

**RERTR 2017 - 38<sup>th</sup> INTERNATIONAL MEETING ON  
REDUCED ENRICHMENT FOR RESEARCH AND TEST REACTORS**

**NOVEMBER 12-15, 2017**

**EMBASSY SUITES CHICAGO DOWNTOWN MAGNIFICENT MILE HOTEL  
CHICAGO, IL USA**

**JAEA-LANL Experiments Supporting the Remove Program**

Joetta Goda, George McKenzie IV, and Theresa Cutler  
Nuclear Engineering and Nonproliferation (NEN-2)  
Los Alamos National Laboratory  
PO Box 1663, MS B228, Los Alamos, NM 87545

**ABSTRACT**

Researchers from the Japan Atomic Energy Agency (JAEA) Fast Critical Assembly (FCA) in Tokai, Japan and the Los Alamos National Laboratory (LANL) are collaborating on a series of experiments at the National Criticality Experiments Research Center (NCERC) in support of efforts to minimize the use of weapons-usable nuclear material in civil applications. This collaboration supports the National Nuclear Security Administration's (NNSA) Office of Nuclear Material Removal by providing an alternate experimental capability that allowed JAEA to conduct planned research while expediting the removal of all highly enriched uranium and plutonium from the FCA to the United States three years ahead of schedule.

One area of mutual interest is lead cross section and void reactivity worth. This presentation will focus on two series of experiments—a HEU/lead core and a low enriched uranium (LEU)/lead core. In addition, a third experiment—a plutonium/lead core has also been performed, but data analysis is still in progress. The experiments were designed jointly with LANL researchers performing the experiments.