

From: Barry Mendelsohn, *NMSS*
To: Hubbard, George *NRL*
Date: 12/21/00 11:19AM
Subject: Effect of Cladding Not Being Fresh

George,

Staff in NMSS/SFPO and NMSS/FCSS are trying to better understand the likelihood of propagation of a zirc fire in shipping and dry storage canisters. In particular, we need to better understand whether or not an exothermic reaction would propagate in old fuel if a source of heat were applied to a fuel rod to raise its temperature locally to above 900 C. The ACRS Nov. 8, 2000, discussion of the TWG report on Spent Fuel Accident Risk at Decommissioning NPPs noted that the use of an ignition temperature based on fresh (nonhydrided) cladding is appropriately conservative approach for decisions on emergency preparedness requirements at decommissioning plants until additional data is available. Is there no metallurgic data or informed judgment available that could tell us whether the coating on non-fresh zirconium would prevent or retard the propagation of a zirc fire?

Barry

CC: Boyd, Christopher, Emeigh, Charles, Jensen, Walton, Johnson, Michael, Powers, Dana, Rayland, Andrew, Rubin, Mark, Staudenmeier, Joseph(...)

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