



**NUCLEAR CRITICALITY SAFETY PROGRAM (NCSP)
TECHNICAL PROGRAM REVIEW**

February 21-23, 2023

Hosted by: Sandia National Laboratories
The Clyde Hotel, Enchantment Ballroom - ABCD
Albuquerque, New Mexico

AGENDA

No.	Time (Mountain)	NCSP SITE	TOPIC/PRESENTATION TITLE	PRESENTER	DURATION (Min.)
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Tuesday, February 21, 2023

1	8:00	NCSP	Welcome from NCSP	Angela Chambers	0:05
2	8:10	SNL	Welcome from Sandia National Laboratory Management	Dr. David Epp, Senior Manager, Nuclear Facilities and Applied Technologies	0:20
3	8:30	NCSP	The Purpose of the DOE/NNSA Nuclear Criticality Safety Program Technical Program Review	Doug Bowen	0:10
4	8:40	NCSP	Presentation on CSSG	David Hayes	0:15

NCSP MANAGER INVITED SITE REPORTS

5	8:55	LANL		Joetta Goda	0:15
6	9:10	LLNL		Catherine Percher	0:15
7	9:25	MSTS	Site Program Manager Discussions on the Following Topics: 1. FY22 Budget and Spending, 2. Provide 8 highlights for FY22 including MIHL items, 3. Highlights for the technical talks to be given at this TPR	Sylvia Wright-Reeder	0:00
8	9:25	ORNL		Doug Bowen	0:15
9	9:40	PNNL		Travis Zipperer	0:10
10	9:50	RPI		Yaron Danon	0:15

Break (Refreshments)

11	10:20	SNL		Gary Harms	0:15
12	10:35	SRS	Site Program Manager Discussions (Continued)	David Erickson Scott Finfrock	0:15
13	10:50	Y-12		Kevin Reynolds	0:10
14	11:00	BNL		Gustavo Nobre	0:15

INTERNATIONAL COLLABORATIONS

15	11:15	AWE	AWE (UK) Collaborations Progress and Look Ahead	Matthew Harker	0:15
16	11:30	JRC/GEEL	Nuclear Data Activities at JRC Geel	Peter Schillebeeckx	0:00
17	11:30	CEA	Update of CEA DES Criticality-Safety Activities and Perspectives	Alexis Jinaphanh	0:15
18	11:45	IRSN	IRSN Work in Support to NCSP: FY2022	Sophie Pignet	0:15

Lunch

FY22 ANALYTICAL METHODS (AM) TECHNICAL PRESENTATIONS

19	13:00	LANL	FY22 MCNP® Updates for the Nuclear Criticality Safety Program	Mike Rising	0:15
20	13:15	LANL	Critical Benchmarks Modeled with MCNP® Unstructured Mesh	Jen Alwin	0:15
21	13:30	LANL	Overview of NJOY work for NCSP FY22	Wim Haeck	0:15
22	13:45	RPI	Fast on-the-fly Monte Carlo sampling of temperature dependent thermal scattering	Wei Ji	0:15



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	14:00		Break (Refreshments)		0:15

23	14:15	IRSN	International Criticality Benchmark Comparison for Nuclear Data Validation - Summary of the Work 2019 - 2022	Aurelie Bardelay	0:15
24	14:30	ORNL	SCALE Activities in FY22	William Wieselquist	0:15
25	14:45	ORNL	AMPX Developments in FY2022	Jordan McDonnell	0:15
26	15:00	ORNL	Expansion of ORNL VALID Library, Determination of Appropriate Integral Parameters for Critical Experiment Selection	B.J. Marshall	0:15
27	15:15	ORNL	Assessing the Impact of Sensitivity/Uncertainty-Based Selection Criteria on Computational Bias Prediction	Lisa Reed Veronica Karriem	0:15
28	15:30	PNNL ORNL	Applicability of the Sum-of-Fractions for Moderated Systems	Travis Zipperer Travis Greene	0:20

FY22 INFORMATION PRESERVATION AND DISSEMINATION (IPD) TECHNICAL PRESENTATIONS

29	15:50	ORNL	Nuclear Criticality Safety Repository, Radiation Safety Information Computational Center (RSICC), & NDA Program Discussion	Doug Bowen Tim Valentine	0:20
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16:10 **END OF TUESDAY TPR PRESENTATIONS**

