

February 8, 2001

MEMORANDUM TO: John Flack, Assistant Branch Chief
Regulatory Effectiveness and Human Factors Branch
Division of Systems Analysis and Regulatory Effectiveness
Office of Nuclear Regulatory Research

FROM: Ralph Meyer, Senior Technical Advisor **/RA/**
Safety Margins and Systems Analysis Branch
Division of Systems Analysis and Regulatory Effectiveness
Office of Nuclear Regulatory Research

SUBJECT: UPDATE ON GENERIC ISSUE 92: FUEL CRUMBLING DURING
LOCA

During the summer of 2000, RES held several meetings with experts to develop Phenomenon Identification and Ranking Tables (PIRTs) for a loss-of-coolant accident (LOCA) with high-burnup fuel (NUREG/CR to be published). During that meeting it became clear that fuel crumbling and relocation into the ballooned section of fuel during a LOCA remains an issue of interest in Europe. IPSN in France is still expressing concern about the absence of an accounting of this effect in LOCA analysis, and the Halden project in Norway is planning new in-reactor tests on this phenomenon during the next couple of years (HP-1085, October 2000).

As a result of this recent expression of interest, I briefly reviewed GI-92 and its priority ranking of low that led to its being placed on the drop list. My view is that there has been an error in this ranking. It appears that estimated temperature increases resulting from this effect were applied only to increases in fission product release and were not accounted for in determining if the core had lost its coolable geometry.

At this time, we are pursuing resolution of the issue with results from the expected Halden tests in the 2003-2004 time frame. Because we are going to resolve this issue and because the issue is so old, we have decided not to attempt to re-prioritize the issue at this time. As soon as this issue can be resolved with the experimental results that are expected from Halden, we will document the resolution of GI-92.

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