

The DOE Criticality Safety Support Group – Looking Back on 15 Years

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Presented March 18, 2015
NCSP Technical Program Review
Livermore, CA





OUTLINE

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HISTORY

- Criticality safety lapses after the cold war ended (DNFSB 93-2, 97-2)
- Chartered in 1997 by DOE to support maintaining competency and solving technical issues (18 years of service)
- Ten charter members with a broad range of experimental, theoretical and practical knowledge (most authoritative body on NCS within DOE)
- Focused on balanced risk and wise use of resources

HISTORY (cont)

- Charter Members of the CSSG in 1997

Name	Organization	Name	Organization
Adolf Garcia, Chair	DOE-NE	Jim Morman, Dep Chair	ANL
Mike Westfall	ORNL	Robert Wilson	DOE-EM
Tom McLaughlin	LANL	Tom Reilly	SRS
Calvin Hopper	ORNL	Rick Anderson	LANL
Jerry McKamy	DOE HQ	Hans Toffer	Hanford



Accomplishments (Competency)

- Increasing Competency in NCS
 - Continuation of Critical Experiments
 - Development of NCERC (machines, NCSEs)
 - DOE 2-week Hands On Training
 - DOE Standard 1173 (Fed Crit Qualification)
 - DOE Standard 1135 (Criticality Safety Engineer T&Q)



Accomplishments (Consistency)

- Increasing consistency of NCS Regulation and Practice
 - Authored development of Nuclear Criticality Safety Evaluations via DOE-STD-3007;
 - Seismic design guidance and criticality safety for new facility design;
 - Facility Hazard Categorization and criticality safety in DOE-STD-1027;
 - Fire protection and criticality safety;
 - CSSG review and comment on DOE Order 420.1B/C; DOE-STD-1189; DOE-STD-3009; NCS Good Practices Guide.



Accomplishments (Technical)

- Providing Technical Support to NCS Programs
 - Pre-closure criticality safety of the Yucca Mountain Site as part of their license application;
 - WTP and Hanford Tank Farms plutonium solids issues;
 - Preliminary criticality safety approach for the UPF facility, including reviews of the interaction of criticality and seismic;
 - LANL criticality safety program assessments and direct technical support ; and
 - Y-12 Immediate Evacuation Zone (IEZ) methodology



Accomplishments (Programmatic)

- Providing programmatic support to the NCSP
 - NCSP Mission/Vision
 - NCSP 5/10 Year Plans
 - Yearly NCSP task prioritization based on perceived needs and balanced approach
 - Special projects and assignments

Interfaces

- Nuclear Criticality Safety Program
 - Integral part with all elements
- DOE Criticality Safety Coordinating Team (CSCT)
 - Telecons with Site Federal NCS leads
- EFCOG SAWG Crit Safety subcommittee
 - Telecons with EFCOG crit safety group
- ANS NCSD
 - Active in Division operations
 - Active in Standards development

Impact

- Strong advocate for “doing the right thing” and not allowing political considerations to outweigh technical considerations.
- Resulted in a much stronger application of the graded approach.
- Placing criticality accident risk into perspective allows regulation of criticality safety to follow rules based primarily on consequence not politics
- Preventing a sense of complacency

Conclusions

- The CSSG came into existence during a time of concern about DOE's ability to maintain capability in criticality safety
- The CSSG has provided crucial information, guidance and direction to the NCSP and the DOE
- The CSSG has ensured the graded approach is appropriately applied to criticality safety
- The CSSG is well positioned to continue their support role into the future (access to CSSG via NCSP Manager)

Current Members of the CSSG

National Nuclear Security Administration

Name	Organization	Name	Organization
Fitz Trumble, Chair	AECOM	David Erickson, Dep Chair	SRNS
Adolf Garcia #	DOE-ID	Robert Wilson	DOE-EM
Tom McLaughlin	LANL	Jim Morman	ANL
David Hayes	LANL	Kevin Kimball	Y-12
Dave Heinrichs	LLNL	Mikey Brady-Rapp	PNL