

Sixth International Information Exchange Forum

**SAFETY ANALYSIS FOR NUCLEAR POWER PLANTS OF VVER AND RBMK TYPES**  
8 - 12 April 2002; Kyiv, Ukraine

Sponsored by: US-Department of Energy  
In cooperation with: IAEA, NEA, SIP, NUK, ANL, PNNL, INEEL

Morning Program

Date Time	Monday 8 April 2002	Tuesday 9 April 2002	Wednesday 10 April 2002	Thursday 11 April 2002	Friday 12 April 2002
9:00-9:30	Registration: 8:00 - 9:30 am	DSA Session	PSA Session	PSA Session	DSA Session
		P.8 In-Depth Safety Assessment Results for Operating RBMK NPPs <i>Oleg Makhniouk, GAN</i>	P.18 In-Depth Safety Assessment of Khmelnitsky NPP #1, based on Non-Lead Plant, <i>K. Scherbinin, Kh-NPP</i>	P.28 Defining Success Criteria and Acc. Sequence Analysis Tasks for VVER-440 PSA <i>G. Samokhin, SEC-NRS</i>	P.39 Assessment of Stress / Strain State of VVER-1000 Concrete Containment <i>V. Medvedev, IBRAE</i>
9:30-10:00	Opening Ceremony: <i>Viktor Skopenko, NUK, PA</i> <i>David Huizinga, DOE</i> <i>Alexandr Zenyuk, MFE</i> <i>Jozef Misak, IAEA</i>	P.9 The FSAR of the Paks NPP and its Safety Analysis Chapter, <i>Sandor Szirmai, HAEA</i>	P.19 Insights on the "Non-Lead" Khmelnitsky NPP Approach, <i>Sergey Vetchynkin, KIEP</i>	P.29 Peer Review of PSA Projects for Ukrainian NPPs, <i>Lenard Saguidulin, ET&amp;D</i>	P.40 Pipe Whip Transient Analysis of the Ignalina NPP, <i>G. Dundulis, presented by E. Uspuras, LEI</i>
10:00-10:30	Signing of the INSC Agreement: <i>Vitaly Hayduk, MFE</i> <i>David Huizenga, DOE</i>	P.10 Transient Analyses Related to VVER-400 and VVER-1000 NPPs at Univ. of Pisa, <i>F. D'Auria, UoP</i>	P.20 Overview of Internal Events PSA of Unit-1 of Khmelnitsky NPP <i>Ihor Sergeev, Kh-NPP</i>	P.30 Development of Regulatory PSA Documents and PSA Review, <i>Tatiana Berg, SEC-NRS</i>	P.41 RBMK-1500 Acc. Management for Loss of Long-Term Cooling, <i>E. Uspuras, LEI</i>
10:30 – 11:00 Coffee / Tea Break					
11:00-11:30	Forum Overview and Logistics : <i>Ihor Kadenko, NUK</i> <i>Jan van Erp, ANL</i>	THA Session	PSA Session	PSA Session	THA Session
		P.11 Z-NPP #5 DBA Analysis, using RELAP, BIPR, PERMAK, <i>S. Romanyuk, Z-NPP</i>	P.21 Main Results of Peer Review of PSA of SU-NPP <i>Sergiy Krasnukha, SU-NPP</i>	P.31 In-Depth Reliability Analysis of Kursk NPP #1 ECCS before Upgrading, <i>B.I. Vinnikov, KI</i>	P.42 Analyses of VVERs Using the MELCOR Code, <i>V. Nosatov, IBRAE</i>
11:30-12:00	P.1 Recent Developments in INSP Safety Analysis Programs <i>Walter Pasedag, DOE</i> <i>Mark Petri, ANL</i>	P.12 Acc. Anal. to Evaluate the Need and Effectiveness of VVER-440 Prot System Mods <i>T.E. Kouznetsova, GP</i>	P.22 Management of the Risk of SU-NPP based on PSA Level-1 Results <i>A. Prokhodtsev, SU-NPP</i>	P.32 Study of Gas Gap Evolution for Ignalina NPP, <i>Juozas Augutis, LEI</i>	P.43 Sensitivity of VVER-1000 LB-LOCA Analysis to Initial / Boundary Conditions <i>Nikolay Fil, GP</i>
12:00 – 12:15 Short Break					
12:15-12:45	P.2 Description of the Regulatory Program in Ukraine <i>Vadim Hryshchenko, NRS AU</i>	P.13 Modeling of Overpressure Protection System Using APRoS-5.11 <i>Gyozo Fejerdy, Paks NPP</i>	P.23 Zaporizhzhensk NPP #5 PSA Level-1: Results and Review Comments <i>A. Zhavrid, Z-NPP</i>	P.33 & P34 Use of Expert Methods for for Eval'n of Acc. Consequences <i>Natalia Istomina, Tatiana Tchoulkova, SEC-NRS</i>	P.44 RIA Calculation for VVER-440 with Radyga Code, <i>Yu. Kavun, AEP</i>
12:45-1:15	P.3 Urgent Problems of Scientific Support to Nuclear and Radiation Safety Regulation - View of 2002 <i>Boris Gordon, SEC-NRS</i>	D.2 Panel	D.4 Panel	D.6 Panel	D.7 Panel
		<i>Jozef Misak, Chair</i> <i>Gyozo Fejerdy</i> <i>T.E. Kouznetsova</i> <i>Oleg Makhniouk</i> <i>S. Romanyuk</i> <i>Sandor Szirmai</i>	<i>Marty Stutzke, Chair</i> <i>Andrey Prokhodtsev</i> <i>Sergiy Krasnukha</i> <i>Sergey Kukhar</i> <i>K. Scherbinin</i> <i>Ihor Sergeev</i> <i>A. Zhavrid</i>	<i>S. Krasnukha, Chair</i> <i>J. Augustis</i> <i>Tatiana Berg</i> <i>Natalia Istomina</i> <i>Tatiana Tchoulkova</i> <i>Lenard Saguidulin</i> <i>G. Samokhin</i> <i>Tatiana Tchoulkova</i> <i>B.I. Vinnikov</i>	<i>Oleg Kocharyants, Chair</i> <i>Nikolay Fil</i> <i>Yu. Kavun</i> <i>V. Medvedev</i> <i>Valeri Strizhlov</i> <i>E. Uspuras</i>

