

**LAWRENCE LIVERMORE NATIONAL LABORATORY**  
**7000 EAST AVENUE, L-198, LIVERMORE, CALIFORNIA, 94550**  
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**LLNL**  
**FOREIGN TRIP REPORT**  
**LLNL-MI-704079**

**DATE:** September 28, 2016

**SUBJECT:** Report of Foreign Travel to Paris, France

**TO:** Dr. Jerry N. McKamy, USDOE Nuclear Criticality Safety Program Manager, National Nuclear Security Administration, NA-511

**FROM:** David P. Heinrichs, Nuclear Criticality Safety Division Leader, Lawrence Livermore National Laboratory

**MEETING TITLE:**

International Criticality Safety Benchmark Evaluation Project (ICSBEP) Technical Review Group (TRG) Meeting

**MEETING LOCATION:**

Organization for Economic Cooperation and Development (OECD), Nuclear Energy Agency (NEA), 46, Quai Alphonse Le Gallo, 92100 Boulogne-Billancourt, Paris, France

**MEETING DATES:**

April 18-22, 2016

**ATTENDEES ON BEHALF OF NCSP:**

David Ames, Teresa Cutler, Jeff Favorite, Gary Harms, Jesson Hutchinson, David Heinrichs, Soon Kim, Thomas Miller, Sean Walston

**ATTENDEES UNDER OTHER AUSPICES:**

John Bess, Jean-Baptiste Claval, Mark DeHart, Isabel Duhamel, Stephan Evo, Satoshi Gunji, Ian Hill, Evgeny Ivanov, Tatiana Ivanova, Nicholas Leclair, Gil Soo Lee, Rich Lell, Eric Letang, Margaret

Marshall, Dennis Mennerdahl, Wilfred Monange, Garteth Newman, Evgeny Rozhinkin, Lori Scott, Luka Snoj, Adimir dos Santos, Nigel Tancock, Anatoly Tsiboulia, Mike Zerkle

### **MEETING BENEFITS TO NCSP:**

Four new and one significantly revised NCSP evaluations were prepared and reviewed by the attendees on behalf of NCSP and submitted to the ICSBEP Technical Review Group (TRG) for review for publication in the International Handbook of Evaluated Criticality Safety Benchmark Experiments. Publication in the Handbook completes NCSP CED-4b milestones as defined in the NCSP Critical & Subcritical Experiment Design Team (C<sub>EDT</sub>) Process Manual and specified in the NCSP Five-Year Execution Plan tasks for LANL, LLNL, ORNL and SNL for FY-2016.

### **MEETING PURPOSE:**

The USDOE Office of Defense Programs founded the Criticality Safety Evaluation Project (CSBEP) in 1992 to document and preserve criticality safety benchmark experiments. In 1994, the CSBEP welcomed international participants from France, Hungary, Japan, Russia and the United Kingdom; and in 1995, the DOE allowed the CSBEP to become an official activity of the OECD NEA to further enhance international participation and changed the name to the ICSBEP. As described in the USDOE NCSP Mission and Vision and Five-Year Execution Plan, the ICSBEP remains an important element of information preservation and dissemination.

During this, the 2016 annual meeting, four NCSP evaluations were submitted to the Technical Review Group for pre-publication review and approval:

- FUND-NCERC-PU-HE3-MULT-002, Tungsten-Reflected Plutonium Metal Sphere Subcritical Measurements
- LEU-COMP-THERM-097, Titanium and/or Aluminum Rod-Replacement Experiments in Fully-Reflected Water-Moderated Square-Pitched U(6.90)O<sub>2</sub> Fuel Rod Lattices with 0.67 Fuel-to-Water Volume Ratio (0.800 cm Pitch)
- ALARM-TRAN-PB-SHIELD-001, Neutron Activation Foil and Thermoluminescent Dosimeter Responses to a Lead Reflected Pulse of the CEA Valduc SILENE Critical Assembly
- ALARM-TRAN-CH2-SHIELD-001, Neutron Activation Foil and Thermoluminescent Dosimeter Responses to a Polyethylene Reflected Pulse of the CEA Valduc SILENE Critical Assembly

