

OECD NUCLEAR ENERGY AGENCY
COMMITTEE ON THE SAFETY OF NUCLEAR INSTALLATIONS

CSNI Workshop on

"Seismic Input Motions, Incorporating Recent Geological Studies."

Hosted by NIED with technical advice from GSJ

Tsukuba, Japan

November 15-19, 2004

Programme

Monday, Nov 15

09:00	Registration	
Chairman of the Workshop : Dr. T. Katayama (President of NIED, JPN)		
Chairpersons: Mr E. Mathet (OECD), Mr K. Ohtani (NIED, JPN)		
10:00	Welcome Address	Dr. T. Katayama (NIED, JPN)
10:15	OECD/NEA Activities on the Definition of Seismic Input Motions for the Safety of Nuclear Facilities	Mr .P. Sollogoub (CEA, FR)
10:30	An OECD Perspective and Workshop Final Products	Mr. E. Mathet (OECD-NEA)
10:45	Greetings from MEXT and METI	Mr. T. Nakamura (MEXT, JPN) Mr. S. Kawahara (METI, JPN)
11:00	Special Speech: Safety of Nuclear Power Plants – NSC’s View on Recent Technology Development	Dr Y. Soda (NSC Commissioner, JPN)
11:45	<i>Lunch break</i>	
12:45	Keynote Speech 1: How to support the Administration Job of Nuclear Safety for the Government as a “Center of Excellence” in Japan	Dr. H. Nariai (JNES, JPN)
13:30	Keynote Speech 2: Purpose and Target of Special Session in this Workshop	Prof. H. Shibata (NIED, JPN)

SESSION 1: Regulatory and Seismological Considerations

Chairpersons: Dr Y. Kitada (JNES, JPN), Dr C. Berge-Thierry (IRSN, FR)

14:00	I-1: Probabilistic Seismic Hazard Analysis using Physical Constraints (An Interpretation of the IAEA Safety Guide on Evaluation of Seismic Hazards for NPPs)	Dr A. Gürpınar (IAEA)
14:15	I-2: Determination of the Seismic Input in France for the Nuclear Power Plants Safety: Regulatory Context, Hypothesis and Uncertainties Treatment.	Dr C. Berge-Thierry (IRSN, FR)
14:30	I-3: On the Upgrading of Japanese “Examination Guide for a Seismic Design of K1014 Nuclear Power Reactor Facilities”	Mr. S. Kawahara (METI, JPN)
14:45	I-4: Outline of Strong-Motion Evaluation in National Seismic Hazard Mapping project of Japan	Dr. H. Fujiwara (NIED, JPN)
15:00	I-5: Using Borehole Array Data for Ground Motion Prediction: Separating Source, Path, and Site Effects	Dr J. Steidl (UCSB, USA)
15:15	<i>Coffee Break</i>	

15:45	I-7: Recent Findings Integrated for Seismic Hazard Assessment: the Case Study of the Durance Fault	Mr. M. Cushing (IRSN, FR)
16:00	I-8: On the Simulations of Broadband Strong Ground Motions for Moderate Earthquake along the Durance Fault, France	Mr. D. Baumont (IRSN, FR)
16:15	I-9: Broadband Nonparametric Ground-Motion Evaluation of Horizontal Shear-Wave Fourier Spectra	Mr K. Yun (KEPRI, KR)
	I-10: Influence of Tensile Cracks Generation during Shear Rupture on Seismic Near Source Ground Motion.	Prof J. Riera (UFRGS, BZL) (not presented)
16:30	I-11: Attenuation Relation of Strong Motion with Geological Site Classification of Predominant Pperiod in Japan.	Mr. T. Takahashi (Shikoku EPCo, JPN)
16:45	I-12: Parametric Studies of Source and Site Effects for the Generation of Groundshaking Scenarios	Mr. F. Romanelli (Univ. Trieste, IT)
17:00	I-13: Active Fault Drilling -Stress, Strength and Structure in Fault Zones	Dr. K. Omura (NIED, JPN)
17:15	<i>Break</i>	
17:30	Discussion on session 1	
	Moderators: Dr A. Gürpınar (IAEA), Prof K.Kudo (ERI-Tokyo, JPN), Mr P. Sollogoub (CEA, FR) .	
18:15	<i>End of the 1st day</i>	
18:30	<i>Reception hosted by NIED</i>	