Legend: P = Presentation; D = Panel Discussion;  
DSA = Deterministic Safety Analysis; PSA = Probabilistic Safety Assessment; THA = Thermal-Hydraulic Analysis

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Afternoon Program

Date Time	Monday 8 April 2002	Tuesday 9 April 2002	Wednesday 10 April 2002	Thursday 11 April 2002	Friday 12 April 2002
	<b>Programmatic Session</b>	<b>THA Session</b>	<b>PSA Session</b>	<b>THA Session</b>	<b>THA Session</b>
2:15-2:45	P.4 IAEA Activities in the Area of WWER Reactor Nuclear Safety, <i>Jozef Misak</i> , IAEA	P.14 Acc. Analysis and Associated Training Program for Kursk NPP #1 (Phase 1) <i>Michael Modro</i> , INEEL	P.24 Evaluation of Equipment Replacements at Z-NPP #5 Using SAPHIRE Code <i>Sergey Stashevky</i> , Z-NPP	P.35 THA of NPP Primary and Secondary Circuits with BAGIRA Code, <i>V.E Kroshilin</i> , VNIIAES	P.45 VVER-1000 Core and Containment Behaviour for LB-LOCA with Blackout <i>M. Maltsev</i> , AEP
2:45-3:15	P.5 Overview of US INSC Programs and Objectives <i>Jeffrey Binder</i> , ANL	P.15 Acc. Analysis and Associated Training Program for Kursk NPP #1 (Phase 2) <i>Maciej Jankowski</i> , IAEA	P.25 INEEL Probabilistic Risk Monitor Software for SAPHIRE, <i>Michael Modro</i> , INEEL	P.36 Deterministic Analysis Support for the L-NPP #2 In-Depth Safety Assessment, <i>Bruce Schmitt</i> , PNNL	P.46 Effect of Passive Safety Systems on Beyond Design Basis Acc'ts for V-392 Plants, <i>N.V. Boukine</i> , GP
	<b>Programmatic Session</b>	<b>THA Session</b>	<b>PSA Session</b>	<b>THA Session</b>	<b>DSA Session</b>
3:15-3:45	P.6 Possible Future Directions for Joint Research at INSCs <i>A. Kraev</i> , <i>S. Bugaenko</i> , RINSC	P.16 Analysis of Feed and Bleed Regime for Modified PORVs on Z-NPP #5,6, <i>M. Perepelitsa</i> , EIS	P.26 Peer Review of a Risk Monitor based on the SAPHIRE Code, <i>Bronislav Vinnikov</i> , KI	P.37 General Approach to EOIs; Analyt'l Justific'n for Z-NPP #5, <i>Alexander Bolibok</i> , EIS	P.47 Maximum Press. and Temp. in VVER-440/213 for Secondary Pipe Breaks <i>S. Sholomitsky</i> , Energorisk
3:45 – 4:15 Coffee / Tea Break					
	<b>P.7 Rosenergoatom Safety Assessment Program for NPP Power Units</b> <i>Alexander Kolotov</i> , REA	<b>P.17 Bubble Condensor Experimental Qualification Project</b> , <i>Eva Toth</i> , Paks NPP	<b>P.27 Introduction to the PSA of Temelin NPP</b> , <i>M. Jakes</i> , Czech Nucl. Safety Authority	<b>P.38 Analysis of EOIs for Bohunice V-1 NPP</b> , <i>Peter Matejovic</i> , IVS	<b>D.8 Panel</b> <i>E. Uspuras</i> , Chair <i>N.V. Boukine</i> <i>M. Maltsev</i> <i>V. Peresadko</i> <i>S. Sholomitsky</i>
	<b>D.1 Panel Discussion</b>	<b>D.3 Panel</b>	<b>D.5 Panel</b>	<b>D.7 Panel</b>	
4:45-5:45	<b>Programmatic Aspects</b> <i>Walter Pasedag</i> , Chair <i>Jeffrey Binder</i> <i>Sergey Bugaenko</i> <i>Boris Gordon</i> <i>Alexander Kraev</i> <i>Alexander Kolotov</i> <i>Jozef Misak</i> , <i>Mark Petri</i> ,	<i>Jeff Binder</i> , Chair <i>Maciej Jankowski</i> <i>Michael Modro</i> <i>Mark Perepelitsa</i> <i>Eva Toth</i>	<i>Lenard Saguidulin</i> , Chair <i>M. Jakes</i> <i>Michael Modro</i> <i>Sergey Stashevky</i> <i>Bronislav Vinnikov</i>  Upgrading of Leningrad NPP Based on PSA Results, <i>Sergey Kukhar</i> , L-NPP	<i>Mark Petri</i> , Chair <i>Alexander Bolibok</i> <i>V.E Kroshilin</i> <i>Peter Matejovic</i> <i>Bruce Schmitt</i>  General Approach to Structural Analysis of NPPs, <i>Sergey Boutorin</i> , VNIPIET	<b>Forum Evaluation and Closing</b>  <i>Mark Petri</i> , Chair <i>Paul Bayless</i> <i>Ihor Kadenko</i> <i>Jan van Erp</i>