One additional NCSP evaluation was submitted to the Technical Review Group for review and approval of significant revisions:

- PU-MET-FAST-004, Rev. 4, Bare Sphere of Plutonium-239 Metal (4.5 at.% <sup>240</sup>Pu, 1.02 wt.% Ga)

As members of the Technical Review Group, the NCSP attendees also participated in review of two additional new evaluations:

- LEU-SOL-THERM-012, TRACY: 3\$ Super Critical State of Unreflected 10% Enriched Uranyl Nitrate Solution in a 50 cm Diameter Annular Tank

- HEU-MET-FAST-096, Static Critical Experiments for the Sorgente Rapida Reactor Mockup

All seven of these evaluations were approved for publication subject to satisfactory completion of the review comments. An additional new evaluation, LEU-COMP-THERM-098, Moderator-Controlled Experiments with UO<sub>2</sub>-5.74 wt.% U-235 Fuel Rods, was provided to the Technical Review Group but returned to the evaluator as incomplete and not ready for publication.

As listed in the attached Final Agenda, minor revisions to several previously approved ICSBEP evaluations were also discussed, as was one IRSN evaluation with significant revision to the uncertainty analysis and sample calculations.

The meeting concluded with:

- A status report by Ian Hill (NEA) on the Database for ICSBEP (DICE)
- A general discussion led by Evgeny Ivanov (IRSN) on guidance for establishing experimental correlation matrices
- A general discussion on evaluations planned for publication in 2017
- An announcement that OECD NEA has received an invitation from the Dr. Jerry McKamy, DOE NCSP Manager, to host the 2017 ICSBEP/IRPhEP meetings in Washington, DC, in October or November near the time of the Winter ANS Meeting

#### **OTHER DISCUSSIONS:**

While visiting OECD NEA Headquarters, the NCSP participants from LLNL also met with NEA staff to discuss several topics including:

- Size limitations on current (two) DVD media and alternative media and DOE security concerns
- OECD milestones and publication schedule constraints
- Protocol for LLNL distribution of the OECD version of the Handbook to NCSP participants and collaborators
- Protocol for mirroring OECD webpage contents on the NCSP website managed by LLNL
- Recent additions to the NEA Data Bank
- Times and places of upcoming WPEC subgroup meetings
- Possible US participation in the NEA NDEC project and benchmark inter-comparisons

and participated in the International Reactor Physics Experiment Evaluation Project (IRPhEP) Technical Review Group (TRG) Meeting as reviewers.

#### **DATE AND LOCATION OF THE NEXT ICSBEP MEETING:**

On September 16, 2016, Tatiana Ivanova, Head of the OECD NEA Nuclear Science Division, accepted Dr. McKamy's invitation to host the next ICSBEP/IRPhEP meeting. This meeting will be convened the week of October 23-27, 2017, which is the week prior to the ANS Winter Meeting, as requested by OECD NEA. Unfortunately, the University of California Washington Center is unavailable that week and another venue will be selected.

#### **NCSP MILESTONE COMPLETIONS SUBSEQUENT TO THE MEETING:**

- Jeff Favorite issued the final version of PU-MET-FAST-004, Rev. 4, on August 5, 2016 thereby updating and completing this legacy evaluation
- Jesson Hutchinson issued the final version of FUND-NCERC-PU-HE3-MULT-002 on August 16, 2016 thereby completing IER-160 CED-4b
- Thomas Miller issued the final versions of ALARM-TRAN-PB-SHIELD-001 and ALARM-TRAN-CH2-SHIELD-001 on August 31, 2016 thereby completing IER-126 CED-4b
- Gary Harms issued the final version of LEU-COMP-THERM-097 on September 28, 2016 thereby completing IER-285 CED-4b

#### **ATTACHMENTS:**

- Final Agenda, International Criticality Safety Benchmark Evaluation Project Technical Review Meeting (2 pages)
- Summary of the 2016 International Criticality Safety Benchmark Evaluation Project Meeting, 18-19 April 2016 (1 page)
- Final Agenda, International Reactor Physics Experiment Evaluation Project Technical Review Meeting (3 pages)
- Summary of the 2016 International Reactor Physics Experiments Evaluation Project Meeting, 20-22 April 2016 (1 page)

#### **DISTRIBUTION:**

Approved by Lawrence Livermore National Laboratory for unlimited distribution.

