

# memorandum

Idaho Operations Office

Date: March 22, 2007

Subject: Criticality Safety Support Group Response to Tasking 2007-01

To: J. N. McKamy, Manager NCSP  
DOE-HQ, NA-171/GTN

The Criticality Safety Support Group (CSSG) has completed its review and prioritization of the proposed tasks for FY08 as requested in CSSG Tasking 2007-01, "CSSG Review and Prioritization of Proposed NCSP Tasks for FY08." This memo formalized the response sent previously by email (J. Morman to J. McKamy, "Transmittal of CSSG Task Ranking," March 16, 2007). The attached table summarizes the results of the CSSG response.

The top twelve items in the ranked list represent the results of discussions held during a CSSG conference call on March 8, 2007. The CSSG considers these tasks to be the top priority proposals that should be considered for funding in FY08 after the "fixed" tasks have been funded. Task rankings from 12 to 43 are loosely based on the results of individual member rankings, which were presented in the Excel file transmitted on March 16. All CSSG members were given the opportunity to comment on the entire list and no changes were recommended by the members.



Adolf Garcia  
Chairman, Criticality Safety Support Group

Attachment  
CC  
cssg

<b>Task No.</b>	<b>Task Identifier Laboratory Lead</b>	<b>Task Title (To be Prioritized)</b>	<b>CSSG Rank</b>
14	ND-6 LANL	Complete Low-Fidelity Covariance Data	1
35	Methods-4(11) ORNL	Low-Fidelity Covariance Data Testing	2
11	ND-4(1) BNL	Develop resonance model for EMPIRE (Mughabghab knowledge preservation)	3
32	Methods-4(8) ORNL	Enhancement, Testing, and Verification of TSURFER S/U Module and Development of User Guidance and Training	4
21	Integral Experiments-5 LANL	Develop Hand-Stack Training Demonstration	5
26	ND-8(4) ORNL	Investigate First Principles Approach for Generating Thermal Scattering Data $S(\alpha, \beta)$ for Criticality Safety Applications	6
10	ND-2 LLNL	Development of New Scattering Laws	6
38	Methods-4(14) ORNL	Technical Data for the Pitzer Formulation of Solution Compositions to Include Uranium/Plutonium Solutions with Selected Admixed Absorbers	7
17	IP&D-3 Fluor	ARH-600 Updating	8
24	ND-8(2) ORNL	SAMMY Nuclear Modeling	9
23	Differential Measurements-4 ORNL	Develop a plan to reconstitute ORELA Elastic Scattering Measurement Capability	10
43	ND-10 ANL, LLNL, LANL & ORNL	Benchmark Specifications for Code Verification and Nuclear Data Validation.	11
34	Methods-4(10) ORNL	Prepare Critical Experiment TSUNAMI S/U Data Files for Distribution by the ICSBEP	12
13	ND-4(3) BNL	Evaluation of neutron cross sections for Zr isotopes	13
12	ND-4(2) BNL	Evaluation of Mn-55+n in the fast neutron region	14
4	T&Q-1(2) ANL/LLNL	Conversion of two existing NCSET Modules into Multi-Media Modules	15
3	T&Q-1(1) ANL/LLNL	Multi-Media NCSET Module Development on Nuclear Instrumentation	16
20	IP&D-5 Fluor	Hanford Database	17
15	Methods-3 LANL	MCNP Enhancements	18
33	Methods-4(9) ORNL	Develop and Implement Methodology for Establishing Safe Administrative Margins of Subcriticality	19
2	ICSBEP-3 INL & LANL	Continue the IRSN Structural Material Experiments	20
9	IP&D-1 LLNL	Create a bibliography of classified criticality experiments	21
31	Methods-4(7) ORNL	Implement Sensitivity and Uncertainty (S/U) Capabilities for Multigroup and CE-KENO	22
1	ICSBEP-2 INL	Complete the Pu Solution Experiments and document them in the ICSBEP Handbook	23
30	Methods-4(6) ORNL	Develop and Benchmark ENDF/B-VII SCALE Libraries: Continuous-Energy and Multigroup with Covariance Data	24
27	Integral Experiments-6 ORNL	Subcritical Experiment Measurement and Analysis Support	25
18	IP&D-4 Fluor	Soft Spectrum Integral Burn-up Data Documentation	26

<b>Task No.</b>	<b>Task Identifier Laboratory Lead</b>	<b>Task Title (To be Prioritized)</b>	<b>CSSG Rank</b>
5	T&Q-2 LLNL	Criticality Safety Student Program	27
7	ND-1 LLNL	COG/PREPRO Support	28
28	Methods-4(4) ORNL	ORNL NCSP Technical Support	29
6	T&Q-3 LLNL	Develop Advanced Hands-On Criticality Safety Training Course	31
36	Methods-4(12) ORNL	Development of Rigorous Verification Process for SCALE/KENO	32
41	Methods-4(17) ORNL	SCALE Sequence for Parallel Execution of Multiple KENO Calculations	33
29	Methods-4(5) ORNL	Validate Continuous Energy KENO (CE-KENO) Software for Release with SCALE	34
19	ND-7 Fluor	A Graded System for Cross Section Uncertainty Assignment	35
16	OPS-SPT-1 Fluor/LLNL	Computer Controlled Nuclear Criticality Safety	36
39	Methods-4(15) ORNL	Automated Fission Source Testing & Convergence Algorithms	37
37	Methods-4(13) ORNL	Develop Integrated GUI and Visualization for Criticality Validation	38
42	Methods-4(18) ORNL	Quality-Assured Access to NCSP Software Tools	39
40	Methods-4(16) ORNL	Guidance on Stochastic CAAS Analyses	40
22	Differential Measurements-3 ORNL	ORELA Refurbishment	41
25	ND-8(3) ORNL	Maintain Scientific/Technical Capability by Transitioning Knowledge/Expertise of SAMMY Model Specialist	42
44	IPNS Cross Section Measurements	To be considered only if ORELA cannot perform measurements as scheduled	43