Dinner at the Sawmill Market - 5:45 - 7:45 - 1909 Bellamah Ave NW

Wednesday, February 22, 2023

FY22 INTEGRAL EXPERIMENTS (IE) TECHNICAL PRESENTATIONS

30	8:00	LANL	IER 517: MOBY DICK CED-1 Overview	Cole Kostelac	0:15
31	8:15	LANL	IER 557: Godiva Reproducibility	Joetta Goda	0:15
32	8:30	LANL	IER 488: MUSIC: Critical Configurations Benchmark Update	Rene Sanchez	0:20
		LANL	IER 488: MUSIC: Reactivity Estimates Using Pulsed Neutron Source Methods	Kris Ogren	
33	8:50	LANL	EUCLID Experiment Design and Execution	Jesson Hutchinson	0:15
34	9:05	LANL	IER 579: Pile Oscillator	Cole Kostelac	0:15
35	9:20	LANL	Godiva IV Radiation Signature Ringing	Rob Weldon	0:15
36	9:35	ORNL	FY22 ORNL Integral Experiment Work	Mathieu Dupont	0:15
37	9:50	ORNL	Godiva IV CAAS Shielding Benchmark: Pre CED-3A Overview	Riley Cumberland	0:20
38		LANL	Design of the IER 498 Room Return Shield	Garrett McMath	

10:10 **Break (Refreshments)**

39	10:25	LANL	Updates on IER-153 Prompt Fission Uranium Neutron Spectrum (PFUNS) and IER-518 Joint LLNL, LANL, IRSN, High-Multiplication Measurements	Nick Whitman	0:15
40	10:40	LANL	IER 423: High-Fidelity Measurements and Update for Flattop-HEU Benchmark Reevaluation	Kristin Stolte	0:15
41	10:55	LANL	IER 121: Updates on the NeSO benchmark	Nick Thompson	0:15
42	11:10	SNL ORNL	IER 441: Experiments to Measure the Effect of Tantalum on Critical Systems	David Ames Mathieu Dupont	0:20
43	11:30	SNL	IER 305: Molybdenum Sleeve Experiments in the Sandia Critical Experiments Facility	Gary Harms	0:15
44	11:45	SNL	IER 523: The Design of a UO ₂ -BeO Critical Experiment at Sandia	Mac Cook	0:15

12:00 **Lunch**

45	13:00	LLNL	IER 501: Pulsed Neutron Die Away Experiments at LLNL	Daniel Siefman	0:15
46	13:15	LLNL	IER 479: Final Design of Low Temperature TEX Experiments	Eric Aboud	0:15
47	13:30	LLNL	IER 297: HMM-021, TEX-HEU Baselines Benchmark IER 532: TEX-Hf Update	Jesse Norris	0:20
48	13:50	LLNL	IER 538: International Dosimetry Intercomparison Exercise with Godiva-IV	Aaron Tamashiro	0:15
49	14:05	LLNL	IER 500: AWE-LLNL Measurement Campaign at DAF	Will Zywiec	0:15
50	14:20	LLNL	IER 518: High Multiplication Subcritical Benchmark Experiments at SNL	Jesse Norris	0:15



