



The Official Website of the U. S. Department of Energy's Nuclear Criticality Safety Program

Presented at the ANS Nuclear Criticality Safety Topical Meeting, 2 October 2013, Wilmington, NC

Brian Koponen, Dave Heinrichs, and Chuck Lee,
Lawrence Livermore National Laboratory
Lori Scott,
SAIC

Lawrence Livermore National Laboratory, P.O. Box 808, L-198, Livermore, CA 94551-0808

This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344

The Official U. S. DOE's NCSP Website

- This site makes a variety of information available to the criticality safety practitioner, including reference materials, training modules and links to related sites.
- The drop-down menus provide convenient access to the many useful features of the Website, including recent news and additions.
- The Website assists in the NCSP mission to provide sustainable expert leadership, direction, and the technical infrastructure necessary to develop, maintain, and disseminate the essential technical tools, training, and data to support safe, efficient fissionable material operations within the DOE.

The Home Screen is Reached at: <http://ncsp.llnl.gov>



U. S. Department of Energy Nuclear Criticality Safety Program

[NCSP Home Page](#)

[What's New](#)

[NCSP Mission and Vision](#)

[National Criticality Experiments
Research Center](#)

[Integral Experiments Request](#)

[Nuclear Data Request](#)

[Hands-on Training & Education](#)

[DOE NCSP Plan](#)

[DOE NCSP Accomplishments](#)

[DOE CS Groups](#)

[Registration](#)

[Website Archives](#)

[NCS Information](#)

[Reference Databases](#)

[CSE Database](#)

[LLNL Database](#)

[Hanford Database](#)

[ICSBEP Handbook](#)

[Computer Codes](#)

[External NCS Links](#)

[DOE Internet Web Sites](#)

[Other Internet Resources](#)

[Training](#)

[Contact US](#)

[Privacy & Legal Notice](#)

Welcome to the official web site of the U. S. Department of Energy Nuclear Criticality Safety Program. This site makes a variety of information available to the criticality safety practitioner, including reference materials, training modules and links to related sites. The drop-down menus, to the left, provide convenient access to the many useful features of this web site, including recent news and additions under "What's new". Comments or suggested additions to the site are always welcome. Please contact the webmaster using the link at the bottom of this page or contact any member of the Criticality Safety Support Group.

MISSION

The NCSP mission is to provide **sustainable expert** leadership, direction, and the technical infrastructure necessary to develop, maintain, and disseminate the essential technical tools, training, and data required to support **safe, efficient** fissionable material **operations** within the DOE.

VISION

The NCSP will be a **continually improving, adaptable,** and **transparent** program that **communicates** and **collaborates** globally to incorporate technology, practices, and programs to be **responsive** to the essential technical needs of those responsible for developing, implementing, and maintaining nuclear criticality safety.



09 1253




UCRL-MI-132027

Visitor Count

[Send us your comments, questions, and suggestions.](#)


Information & Dissemination (IP&D)

Security/Privacy
LLNL



Information Preservation & Dissemination (IP&D)

A Brief History of the CSBEP, ICSBEP and NCSP



HOME

ICSBEP Handbook

- History
- [Peruse Handbook on-line](#)
- [Download or burn a DVD image](#)
- [Request a DVD by mail](#)
- [Password request](#)

ICSBEP Database (DICE)

- [DICE User's manual](#)
- [DICE software](#)

2012 New Evaluations

2013 New Evaluations


Integral Experiments Request (IER)

DOE Nuclear Criticality Safety Program


International Reactor Physics Evaluation Project

Partners

- [OECD](#)
- [NEA](#)
- [CEA-Valduc](#)
- [IRSN](#)
- [VNIITF](#)
- [WPNCs](#)



Mr. Dae Chung
Principal Deputy
Assistant Secretary
United States
Department of Energy



Dr. Jerry McKamy
Manager
Nuclear Criticality
Safety Program
Director
Facilities Operations
Division
United States
Department of Energy