# INTERNATIONAL CRITICALITY SAFETY BENCHMARK EVALUATION PROJECT TECHNICAL REVIEW MEETING

## FINAL AGENDA

18 – 19 APRIL 2016

46, quai Alphonse Le Gallo, 92100 Boulogne-Billancourt, Paris France  
Room BB12

Upon arrival please report to the Reception Desk on the ground floor with a photo ID.  
A badge will be issued that will allow you to enter the premises at all times during the meeting.  
Local information about hotels and transport, as well as an area map, can be found on the Web page:  
<http://www.oecd-nea.org/general/practical/>

Monday, 18 April 2015

09:30 – 10:00

**SESSION 1:**

**WELCOME AND INTRODUCTION**

Welcome and Introduction

Jim Gulliford  
John Bess

Administrative Items: Sign-In, List of Experiment for Next Year

Lori Scott

10:00 – 10:30

**SESSION 2:**

**DISCUSSION OF PREVIOUSLY APPROVED  
EVALUATIONS AND MINOR REVISIONS**

HEU-MET-FAST-083

Complex Geometry Bare Orallo (93.15 <sup>235</sup>U) Metal Annuli Experiments ([Missed 2015 Publication Deadline](#))

John Bess

PU-MET-INTER-002

ZPR-6 Assembly 10: A Cylindrical Plutonium/Carbon/Stainless Steel Assembly with Stainless Steel and Iron Reflectors ([Revision to Section 2 to be Reviewed in IRPhEP](#))

Rich Lell

ZPR-FUND-EXP-009

FUND-NCERC-PU-HE3-MULT-001

Nickel-Reflected Plutonium-Metal-Sphere Subcritical Measurements ([Update Uncertainty Analysis for M<sub>L</sub>](#))

Jesson Hutchinson

HEU-MET-FAST-028

Uranium-235 Sphere Reflected by Normal Uranium using Flattop ([Possible Incorrect Sample Calculation for ENDF/B-V](#))

John Bess

LEU-COMP-THERM-061

VVER Physics Experiments: Hexagonal (1.27-cm Pitch) Lattices of U(4.4 wt.% <sup>235</sup>U)<sub>2</sub>O<sub>2</sub> Fuel Rods in Light Water, Perturbed by Boron, Hafnium, or Dysprosium Absorber Rods, or by Water Gap with/without Empty Aluminum Tubes ([Hf Rod Diameter Incorrect in Benchmark Model Figure](#))

John Bess

PFacility-VVER-EXP-001

IEU-SOL-THERM-001

Graphite-Reflected Uranyl Sulphate (20.9% <sup>235</sup>U) Solutions ([Possible 3 vol.% Error in Solution that Resolves Current Known Computational Bias](#))

John Bess

10:30 – 10:45

**BREAK**

10:45 – 12:30

**SESSION 3:**

**DISCUSSION OF EVALUATIONS THAT HAVE BEEN  
SIGNIFICANTLY REVISED**

PU-MET-FAST-001

Bare Sphere of Plutonium-239 Metal (4.5 at.% <sup>240</sup>Pu, 1.02 wt.% Ga) ([Improved Evaluation Based on Additional Data](#))

Jeff Favorite

LEU-COMP-THERM-071

Low-Moderated 4.738 wt.%-Enriched Uranium Dioxide Fuel Arrays ([Revision to Uncertainty Analyses and Sample Calculations](#))

Nicolas Leclaire

12:30 – 13:30

**LUNCH**

13:30 – 15:30

**SESSION 4:**

**APPROVAL OF NEW EVALUATIONS**

FUND-NCERC-PU-HE3-MULT-002

Tungsten-Reflected Plutonium-Metal-Sphere Subcritical Measurements

Jesson Hutchinson

15:30 – 15:45

**BREAK**

15:45 – 18:00

**SESSION 5:**

**APPROVAL OF NEW EVALUATIONS (Continued)**

LEU-COMP-THERM-097

Titanium and/or Aluminum Rod-Replacement Experiments in Fully-Reflected Water-Moderated Square-Pitched U(6.90)<sub>2</sub>O<sub>2</sub> Fuel Rod Lattices with 0.67 Fuel to Water Volume Ratio (0.800 cm Pitch)