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	14:35		Break (Refreshments)		0:15
51	14:50	LLNL	IER 520 and IER 553: Final Design for Follow-on Plutonium TEX Configurations	Eric Aboud	0:15
52	15:05	IRSN	TEX-MOX Design Updates	Jeremy Bez	0:15
FY22 TRAINING AND EDUCATION (TE) TECHNICAL PRESENTATIONS					
53	15:20	ORNL	ORNL NCSP Training and Education Support for FY 2022	Doug Bowen	0:15
54	15:35	ORNL	Oak Ridge Subcritical Assembly Final Design and Current Progress	Alex Lang	0:15
FY22 NUCLEAR DATA (ND) TECHNICAL PRESENTATIONS					
55	15:50	ORNL	ORNL FY22 NCSP Time-of-Flight Measurements	Jesse Brown	0:15
56	16:05	ORNL	FY22 NCSP Accomplishments for U and Pu Evaluations	Marco Pigni	0:15
57	16:20	ORNL	Bayesian Evaluation Framework for Imperfect Differential and Integral Data or Models	Goran Arbanas	0:15
	16:35		END OF WEDNESDAY TPR PRESENTATIONS		
Thursday, February 23, 2023					
58	8:00	ORNL	Applying Methodology for Evaluating and Validating TSLs to Materials of Interest to NCSP	Chris Chapman	0:15
59	8:15	ORNL	Status of ORNL TSL Evaluations	Kemal Ramic	0:15
60	8:30	ORNL	Recent Developments in the R-Matrix Code SAMMY	Dorothea Wiarda	0:15
61	8:45	ORNL	ORNL R-matrix Analyses for Non-Fissile Materials within NCSP	Marco Pigni	0:15
62	9:00	NCSU	Progress of Thermal Neutron Scattering Research at NCSU	Ayman Hawari	0:15
63	9:15	RPI	Neutron Capture and Transmission Measurements and Evaluation of ⁵⁴ Fe at the RPI LINAC	Sukhjinder Singh	0:15
64	9:30	RPI	Enabling URR Self Shielding Functionality in SAMMY	Alec Golas	0:15
65	9:45	RPI	Fast Neutron Evaluations for Advanced Lead Systems	Peter Brain	0:15
	10:00		Break (Refreshments)		0:15
66	10:15	RPI	New Cross Section Measurements and Evaluation of Zr Isotopes	Greg Siemers	0:15
67	10:30	BNL	Pathway to ENDF/B-VIII.1	Gustavo Nobre	0:15
68	10:45	BNL	Status of the ADVANCE CI/CD	David Brown	0:15
69	11:00	LANL	Evaluations for 235,238U and 239Pu fission-source term observables	Denise Neudecker Amy Lovell	0:20
70	11:20	LANL	Internally consistent 181Ta evaluation	Mike Herman	0:15
71	11:35	LANL	Measurement of the neutron-induced capture-to-fission cross section ratio in U-233 at LANSCE	Esther Leal Cidoncha	0:15
72	11:50	LANL	⁹⁵ Mo neutron capture and transmission final results	Paul Koehler	0:15
	12:05		Lunch		1:00
73	13:05	LANL	Status of the measurement of the 240Pu(n,f) prompt fission neutron spectrum on LANSCE	Matt Devlin	0:15
74	13:20	LANL	Light element evaluations for neutrons on ⁶ Li, ⁹ Be, and ¹⁶ O	Mark Paris	0:15
75	13:35	LLNL	Scoping Study of a Proposed fission TPC Measurement of 233U(n,f)/235U(n,f) Cross Section Ratio	Lucas Snyder	0:15
FY22 INVITED TALKS & TECHNICAL PRESENTATIONS					



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76	13:50	DOE-EM	NCSP Support for DOE Environmental Management through DOE-EM NCS Needs Program	Alex Lang Bob Wilson	0:15
77	14:05	Y12	Fabricate upgraded HEU fuel for White Sands Missile Range Fast Burst Reactor	Frank Sage	0:15
78	14:20	LANL	Deimos Critical Experiment Next Generation Small Nuclear Reactors	Theresa Cutler	0:15
79	14:35	LANL	Lessons Learned in Experiment Design and Execution	Travis Grove	0:15
80	14:50	LANL	Processes, Engineering, and Inter-Organizational Coordination to Enable LANL NCERC Operations	Eloura Phelps	0:15
	15:05	-	Final Remarks	Angela Chambers	0:05
	15:10	END OF THURSDAY TPR PRESENTATIONS			

	15:10	Break (Refreshments)			0:15
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Nuclear Data Advisory Meeting - Mike Zerkle Lead

	15:25	NDAG Meeting			1:40
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	17:05	END OF TPR & NDAG Meetings			
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SIDE-BAR MEETINGS

Wednesday 7:30-8:00 am	AMWG	ORNL and LANL folks discuss when to have an AMWG meeting (Enchantment Ballroom EF)	LANL, ORNL, & Other Interested Parties	0:20
Thursday 7:30-8:00 am	IER 537	IER 537 - Consider splitting 537 between baseline and BeO experiments (Enchantment Ballroom EF)	NCSP MGT team T. Cutler, K. Amundson, D. Hayes, J. Goda	0:30
Wednesday 7:30-8:30 am	IER 296	IER 296 TEX-MOX - Collaboration continuation - hybrid In Person (Enchantment Ballroom EF) and Teams	Joetta Goda Sophie Pignet NCSP MGT Team (Optional)	1:00