In 1992, the Criticality Safety Benchmark Evaluation Project (CSBEP) was founded under the auspices of US DOE Office of Defense Programs by Mr. Dae Chung with criticality safety experts participating from across the US DOE Complex:

- Argonne National Laboratory
- Bettis Atomic Power Laboratory
- Hanford National Laboratory
- Idaho National Laboratory
- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory
- Oak Ridge National Laboratory
- Pacific Northwest National Laboratory
- Sandia National Laboratories
- Rocky Flats Plant
- Savannah River National Laboratory
- Y-12 Plant

In 1994, the CSBEP welcomed its first international participants from France, Hungary, Japan, the Russian Federation, and the United Kingdom.

In 1995, to further enhance international participation, the DOE allowed the CSBEP to become an official activity of the Organization for Economic Cooperation and Development (OECD), Nuclear Energy Agency (NEA), Working Party on Nuclear Criticality Safety (WPNCs), and the name was changed to the International Criticality Safety Evaluation Project (ICSBEP).

In 1997, the Nuclear Criticality Safety Program (NCSP) was formally established by DOE under the auspices of the Office of Defense Programs.

Today, the ICSBEP remains an important element of the US DOE NCSP as described by Dr. Jerry McKamy in the NCSP *Mission and Vision*. Current NCSP activities including ICSBEP participation are described in the *Five-Year Execution Plan*.

4

Recent Additions

- Online access for users of the International Criticality Safety Benchmark Evaluation Project (ICSBEP) to the ICSBEP's benchmark evaluations and other resources.
- A means to submit an integral experiment request form for nuclear data validation needs. This process provides a sustainable infrastructure and a systematic, interactive process to assess, design, perform, and document integral criticality safety-related benchmark-quality experiments.
- The LLNL bibliography has increased to approximately 17,000 records. About 2,800 publicly-available full-text documents have been downloaded and are connected through links within the bibliographic database.

Digitizing Vintage Hardcopy Documents



An Easy-to-Use Bibliographic Database

*U. S. Department of Energy
Nuclear Criticality Safety Program*

LLNL Database

This search will allow you to search the contents of all the publicly available LLNL database at this site.

Match: All Format: Long Sort by: Title

Search: Criticality Safety

Limit matches to dates...

Starting: 1940 - month - day

Ending: 2013 - month - day

If you can't locate a document, please [click here](#) for further assistance.

**Nuclear Criticality Safety Experiments, Calculations,
and Analyses-A Bibliographic Database**

Abstract

The work that led to the development of this database began at the Lawrence Livermore National Laboratory in the 1970s. Two compilations were published-one incorporating references to criticality experiments (UCRL-52769) and another incorporated complete summaries of 688 criticality safety papers presented in the Transactions of the American Nuclear Society (UCRL-53369). Subsequent to these publications the DOE-sponsored Nuclear Criticality Information System (NCIS) maintained and expanded these compilations and made the databases available for interactive searching to its community of online users.

When DOE funding of NCIS ended in 1992 the online access to the databases ended. Archives of the databases were made and the hardcopy reports were transferred to the Criticality Safety Group at LLNL. In 1995 copies of the archived databases were made available to the Criticality Safety Department at Rocky Flats Environmental Technology Site (RFETS) to support an upgrade of its criticality safety library. The various components of the databases were merged and some work was done to expand the information content using critical experiment and general criticality safety reports available at RFETS. Work was done to fill in missing data and to remove duplicate citations. Some editing was done to eliminate errors in the data and provide a degree of uniformity in the data fields. A copy of the improved database was returned to the Fission Energy & Systems Safety Program at LLNL and made available on a DOE-sponsored Web site.

 Contact [Brian Koponen](#) with information about entries you would like included in the bibliography.

Self-Help Teaching Resources Available

- The NCSP Website provides valuable general help for newcomers to nuclear criticality safety, and includes:
- A list of basic key references in the field, relevant DOE orders and standards, and a list of national criticality safety consensus standards.
- Key handbook references such as the online ARH-600 data and the news on key analytical methods.
- An online-viewable set of Critical Experiment Heritage Videos that is of interest to both newcomers and experienced criticality engineers.