Gary Harms

LEU-SOL-THERM-012

TRACY: 3\$ Super Critical State of Unreflected 10% Enriched Uranyl Nitrate Solution in a 50 cm Diameter Annular Tank

Satoshi Gunji

# INTERNATIONAL CRITICALITY SAFETY BENCHMARK EVALUATION PROJECT TECHNICAL REVIEW MEETING

**Tuesday, 19 April 2016**

09:00 – 10:30	<b>SESSION 6:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	LEU-COMP-THERM-098	Moderator-Controlled Critical Experiments with UO <sub>2</sub> - 5.74 wt.% U-235 Fuel Rods	Brittney Saenz
10:30 – 10:45	<b>BREAK</b>		
10:45 – 12:30	<b>SESSION 7:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	HEU-MET-FAST-096	Static Critical Experiments for the Sorgente Rapida (SORA) Reactor Mockup	Liu Xiaobo
12:30 – 13:30	<b>LUNCH</b>		
13:30 – 15:30	<b>SESSION 8:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	ALARM-TRAN-PB-SHIELD-001	Pulse 2 / Pb: Neutron Activation Foil and Thermoluminescent Dosimeter Responses to a Lead Reflected Pulse of the CEA Valduc SILENE Critical Assembly	Thomas Miller
	ALARM-TRAN-CH2-SHIELD-001	Pulse 3 / CH <sub>2</sub> : Neutron Activation Foil and Thermoluminescent Dosimeter Responses to a Polyethylene Reflected Pulse of the CEA Valduc SILENE Critical Assembly	Thomas Miller
15:30 – 15:45	<b>BREAK</b>		
15:45 – 18:00	<b>SESSION 9:</b>	<b>DISCUSSION</b>	
		<b>STATUS:</b> ICSBEP Database (DICE)	Ian Hill
		<b>STATUS:</b> Guidance for Correlation Matrices	Evgeny Ivanov
		Evaluations Planned for 2017 Publication	All
		Next ICSBEP/IRPhEP Technical Review Meetings	Jim Gulliford
		Adjourn	John Bess

# SUMMARY OF THE 2016 INTERNATIONAL CRITICALITY SAFETY BENCHMARK EVALUATION PROJECT MEETING

**18-19 April, 2016  
Paris, France**

The annual International Criticality Safety Benchmark Evaluation Project (ICSBEP) Meeting was held in Paris, April 18-19, 2016. Representatives from 10 of the 20 participating countries attended, including the United States (BAPL, INL, ANL, LANL, LLNL, ORNL), Brazil (IPEN), Czech Republic (MISCR), Japan (JAEA), Russian Federation (IPPE), France (IRSN, MISFR), Korea (KINS), United Kingdom (AWE), Slovenia (JSI), and Sweden (EMS). A total of 38 individuals participated in the meeting, including Jim Gulliford, Ian Hill and Tatiana Ivanova of the OECD NEA.

The following individuals participated in the meeting:

D. Ames	SNL	N. Leclaire	IRNS
J. Bess	INL	G. Lee	KINS
J. Clavel	IRSN	R. Lell	ANL
T. Cutler	LANL	E. Letang	IRSN
M. DeHart	INL	M. Marshall	INL
I. Duhamel	IRSN	D. Mennerdahl	EMS
M. Duluc	IRSN	T. Miller	ORNL
S. Evo	IRSN	G. Newman	
J. Favorite	LANL	B. Richard	MISFR
J. Gulliford	OECD/NEA	Y. Rozhikhin	IPPE
S. Gunji	JAEA	A. Santos	IPEN
G. Harms	SNL	L. Scott	OECD/NEA/INL Subcontractor
D. Harutyunyan	MISCR	L. Snoj	J. Stefan Inst.
D. Heinrichs	LLNL	Z. Strancar	J. Stefan Inst.
I. Hill	OECD/NEA	N. Tancock	AWE
J. Hutchinson	LANL	A. Tsiboulia	IPPE
E. Ivanov	IRSN	S. Waltson	LLNL
T. Ivanova	OECD/NEA	U. Wehmann	OECD/NEA Subcontractor
S. Kim	LLNL	M. Zerkle	BAPL

