



LAWRENCE
LIVERMORE
NATIONAL
LABORATORY

A Digital Criticality Safety Document Collection Available through the U.S. Department of Energy's NCSP Web Site

B. L. Koponen, D. P. Heinrichs, C. K. Lee

June 7, 2011

A Digital Criticality Safety Document Collection Available
through the U.S. Department of Energy's NCSP Web Site
Washington, DC, United States
October 30, 2011 through November 3, 2011

Disclaimer

This document was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor Lawrence Livermore National Security, LLC, nor any of their employees makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or Lawrence Livermore National Security, LLC. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or Lawrence Livermore National Security, LLC, and shall not be used for advertising or product endorsement purposes.

A Digital Criticality Safety Document Collection Available through the U.S. Department of Energy's NCSP Web Site

Brian L. Koponen, David P. Heinrichs, and Chuck K. Lee

Lawrence Livermore National Laboratory: PO Box 808, Livermore CA 94550, koponen1@llnl.gov

INTRODUCTION

A digital criticality safety document collection is under development at the Lawrence Livermore National Laboratory (LLNL). The information is available as part of the *Information Preservation and Dissemination* task, prescribed in the DOE's Nuclear Criticality Safety Program (NCSP) Five Year Plan. This collection contains documents that have been collected over many decades by the LLNL Nuclear Criticality Safety Division. We are continuing to create high-resolution "pdf" files for inclusion in the bibliographic portion of the NCSP website.

DESCRIPTION OF THE WORK

As documents are scanned they are made accessible via the LLNL database included in the NCSP website at <http://ncsp.llnl.gov>. A special emphasis is being made at this time to include conference proceedings that are not easily accessible to criticality safety practitioners. In the early years the United Nations or the IAEA sponsored conferences that included useful criticality safety information. Table I summarizes some of these.

A sample conference proceedings document is one sponsored by the International Atomic Energy Agency in Stockholm, Sweden in 1966. This document has been in the LLNL collection for many years, but was available for use primarily by staff members of the LLNL Nuclear Criticality Safety Division. It is now available online via the NCSP web database. The document contains 746 pages. Our copy is well-worn but now a clear, high-resolution, digital version is preserved and usable by an expanded community of criticality safety personnel.

The early conference proceedings shown in Table 1 comprise an important contribution to the criticality safety field but we also have a collection of many additional conference proceedings. An estimate of the total number of papers included in the collection is about 1500. Besides conference papers we have about 2500 additional documents that are maintained in file cabinets and available for digital scanning in the future.

A substantial number of records also exists at LLNL that were part of experimental work almost a half-century ago, plus internal memoranda relating to development of

reactors for space power applications. These records are in the process of being cataloged.

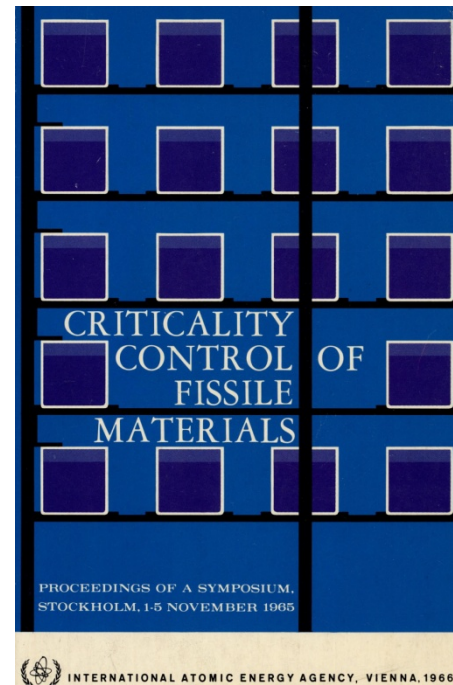


Fig. 1 Sample of an Early IAEA Conference Proceedings

Table 1. Some Conference Proceedings Sponsored by the United Nations or IAEA

First United Nations International Conference on the Peaceful Uses of Atomic Energy, Geneva, Switzerland, 8-20 August 1955
French-American Conference on Graphite Reactors, November 12 to 15, 1957
Second United Nations International Conference on the Peaceful Uses of Atomic Energy, Geneva, Switzerland, 1-13 September 1958
Criticality Control in Chemical and Metallurgical Plant, Karlsruhe Symposium, Organisation for Economic Co-Operation and Development European Nuclear Energy Agency, 1961
Panel on Light Water Lattices, Vienna, Austria, May 1962
Panel on Heavy Water Lattices, Vienna, Austria, February 1963
Symposium on Exponential and Critical Experiments Held by the International Atomic Energy Agency in Amsterdam, Netherlands, 2-6 September 1963
Third United Nations International Conference on the Peaceful Uses of Atomic Energy, Geneva, Switzerland, 31 August-9 September 1964
Symposium on Criticality Control of Fissile Materials Held by the International Atomic Energy Agency at Stockholm, 1-5 November 1965
Symposium on Fast Reactor Physics and Related Safety Problems, Karlsruhe, Germany, 1968

Prepared by LLNL under Contract DE-AC52-07NA27344