(1)

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY
1035 OUTER PARK DRIVE • SPRINGFIELD, ILLINOIS 62704
217-785-9900 • 217-782-6133 (TDD)

George H. Ryan
Governor

Thomas W. Ortciger
Director

DOCKET NUMBER
PROPOSED RULE PR 72
(67 FR 14662)

April 26, 2002

DOCKETED
USNRC

May 9, 2002 (1:40PM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Secretary of the Commission
Attn: Rulemaking and Adjudications Staff
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: HOLTEC HI-STORM Certificate of Compliance

Dear Madam Secretary:

The Illinois Department of Nuclear Safety (IDNS) made public comments on August 14, 2000, regarding a proposed rule for interim storage of Greater than Class C (GTCC) waste, when 10 CFR 72 was being revised. In the solicitation for comments, a technical question was asked concerning the co-mingling of non-spent fuel material in the same storage cask with spent nuclear fuel (SNF). The IDNS reply was:

> Should the storage of certain forms of GTCC waste and spent fuel in the same cask be prohibited? Or should storage be permitted if performance criteria can be established? If so, what criteria should be used?
>
> Reply: "If the NRC (Nuclear Regulatory Commission) is to allow the mixing of GTCC waste with spent fuel in the same casks, **firm criteria should be established beforehand for each chemical type of GTCC waste and the particular cask design.** Absent these criteria, mixing should be prohibited. The Palisades spent fuel cask experience indicates that performance criteria should be established for the different "certain forms of" GTCC waste and cask designs. **Assurance of chemical compatibility and ultimate cask structural integrity must be established."**

In Amendment 1 to the HOLTEC HI-STORM Certificate of Compliance, currently out for comment, the applicant proposes to store some of these "certain forms of" GTCC waste co-mingled with SNF. The amendment does not indicate that these certain forms are a category of GTCC waste, but we assume they are for these comments.

Template = SECY-067

SECY-02

Interim Staff Guidance Document - 17, *Interim Storage of GTCC Waste* says that there are potential adverse interactions between spent nuclear fuel and various types of GTCC wastes that present significant safety and technical issues. IDNS agrees, and this issue was the impetus to our previous comments. We asked that specific criteria be established beforehand for each chemical type of GTCC waste and the components of the particular cask design before co-mingling was authorized.

In reviewing the amendment, IDNS determined that some compounds of Boron, Carbon, Aluminum, Hafnium, Silver, Cadmium, and others are contained in the spent fuel related components likely to be stored in the HI-STORM system, co-mingled with spent fuel. We did not find a reference in the Safety Evaluation Report (SER) to any established criteria or analyses that verifies that the elements or compounds mentioned above (or others) would not threaten the long-term structural integrity of the system under all conditions analyzed in the safety analysis reports.

In addition, there seems to be an assumption that the environment inside a multi-purpose canister (MPC) is less harsh than in a reactor environment. We do not doubt that. However, there also seems to be an assumption that the waste components, if not harmful in a reactor, will also not be harmful in a cask. The environment in a cask is radically different than a reactor environment. Hence, our appeal for scientifically established criteria, to assure that the certain waste elements will not potentially harm either the spent fuel or the MPC long term. Given the evolution of both fuel and cask designs, it seems likely that making generic assumptions may be problematic.

Therefore, the major IDNS comment is, given that NRC acknowledges potential adverse interactions between SNF and various types of GTCC waste; and they present significant safety and technical issues; where does the NRC analyze these issues? We expected to find a reference in the SER that the cask-specific loading of "certain specific components" had been assessed, and these significant potential concerns were properly addressed against some established criteria? We did not find one in the amendment and believe this is a deficiency that needs to be corrected.

IDNS appreciates the opportunity to comment on these amendments. Any questions about these comments can be directed to Mr. Gary Wright of my staff at (217) 785-9851.

Sincerely,

Thomas W. Ortelger
Director

TWO:bac