Six new evaluations and seven revisions of previously published ICSBEP evaluations were reviewed and discussed. Two evaluations were deferred until the next publication and the remainder new evaluations were approved for publication, subject to satisfactory resolution of all assigned actions. If all of the approved evaluations are completed in time for publication of the 2016 Edition of the *International Handbook of Evaluated Criticality Safety Benchmark Experiments*, the Handbook will contain approximately 4913 critical or subcritical configurations, 45 criticality-alarm/shielding configurations, and 215 configurations categorized as fundamental-physics measurements that are relevant to criticality-safety applications.

# INTERNATIONAL REACTOR PHYSICS EXPERIMENT EVALUATION PROJECT TECHNICAL REVIEW MEETING

## FINAL AGENDA

20 – 22 APRIL 2016

46, quai Alphonse Le Gallo, 92100 Boulogne-Billancourt, Paris France

Room BB12

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Wednesday, 20 April 2015

09:30 – 10:00	<b>SESSION 1:</b>	<b>WELCOME AND INTRODUCTION</b>	
		Welcome and Introduction	Jim Gulliford John Bess
		Administrative Items: Sign-In, List of Experiment for Next Year	Lori Scott
10:00 – 10:30	<b>SESSION 2:</b>	<b>DISCUSSION OF ADOPTED ICSBEP EVALUATIONS AND MINOR REVISIONS</b>	
	IPEN(MB01)-LWR-RESR-018 (LEU-COMP-THERM-067) CRIT	Critical Loading Configurations of the IPEN/MB-01 Reactor Composed of Fuel and Molybdenum Rods	John Bess
	PFacility-VVER-EXP-001 (LEU-COMP-THERM-061) <b>CRIT-REAC</b>	VVER Physics Experiments: Hexagonal (1.27-cm Pitch) Lattices of U(4.4 wt.% <sup>235</sup> U) <sub>2</sub> Fuel Rods in Light Water, Perturbed by Boron, Hafnium, or Dysprosium Absorber Rods, or by Water Gap with/without Empty Aluminum Tubes ( <a href="#">Hf Rod Diameter Incorrect in Benchmark Model Figure</a> )	John Bess
10:30 – 10:45	<b>BREAK</b>		
10:45 – 12:30	<b>SESSION 3:</b>	<b>APPROVAL OF NEW EVALUATIONS</b>	
	VENUS-PWR-EXP-006 (DRAFT) <b>CRIT-BUCK-SPEC-REAC-POWDIS</b>	Experimental Study of the VENUS Configuration No. 17	Kevin Hesketh
12:30 – 13:30	<b>LUNCH</b>		
13:30 – 15:30	<b>SESSION 4:</b>	<b>DISCUSSION OF EVALUATIONS THAT HAVE BEEN REVISED TO INCLUDE ADDITIONAL DATA</b>	
	MINERVE-FUND-RESR-001 (DRAFT) <b>CRIT-REAC</b>	Reactivity Worth Measurement of Major Fission Products in MINERVE LWR-Lattice Experiment	Alain Santamarina
	DUKE-PWR-POWER-001 (DRAFT) <b>-REAC-</b>	PWR Fuel Assembly Depletion Reactivity Determination Using PWR Fission Rate Measurements	Kord Smith
15:30 – 15:45	<b>BREAK</b>		
15:45 – 18:00	<b>SESSION 5:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	DIMPLE-LWR-EXP-003 <b>CRIT-REAC</b>	Light Water Moderated and Reflected Low Enriched Uranium (3 wt.% <sup>235</sup> U or 7 wt.% <sup>235</sup> U) Dioxide Rod Lattices. DIMPLE CERES Phase II	Dave Hanlon Jim Gulliford
	IPEN(MB01)-LWR-RESR-017 <b>CRIT-COEF</b>	The Inversion Point of the Isothermal Reactivity Coefficient of the IPEN/MB-01 Reactor	Adimir dos Santos



