

From: Charles Tinkler *CT*
To: Charles (Ernie) Rossi
Date: Fri, May 21, 1999 4:02 PM
Subject: Spent Fuel Pool

To support the NRR generic evaluation of spent fuel pool accidents that is being performed to support risk informed requirements. The Safety Margins and Systems Analysis Branch is performing, in-house, offsite dose consequence analysis to evaluate the impact of an accident assuming cooling is lost to the spent fuel and the fuel rods eventually heat to the point that a zircalloy "fire" (oxidation escalation) occurs which would result in severe fuel damage. Calculations are being performed using the MACCS2 code to estimate prompt fatalities, person dose and latent cancer fatalities. Sensitivity studies have been performed addressing radioactive decay (due to extended storage), population density, fuel inventory and evacuation assumptions. Input to NRR is now requested by on May 25, 1999. This work was requested in a user need letter dated March 26. We expect the analysis and writeup to be provided on schedule. Currently we are planning to provide input to the NRR tech evaluation formally by May 25 but are also planning to follow up with a more detailed description of our work (that could be transmitted at the office level).

In addition to the dose consequence analysis SMSAB has also performed, in-house, CFD calculations using the FLUENT code to better characterize the natural circulation flow rates. Additional analyses are on-going.

CC: Farouk Eltawila, Jason Schaperow

C/64