptured steam piping of secondary system caused injured & dead accident at exhibition hall -Observation of the broken SG caused the first ECCS activated accident in Japan	
	(14:30-15:10) ✓ Moving by Bus	-Moving to Tsuruga NPP from Mihama NPP	
	(15:10-17:00) ◆ Site Tour - II: “ Tsuruga NPP ” (JEPCO)	-Visiting Tsuruga No. 3 & 4 units (APWR construction field) -Visiting exhibition hall	The students are divided into 2 groups to look around this facility.
	(17:00-) Moving by Bus	-Moving to Fugen from Tsuruga NPP	
	(17:10-18:00) ◆ Site Tour - III: “ Decommissioning Center Fugen ”	-Presentation of the decommissioning program of Fugen	
	18:00- ✓ Moving by Bus	-Moving to hotel	

Day 3rd: September 10 (Wed) at INTIC (JAEA), FBR MONJU

	Items	Outline	Remarks
AM	(9:00-12:00) ◆ Site Tour - IV ”Prototype FBR MONJU”	-Visiting inside of MONJU plant including radiation control area	<ul style="list-style-type: none"> • Inside Container Vessel (in the controlled area) • Inside Central Control Room (in the controlled area) • “MONJU” PR hall • In-Service Inspection
PM	(13:00-14:20) ◆ Lecture - IV ”Concept of FBR”	Learn about basic knowledge such as mechanism of breeding, feature of fast reactor like core and plant characteristics, which uses sodium for a coolant	<Instructor> Fukui University: Dr. H. Mochizuki (Professor of Nuclear Energy Safety Engineering)
	(14:30-14:50) ◇ [Topics] -Preparation for “MONJU Discussion” (Explanation of Discussion Manual)		
	(14:50-15:50) ◇ [Topics] -MONJU Discussion	➤ Discussion with MONJU engineers and researchers about Monju	Discuss the topics in which the students are interested and about which they are concerned and doubt.
	(16:00-16:40) ◇ [Topics] -Summarization of Discussion -Making presentation paper	<ul style="list-style-type: none"> ➤ Summarization of discussion ➤ Making presentation paper 	
	(16:50-18:00) ◇ [Topics] -Presentation of Summarized MONJU Discussion’s Result	➤ Presentation for 10 minutes (8 minutes for oral and 2 minutes for Q & A)	

Day 4th: September 11 (Thu) at Monju Simulator & FBR Training Facility (INITC)

		Items	Outline	Remarks
A Gr	AM	(9:00-12:00) ◆ Exercise - I: “ Experience of MONJU Simulator Operation ”	Experience practice of fundamental MONJU operation by using the MONJU simulator	
	PM	(13:00-14:00) ◇ [Topics] “ Introduction of IAEA Activities ”	Learn about IAEA activities which aims to progress peaceful utilization of atomic energy and to carry out safeguards for preventing military diversion and security of nuclear safety	*Simultaneous translation *B group is also audited together. *At MC hall
		(14:20-15:50) ◆ Exercise - II: “ Experience of Sodium Handling Technology ”	Experience practice of sodium handling technology which is one of peculiar technology of fast reactor	
		(16:00-17:30) ◆ Exercise - III: “ Experience of Non-Destructive Testing Technology ”	Experience practice mainly liquid penetrant testing (PT) among non-destructive testing	
B Gr	AM	(9:00-10:30) ◆ Exercise - II: “ Experience of Sodium Handling Technology ”	Experience practice of sodium handling technology which is one of peculiar technology of fast reactor	
		(10:40-12:10) ◆ Exercise - III: “ Experience of Non-Destructive Testing Technology ”	Experience practice mainly liquid penetrant testing (PT) among non-destructive testing	
	PM	(13:00-14:00) ◇ [Topics] “ Introduction of IAEA Activities ”	Learn about IAEA activities which aims to progress peaceful utilization of atomic energy and to carry out safeguards for preventing military diversion and security of nuclear safety	*Simultaneous translation *A group is also audited together. *At MC hall

	(14:30-17:30) ◆ Exercise - I: “ Experience of MONJU Simulator Operation ”	Experience practice of fundamental MONJU operation by using the MONJU simulator	
After 5pm	◆ Friendship Event (Barbecue)		INITC Parking Area

Day 5th: September 12 (Fri) at WERC

	Items	Outline	Remarks
AM	(9:00-9:15) ◆ Opening Address	Welcome Address*1 Remarks*2	*1: Vise president of Fukui University *2: Tsuruga Mayor
	(9:15-9:55) ◆ Open Speech - I: “Development Program in Japan towards Commercialization of Nuclear Fuel Cycle”	Learn about latest situation regarding FBR cycle which is positioned as basic technology of a nuclear energy policy in Japan via scheme and road map of the Fast Reactor Cycle Technology Development (FaCT) Project	<Speaker> Dr. T. Yanagisawa (Special Adviser of JAEA)
	(10:00-11:25) ◆ Open Speech - II: “Energy Situation and Nuclear Power Plant Development in Indonesia”	Learn about eagerness for nuclear power generation of underdeveloped country via speech regarding the energy situation and nuclear energy development program in Indonesia which aims at introduction of nuclear energy	<Speaker> Mr. Adiwardojo (Deputy Chairman for Development of Nuclear Technology and Energy of BATAN, Indonesia)
	(11:30-12:00) ◆ Open Speech - III: “The Nuclear Industry Future through Manufacturer’s View”	Introduce the nuclear industry situation through the manufacturer’s analysis and its industry possibilities from the point of the manufacturer’s view.	<Speaker> Mitsubishi Heavy Industries Ltd. Mr. Komano
PM	(13:00-14:25) ◆ Open Speech - IV: “Efforts for Next Generations Reactor System Development in the World”	Learn about latest global trend concerning innovative reactor system in the world through studying outline of GEN-4 program which is a framework by global cooperation participated 11 counties	<Speaker> CEA Saclay Research Center Dr. R. Claude (Deputy Director of Nuclear Innovative Development) *Consecutive interpretation
	(14:25-14:30) ◆ Closing Address		*Mr. Ito (Executive Director of JAEA)
	(14:40-15:20) ◆ Site Tour - V: “Wakasa-wan Energy Research Center”	-Visiting the various kinds research equipments with which WERC is developing	The students are divided into 3 groups to look around this Center.
	(15:20-15:30) ◆ Questionnaire Survey	Final questionnaire survey *	

PM	(15:30-16:10) ◆ Comprehension Test (Post-Test)	Conduct the same comprehension test afterward	
	(16:10-16:40) ◆ Grading of the Test	<ul style="list-style-type: none"> ➤ Grading of the test with explanation of correct answer ➤ Comparison with pre-test's result for each category 	Self-rating (or exchange the papers with next person to score)
	(16:40-17:10) ◆ Evaluation of Training	<p>Analysis report for the questionnaire survey on each training items (subject)</p> <ul style="list-style-type: none"> ➤ Best training items - Entirely - By category: lecture, practical training, site tour <p>Improvement Items</p>	
	(17:10-17:40) ◆ Closing Ceremony	<ul style="list-style-type: none"> ➤ Closing address * ➤ Awarding of a diploma by Dr. Niki, professor of Fukui University ➤ Take a ceremonial photograph 	*Mr. Yokoyama of WERC