# INTERNATIONAL REACTOR PHYSICS EXPERIMENT EVALUATION PROJECT TECHNICAL REVIEW MEETING

Thursday, 21 April 2016			
09:00 – 10:30	<b>SESSION 6:</b>	<b>DISCUSSION OF EVALUATIONS THAT HAVE BEEN REVISED TO INCLUDE ADDITIONAL DATA (Continued)</b>	
	LR(0)-VVER-RESR-002	VVER-1000 Mock-Up Physics Experiments Hexagonal Lattices (1.275 cm Pitch) of Low Enriched U(2.0, 3.0, 3.3 wt.% <sup>235</sup> U) <sub>2</sub> Fuel Assemblies in Light Water with H <sub>3</sub> BO <sub>3</sub>	Ján Milčák
	CRIT-RRATE-POWDIS		
10:30 – 10:45	<b>BREAK</b>		
10:45 – 11:30	<b>SESSION 7:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	LR(0)-VVER-RESR-003	VVER-1000 Physics Experiments Hexagonal Lattices (1.275 cm Pitch) of Low Enriched U(3.3 wt.% U <sup>235</sup> ) <sub>2</sub> Fuel Assemblies in Light Water with Graphite and Fluoride Salt Insertions in Central Assembly	Michal Košťál Vojtěch Rypar
	CRIT-SPEC		
11:30 – 12:30	<b>SESSION 8:</b>	<b>DISCUSSION OF EVALUATIONS THAT HAVE BEEN REVISED TO INCLUDE ADDITIONAL DATA (Continued)</b>	
	SCCA-SPACE-EXP-003 (HEU-COMP-FAST-004)	Critical Configuration and Physics Measurements for Beryllium Reflected Assemblies of U(93.15)O <sub>2</sub> Fuel Rods (1.506-cm Pitch and 7-Tube Clusters)	Margaret Marshall
	CRIT-SPEC-REAC-RRATE		
12:30 – 13:30	<b>LUNCH</b>		
13:30 – 15:30	<b>SESSION 9:</b>	<b>DISCUSSION OF EVALUATIONS THAT HAVE BEEN REVISED TO INCLUDE ADDITIONAL DATA (Continued)</b>	
	ZPR-FUND-EXP-009 (PU-MET-INTER-002)	ZPR-6 Assembly 10: A Cylindrical Plutonium/Carbon/Stainless Steel Assembly with Stainless Steel and Iron Reflectors <a href="#">(Revision to Section 2)</a>	Rich Lell
	CRIT		
	ZPPR-LMFR-EXP-011 (MIX-COMP-FAST-006)	ZPPR-2: A Cylindrical Assembly with Mixed (Pu,U)-Oxide Fuel and Sodium Reflected by DU, Sodium, and Steel	Rich Lell
	CRIT-REAC-RRATE		
15:30 – 15:45	<b>BREAK</b>		
15:45 – 18:00	<b>SESSION 10:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	PROTEUS-GCFR-RESR-001	GCFR-PROTEUS Experimental Program Core 11: Nominal Core Configuration	Gareth Newman
	SPEC		