Tuesday, Nov 16

09:00	Keynote Speech 3: Differences in Earthquake Source and Strong Ground Motion Characteristics between Shallow and Buried Faulting	Dr P. Somerville (URS Corporation, USA)
09:45	Keynote Speech 4: Fault Mechanics and Seismic Hazard in the Rift of Corinth, Greece”	Prof P. Bernard (IPGP, FR)
10:30	<i>Coffee break</i>	

SESSION 2: Special Sessions: Application of Deep Borehole Research and Measuring Study

Session 2a: Deep Borehole Study and Application to Asperity Estimation

Chairpersons: Dr D. Boore (USGS, USA), Prof Y. Kinugasa (TITech, JPN)

11:00	II-1: Is Strong Ground Motion radiated from Asperities?	Dr D. Boore (USGS, USA)
11:15	II-2: Asperities and Seismic Velocity Distribution along the Fault Plane of Two Large Earthquakes in Japan	Prof A. Hasegawa (Tohoku Univ., JPN)
11:30	II-3: Monitoring the Contact State of a Simulated Fault by Transmission Waves- A Laboratory Experiment -	Dr K. Iwasa (ADEP, JPN)
11:45	<i>Lunch break</i>	
12:45	Report on the Parkfield Earthquake	Dr D. Boore (USGS, USA)

13:15	Report on the Chuetsu, Niigata Earthquake	Dr. Y. Okada (NIED, JPN)
13:45	I-6: Earthquake Related Project in NIED, Japan	Dr. Y. Okada (NIED, JPN)
14:00	II-5: Asperities Recognized from Seismicity Pattern Change preceding Megathrust Earthquake	Dr. S. Matsumura (NIED, JPN)
14:15	II-6: Estimation of Effective Stress on Asperities in Inland Earthquakes caused by Large Strike-Slip Faults and its Application to Strong Motion Simulation	Dr. K. Dan (Ohsaki Research Institute, JPN)
14:30	II-7: Evaluation of Seismotectonic Layer Depth in Japan	Dr. S. Motohashi (JNES, JPN)
14:45	II-8: Geophysical Study of an Active Fault by using a Deep Borehole with 1000m Depth --- Initial Stress Measurements and Continuous Multi-Component Monitoring of Crustal Activities ---	Mr. H. Ishii (TRIES, JPN)
15:00	II-9: A Simple Procedure to compute the Interstory Drift for Frame Type Structures	Prof. P. Gulkan (METU, TUK)
15:15	<i>Coffee break</i>	

Session 2b: Deep Borehole Study and Application to Searching Hidden Fault

Chairperson: Dr J. Steidl (UCSB, USA)

15:45	D-1: Deep Structure of Fault Zones and Stress Field around Active Faults from Seismic and strain Measurements	Dr. Y. Kuwahara (GSJ, JPN)
16:00	D-2: Discovery Accuracy of Buried Fault based on Physical Prospecting Data	Dr. K. Ebisawa (JNES, JPN)
16:15	Panel Discussion on Application of Deep Borehole Research and Measuring Study	
	Chairpersons: Dr. T. Katayama (NIED, JPN), Dr P. Somerville(URS Corporation, USA)	
	Panelists: Prof. P. Bernard (IPGP, FR), Prof. P. Gulkan (METU, TUK), Dr. Y. Kuwahara (GSJ, JPN), Prof. K. Kudo (ERI-Tokyo, JPN), Dr. J. Steidl (UCSB, USA), Dr. Y. Kitada (JNES, JPN)	
18:15	<i>End of the 2nd day</i>	

Wednesday, Nov 17

SESSION 3: Engineering Consideration

Chairpersons: Dr. P. Varpasuo (Fortum Nuclear Services Ltd., FIN),
Dr K. Ebisawa (JNES, JPN)

