

IMPLEMENTATION STATUS OF CONTAIN-LMR SODIUM CHEMISTRY MODELS INTO MELCOR 2.1

D. Louie¹, L. Humphries¹, M. Denman¹

¹Sandia National Laboratories, USA

Corresponding Author: D. Louie; dllouie@sandia.gov

Track 3. Fast Reactor Safety

ABSTRACT

This paper describes the progress of the CONTAIN-LMR sodium physics and chemistry models to be implemented into MELCOR 2.1. It also describes the progress to implement these models into CONTAIN2. In the past three years, the implementation included the addition of sodium equations of state and sodium properties from two different sources. The first source is based on the previous work done by Idaho National Laboratory by modifying MELCOR to include liquid lithium equation of state as a working fluid to model the nuclear fusion safety research. The second source uses properties generated for the SIMMER code. Testing and results from this implementation of sodium properties are given. Many of CONTAIN2's physical models were developed since CONTAIN-LMR. Therefore, CONTAIN 2 is being updated with the sodium models in CONTAIN-LMR in order to facilitate verification of these models with the MELCOR code.

Session: Poster Session 1