Hands-on Training and Education Courses

- This courses are sponsored by the DOE's NCSP and are offered tuition-free.
- The hands-on course is designed to satisfy the DOE-STD-1135-99 requirement for hands-on experimental training for Nuclear Criticality Safety Engineers.
- One class-room course is specifically designed for criticality safety professionals, while another is specifically designed for managers, fissile material operators, and process supervisors.
- The Website provides information regarding the courses and a page for course registration.

Training Sign-up Form



*U. S. Department of Energy
Nuclear Criticality Safety Program*

NCSP Home Page
[Hands-on Training & Education](#)
[Course Flyers](#)
[One Week Managerial Course](#)
[Two Week ICSEAL Course](#)
[Class Registration](#)
[Prerequisites](#)
[One-Week Manager Syllabus](#)
[ICERC Managerial Syllabus](#)
[Two-Week CSE Syllabus](#)
[ICERC ICSEAL Syllabus](#)
[LANS Syllabus](#)
[Sandia Syllabus](#)
[Naval Information](#)
[1-week Managerial Syllabus Information](#)
[2-week ICSEAL Syllabus Information](#)
[LANS Naval Logistics](#)
[Sandia Naval Logistics](#)
[TRAP Class Flyers](#)
[NCE LANS Class Flyers](#)
[Privacy & Legal Notice](#)

Applicants must provide the following information:

Last Name: [] First Name: [] Middle Initial: []

Address: []

Current job title: []

Security Clearance: []
 TS/CI/HRD L None

Radiation Training: []
 NRI Y NRI N Service ESR100 and RAC102a None

E-mail: []

Telephone: (example: 925-123-4567) []

Preferred course dates? (Please check two only) []

1-96L course is required prior to enrolling in ICERC or Sandia course

Two-week Criticality Safety Practitioner Course
 Dec 2 - Dec 6, 2013 at LANS Dec 8 - Dec 13, 2013 at ICERC Dec 9 - Dec 13, 2013 at Sandia
 Mar 31 - Apr 4, 2014 at LANS Apr 7 - Apr 11, 2014 at ICERC Apr 7 - Apr 11, 2014 at Sandia

One-week Manager's Course (criticality safety program supervisors and managers, fissile material operations managers/handlers)
 Feb 3 - Feb 7, 2014 at ICERC
 Feb 24 - Feb 28, 2014 at Sandia

Please describe your expertise/job function (check all that apply): []

I have a nuclear engineering degree
 I have a higher education degree that is NOT in nuclear engineering
 I am new to criticality safety with no formal criticality safety training
 I am a practicing Criticality Safety Professional
 I used to be a Criticality Safety Professional
 I am a manager with Criticality Safety responsibilities
 I am a fissile material operator
 I am a fissile material process supervisor
 Other (describe): []

Please state current job responsibilities as they relate to Criticality Safety and provide justification of need for this training. []

Communication Assistance

- Website users will find a form to enroll in the **Registry** and can view the list of others who have registered.
- A **Forum** to enhance communication among various key stakeholders, including an oversight group and the contractor's end-user group. A web page follows the progress of the National Criticality Experiments Research Center (NCERC).
- Separate web pages are posted for the DOE Criticality Safety Coordinating Team (i.e., federal criticality safety staff) and for the end-users group (i.e., the contractors' criticality safety professionals).

Contacts

- **DOE NCSP Website Management**
- **Lawrence Livermore National Laboratory**
- **P. O. Box 808, L-198**
- **Livermore, CA 94551**
- **Phone: (925) 422-6392**
- **Fax: (925) 423-2854**
- **Email: ncsp@llnl.gov**

Conclusion

- We have only mentioned a few highlights of the Website features.
- There are many ways that the Website can save time in locating information and assist in communication with other professionals
- It is easy to use. The homepage is the place to start...

Try it at:

<http://ncsp.llnl.gov>