09:00	III-1: Recent Advances to Obtain Real-time Displacement for Engineering Applications	Dr. M. Celebi (USGS, USA)
09:15	III-2: Input Ground Motion Characterization for Spatially Variable Soil and its Influence on Soil Structure Interaction Assessment	Dr. N. Simos (BNL, USA)
09:30	III-4: Damage Characterization of Seismic Input: Research on Significant Parameters.	Mr. P. Sollogoub (CEA, FR)
09:45	III-5: Comparison of Natural and Artificial Time Histories for Seismic Non-Linear analyses of Structures	Mr. E. Viallet (EDF, FR)
10:00	III-6: Failure Behavior of Piping System with Local Degradation under Excessive Seismic Load	Dr. I. Nakamura (NIED, JPN)

10:15	III-7: Comparison between the Numerical and Experimental Dynamic Response of a Bridge Pier Model Structure at the Volvi-Greece European Test Site	Mr. G. Manos (AUT, Greece) (Dr. V. Renda (Ec-JRC))
10:30	<i>Coffee break</i>	
11:00	III-8: On the Ultimate Strength of RC Shear Wall under Multi-Axes Seismic Loading Condition	Dr. Y. Kitada (JNES, JPN)
11:15	III-9: Experimental Study on Pile-Group Effects using Blast-Induced Ground Motion	Dr. K. Hijikata (TEPCO, JPN)
11:30	III-10: Decision support systems for the definition of the seismic input on structures	Dr. P. Furtner (VCE, AUT)
11:45	III-11: Input Selection for E-Defense	Dr. K. Abe (NIED, JPN)
12:00	II-4: What We learned and We plan with Deep Borehole Studies for Fault Zone Properties ?	Dr. H. Ito (GSJ, JPN)
12:15	<i>Lunch break</i>	

SESSION 4: Seismic Safety Consideration
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Chairperson: Dr A. Murphy (USNRC, USA)

13:00	IV-1: Defense-in-Depth in Seismic Safety Design	Dr. T. Konno (NSC, JPN)
13:15	IV-2: Overview of the Activities in the Field of Seismic Safety Analysis, Tests and Researches at JNES	Dr. M. Sakagami (JNES, JPN)
13:30	IV-3: Estimation of Seismic Hazard on a Prospective NPP Site in Southern Finland	Dr. P. Varpasuo (Fortum Nuclear Services Ltd, Finland)
13:45	IV-4: Simulation Analysis of Earthquake Response of the Onagawa Nuclear Power Plant to the 2003 Miyagi-Oki Earthquake	Mr. Y. Ogata (Tohoku EPC, JPN)
14:00	IV-5: Recognition and Overcome of Uncertainty in Seismic Hazard Evaluation	Dr. K. Ebisawa (JNES, JPN)
14:15	Discussion on sessions 3 and 4	
	Moderators: Dr. D. Boore (USGS, USA), Dr. K. Ebisawa (JNES, JPN), Dr. V. Renda (EC), Dr. Y. Kitada (JNES, JPN).	
14:45	Keynote speech 5: Asperity Study, Recent Research Development and Future Direction	Prof. K. Irikura (Kyoto University, JPN):
15:30	Closing Remarks	Prof. Y. Kinugasa (TIT, JPN)
16:00	Closure of the workshop	

Thursday, Nov 18 Trip from Tokyo to Shin-Kobe (3 hours by Shinkansen train)

Friday, Nov 19 Optional Technical Tour to E-Defense and Nojima Fault close to Kobe

Optional Technical Tour

Friday, November 19

09:00 Meet the Lobby of Shin-Kobe Oriental Hotel

09:30 Leave to E-Defense

10:15 Arrive at E-Defense

**11:30 Leave to Nojima Fault
(Lunch in the bus)**

13:30 Arrive at Nojima Fault Park

14:00 Mini-Symposium of the Lessons learnt form Hanshin-Awaji Earthquake
chairman: Prof. Y. Kinugasa (TITech, JPN)
Presenters: Dr. H. Ito (GSJ, JPN)
Prof. T. Nakata (Hiroshima University, JPN)
Dr. Y. Murosaki (NRIFD, JPN)

16:00 Leave to Hotel

17:30 Arrive at Shin-Kobe Oriental Hotel