# INTERNATIONAL REACTOR PHYSICS EXPERIMENT EVALUATION PROJECT TECHNICAL REVIEW MEETING

Friday, 22 April 2016

09:00 – 10:30	<b>SESSION 11:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	RB-FUND-EXP-008	RB Reactor: Internal Neutron Converters (INC), Cores RB59/1983, RB60/1984 and RB61/1984	Milan Pešić
	<b>CRIT</b>		
10:30 – 10:45	<b>BREAK</b>		
10:45 – 12:30	<b>SESSION 12:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	TRIGA-FUND-RESR-002	Reaction Rate Distribution Experiments in the TRIGA Mark II Research Reactor	Ziga Stancar Luka Snoj Loic Barbot
	<b>RRATE</b>		
	KRITZ-LWR-RESR-004	KRITZ-1 Experiments on Regular H <sub>2</sub> O/U(1.35)O <sub>2</sub> Marviken Fuel Rod Lattices at Temperatures Up to 250 °C	Dennis Mennerdahl
	<b>CRIT-BUCK-COEF</b>		
12:30 – 13:30	<b>LUNCH</b>		
13:30 – 15:30	<b>SESSION 13:</b>	<b>APPROVAL OF NEW EVALUATIONS (Continued)</b>	
	AGN-FUND-RESR-001	Evaluation of the AGN-201 Reactor at Idaho State University	Mackenzie Gorham
	<b>CRIT-REAC-RRATE</b>		
15:30 – 15:45	<b>BREAK</b>		
15:45 – 18:00	<b>SESSION 14:</b>	<b>DISCUSSION</b>	
		<b>STATUS:</b> Reaction-Rate Distribution Measurements for HTR- PROTEUS Cores 5, 7, 9 and 10	Oliver Köberl
		<b>STATUS:</b> Belarus Contribution to the Benchmark Projects	Tatiana Ivanova
		<b>STATUS:</b> ASPIS-Fe Shielding Benchmark	Ivo Kodeli
		<b>STATUS:</b> IRPhEP Database (IDAT)	Ian Hill
		Evaluations Planned for 2017 Publication	All
		Next ICSBEP/IRPhEP Technical Review Meetings	Jim Gulliford
		Adjourn	John Bess

# SUMMARY OF THE 2016 INTERNATIONAL REACTOR PHYSICS EXPERIMENTS EVALUATION PROJECT MEETING

**20-22 April, 2016  
Paris, France**

The annual International Reactor Physics Experiments Evaluation Project (IRPhEP) Meeting was held in Paris, April 20-22, 2016. Representatives from 10 of the 20 participating countries attended, including the United States (BAPL, INL, ANL, LANL, LLNL, ORNL), Brazil (IPEN), Czech Republic (MISCR), Japan (JAEA), Russian Federation (IPPE), France (IRSN, MISFR), Korea (KINS), United Kingdom (AWE), Slovenia (JSI), and Sweden (EMS). A total of 41 individuals participated in the meeting, including Jim Gulliford, Ian Hill and Tatiana Ivanova of the OECD NEA.

The following individuals participated in the meeting:

H. Akkurf	EPRI	G. Lee	KINS
D. Ames	SNL	R. Lell	ANL
L. Barbot	CEA	E. Losa	MISCR
J. Bess	INL	M. Marshall	INL
T. Cutler	LANL	D. Mennerdahl	EMS
M. DeHart	INL	G. Newman	UFL
S. Evo	IRSN	S. Okajima	JAEA
J. Favorite	LANL	G. Perret	PSI
M. Fukushima	JAEA	M. Pesic	VINCA
J. Gulliford	OECD/NEA	Y. Rozhikhin	IPPE
S. Gunji	JAEA	A. Santamarina	CEA
G. Harms	SNL	A. Santos	IPEN
D. Harutyunyan	MISCR	L. Scott	OECD/NEA/INL Subcontractor
D. Heinrichs	LLNL	K. Smith	MIT
K. Hesketh	NNL	L. Snoj	J. Stefan Inst.
I. Hill	OECD/NEA	N. Tancock	AWE
J. Hutchinson	LANL	A. Tsiboulia	IPPE
E. Ivanov	IRSN	S. Waltson	LLNL
T. Ivanova	OECD/NEA	U. Wehmann	OECD/NEA Subcontractor
S. Kim	LLNL	M. Zerkle	BAPL
I. Kodeli	J. Stefan Inst.		

Seven new evaluations, one new draft evaluation, two previous draft evaluations and four revisions of previously published IRPhEP evaluations were reviewed and discussed. Four evaluations were deferred until the next publication and the remainder new (and draft) evaluations were approved for publication, subject to satisfactory resolution of all assigned actions. If all of the approved evaluations are completed in time for publication of the 2016 Edition of the *International Handbook of Evaluated Reactor Physics Benchmark Experiments*, the Handbook will contain approximately 151 different experimental series performed at 50 different nuclear facilities.