

**OECD/ Nuclear Energy Agency
Working Party on Scientific Issues of Reactor Systems (WPRS)**

**OECD Benchmark for Uncertainty Analysis in Best-Estimate Modelling (UAM) for
Design, Operation and Safety Analysis of LWRs - Third Workshop (UAM-3)**

Hosted by
The Pennsylvania State University (PSU), USA
April 29-May 1, 2009

PROPOSED PROGRAMME [U301]

Day 1: April 29, 2009 – Regency B Room at the Atherton Hotel

Opening Session – Chair K. Ivanov

08:30 - 08:50 Introduction and opening remarks and list of participants [U302]
– Prof. K. Thole, Head of Mechanical and Nuclear Department, PSU [U303]
- Prof. J. Aragoes, Nuclear Science Committee of OECD/NEA [U304]

08:50 – 09:00 Overview and status of benchmark activities – K. Ivanov [U305]

09:00 – 09:10 Report from the last WPRS meeting, 26-27 February 2009
– Dr. E. Sartori [U306]

Technical Sessions on Phase I

Session I – Chair T. Downar

09:10 – 09:40 Status of Sensitivity and Uncertainty Analysis Tools Available / Developed at the NEA
Data Bank - I. Kodeli, E. Sartori [U307]

09:40 – 10:10 The new SCALE covariance library
- M. Williams [U308]

10:10- 10:35 Activities in CSN's Core Engineering Branch in relation to uncertainty analysis
- R. Mendizábal: [U309]

10:35 – 10:45 Coffee Break

Session II – Chair A. Pautz

10:45 – 11:10 Updated definition for Exercise 1 of Phase I (I-1) - Cell Physics
- K. Ivanov, M. Avramova [U310]

11:10 – 11:30 Updated test problems for Exercise I-1
- K. Ivanov, M. Avramova [U311]

11:30 – 12:00 Updated requested output for Exercise I-1
- S. Kamerow [U312]

12:00 – 13:00 Lunch – Regency A Room at the Atherton Hotel

Session III – Chair M. Williams

13:30 – 14:00 Comparison of submitted results on Exercises I-1
-S. Kamerow [U313]

14:00 – 14:25 Monte Carlo solutions of selected test problems for Exercise I-1
– Federico Puente Espel [U314]

14:25 – 14:50 Application of global sensitivity analysis approach to Exercise I-1
– F. Puente Espel, S. Ghayeb, S. Tarantola, K. Ivanov [U315]

14:50 – 15:15 Results on Exercise I-1 by an ERRORJ/SUSD3D with JENDL-3.3 covariance data
– T. Sakai [U316]

15:15- 15:40 Calculations at VTT
-.M. Pusa [U317]

15:40 – 15:55 Coffee Break

Session IV – Chair G. Verdu

15:55 – 16:25 Updated definition for Exercise 2 of Phase I (I-2) - Lattice Physics
-K. Ivanov, M. Avramova [U318]

16:25 – 16:55 Updated test problems and requested output for Exercise I-2
- K. Ivanov, M. Avramova [U319]

16:55 – 17:20 Monte Carlo solutions of selected test problems for Exercise I-2
- S. Ghayeb, F. Puente Espel [U320]

19:00 – Banquet – Regency A Room at the Atherton Hotel

Day 2: April 30, 2009 – Regency B Room at the Atherton Hotel

Session V – Chair H. Gougar

08:30 – 09:00 Updated definition for Exercise 3 of Phase I (I-3) - Core Physics
- K. Ivanov, M. Avramova [U321]

09:00 – 09:30 Updated test problems and requested output for Exercise I-3
– K. Ivanov, M. Avramova [U321]

09:30 – 09:55 Investigations on the influence of nuclear covariance data on the uncertainties in LWR core calculations
- W. Zwermann, B. Krzykacz, A. Pautz [U322]

09:55 – 10:20 GRNSPG/UNIPI activities for UAM Phase I Benchmark
- C. Parisi, M. Ball, F. D’Auria [U323]

10:20-10:45 Update on a proposed benchmark for Stochastic and Deterministic Analyses of Nuclear Data Sensitivities and Uncertainties - SNEAK-7A & 7B case
- I. Kodeli, A. Bidaud, V. Mastrangelo, presented by E. Sartori:[U324]

10:45 – 11:00 Coffee Break

Technical Sessions on Phase II

Session VI – Chair M. Zimmermann

11:00 – 11:30 Uncertainty Analysis Framework for Multi-scale Analysis Codes
– Hany Abdel-Khalik [U325]

11:30 – 12:15 GRNSPG/UNIPI proposal for Phase II of the UAM benchmark
– A. Del Nevo, C. Parisi, A. Petruzzi, F. D’Auria [U326]

12:15 – 13:00 – Lunch – Regency A Room at the Atherton Hotel

Session VII – Chair S. Kliem

13:30 – 14:00 Definition for Exercise 1 of Phase II (II-1) - Fuel thermal properties relevant for transient performance
– K. Ivanov, M. Avramova [U327]

14:00 – 14:30 Test problems and requested output for Exercise II-1
– K. Ivanov, M. Avramova [U328]

14:30 – 15:00 Definition for Exercise 2 of Phase II (II-2) - Neutron kinetics stand-alone performance
– K. Ivanov, M. Avramova [U329]

15:00 – 15:30 Test problems and requested output for Exercise II-2
– K. Ivanov, M. Avramova [U330]

15:30 – 15:45 Coffee Break

Session VIII – Chair C. Parisi

15:45 – 16:10 Contribution using NUPEC BFBT database
– M. Martin, F. Gaudier, D. Caruge [U331]

16:10-16:35 Preliminary Analysis of the Sensitivity of the BWR Core Performance to the Uncertainty in the Void Fraction
-T. Downar [U332]

16:35-17:00 Definition for Exercise 3 of Phase II (II-3) - Thermal-hydraulic fuel bundle performance
– M. Avramova, K. Ivanov [U333]

17:00–17:25 Test problems and requested output for Exercise II-3
– M. Avramova, K. Ivanov. [U334]

Day 3: May 1, 2009 – Regency B Room at the Atherton Hotel

Technical Sessions on Phase III

Session IX – Chair D. Caruge

09:00 – 09:30 Uncertainty analyses of coupled thermal hydraulic/neutron kinetic code calculations for transients at NPPs with VVER reactors.

- S. Kliem, S. Langenbuch, F.-P. Weiss [U335]

09:30 – 10:00 Uncertainty Analysis in Pebble Bed High Temperature Reactors
- H. Gougar, F. Reitsma, G. Strydom [U335]

10:00 – 10:15 Coffe break

Session X – Chair M. Avramova

10:15 – 11:00 Discussion on the priorities for Phase III
– K. Ivanov [U336]

11:00 – 11:30 Discussion on output parameters and format for Phase III
– K. Ivanov [U337]

11:30 – 11:50 Action items and schedule of benchmark activities - next workshop (UAM-3) and plans
- E. Sartori

11:50 -12:00 Conclusions and closing remarks – K. Ivanov

12:00 – 13:00 Lunch – Regency A Room at the Atherton Hotel