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Program of the International RELAP5 Users Group (IRUG)

Date Time	Wednesday 10 April 2002	Thursday 11 April 2002
9:00-9:45	R.1 Analysis with RELAP5 Computer Code of Experiments for Investigation of Void Fraction Distribution in RBMK Fuel Channel Model, <i>N.A. Brus, O.E. Ioussouпов</i> (EREC)	R.10 RELAP5/MOD3.2 Analysis of Trip of One MCP at Kozloduy NPP Unit-6, <i>Malinka Pavlova, Pavlin Groudev</i> (INRNE) and <i>V. Hadjiev</i> (Kozloduy NPP)
9:45-10:30	R.2 RBMK SP-2 Validation Results (KS PH Rupture Simulation), <i>Bruce Schmitt</i> (PNNL)	R.11 Application of RELAP5 for Analysis of Primary Side Feed-and-Bleed Operation at Armenian NPP Unit 2 <i>Amirjanyan et al.</i> (ANRA)
10:30 – 11:00 Coffee /Tea Break		
11:00-11:45	R.3 RELAP5/MOD3.2 Analyses of KS-1 Facility Experiments on Heat Transfer Processes in the Full-Length and Partially Uncovered Model, <i>Viktor Vinogradov, A.Yu. Balykin</i> (KI)	R.12 Use of Main Loop Isolating Valves Investigation in Case of SGTR for VVER-440/230, <i>Pavlin P. Groudev, Rosita V. Gencheva</i> (INRNE)
11:45-12:30	R.4 RELAP5/MOD3.2 Assessment Using INSC SP-V7, <i>Paul D. Bayless</i> (INEEL), <i>Mikhail V. Davydov</i> (EREC)	R.13 Small-Break-LOCA Analysis of Mochovce NPP VVER-440/213 with Operator Action, <i>Tomas Kliment, Boris Kvizda</i> (VUJE) and <i>Tibor Zold</i> (Mochovce NPP)
12:30-1:15	R.5 Experience in Modeling the Zaporizhzhya NPP Using RELAP5, <i>Vyacheslav V. Sverdlov, Alexey V. Sverdlov</i> (EIS)	R.14 The Analysis of the WVER-440 Primary Circuit Protection against Cold Overpressure with RELAP5/MOD3.2 Code, <i>Dmitro Shevvelov, Yuriy Sapozhnikov</i> (KIEP)
1:15 – 2:15 Lunch		
2:15-3:00	R.6 The Possibility of 3D-effects Prediction with 1D Thermohydraulic Codes and its Significance in the Frame of PWR Type Reactors Deterministic Safety Analysis, <i>Dmitro Shevvelov</i> (KIEP)	R.15 The Second Standard Problem of VVER Reflooding: Basic Results, <i>A.D. Efanov, V.N. Vinogradov, Victor V. Sergeev, O.A. Sudnitsyn</i> (IPPE)
3:00-3:45	R.7 Recent RELAP5 Development Activities, <i>Bayless</i> (INEEL)	R.16 Analysis of the Natural Circulation Standard Problem for Kozloduy NPP #6, <i>V. Borissenko, Ihor Kadenko</i> (NUK)
3:45 – 4:15 Coffee / Tea Break		
4:15-5:00	R.8 Development of Coupled Thermohydraulics-Neutron Kinetics Models with RELAP5-3D Code for VVER Reactors, <i>A. Shkarupa, N. Trofimova, I. Kadenko, A. Kharitonov, R. Yermolenko, T. Galatyuk</i> (NUK)	R.17 Deterministic Safety Analyses of the Armenian NPP #2, <i>V.G.Petrosoyan, Natalya Hovakimova</i> (Armatom)
5:00-5:45	R.9 RELAP5-3D Code Applications for RBMK-1500 Reactor Core Analysis <i>Evaldas Bubelis, Algirdas Kaliatka, Eugenijus Uspuras</i> (LEI)	Open Discussion Session <i>Paul Bayless, Chair</i>