David A. Lochbaum
Nuclear Engineer
(914) 287-3558, work

80 Tuttle Road
Watchung, NJ 07060
(908) 754-3577

October 28, 1994 10:07am

FAX MESSAGE

TO: Joe Shea

FROM: Dave Lochbaum

NUMBER OF PAGES: 3

Please see the first full paragraph on the page numbered 9 from the Staff Paper prepared by the Ottice of Technology Assessment, dated August 30, 1985. They seem to be concerned with the ultimate scenario we postulated in the 10 CFR 21 report.

Will be FAXing a copy of this Staff Paper to Rep. Philip Sharp's Subcommittee to remind Congress of this previously identified concern.

Attachment 1

STAFF PAPER

prepared for the

Subcommittee on Energy Conservation and Power

House Committee on Energy and Commerce

by the

Oceans and Environment Program

Office of Technology Assessment

August 30, 1985

Comments on the Department of Energy's Mission Plan for the Civilian Radioactive Waste Management Program

This OTA Staff Paper has neither been reviewed nor approved by the Technology Assessment Board. The views expressed in it do not necessarily reflect the views of TAB, TAAC, or the individual members thereof.

fuel discharges in their pools. The longer spent fuel accumulates in the pools, the longer it will take to empty them. Thus the accumulation of large inventories of spent fuel in reactor pools may be relatively irreversible in the short run.

Because it may be difficult to quickly remove large accumulations of spent fuel from reactor pools, the consequences of such accumulations should be evaluated carefully. This evaluation should consider not only the implications of events that are more or less expected, but also the possibility of unlikely problems that could be exacerbated by the presence of large amounts of spent fuel in pools. For example, if a TMI-type meltdown occurred at a boiling water reactor with a storage pool inside the containment, the operators would probably prefer not to have 20-30 years' worth of spent fuel stored in a place that might be physically inaccessible for a period of years after the accident. To consider a more remote possibility, some analyses suggest that there may be civil defense benefits to preventing large buildups of spent fuel stored in reactor pools. In the unlikely event of a nuclear war in which reactors were hit with nuclear weapons, the presence of large quantities of spent fuel in the reactor pools would substantially extend the time for which land contaminated by fallout from the explosions would remain unusable.[20] While it is to be hoped that such an event is exceedingly unlikely, the consequences of having many reactors with 20-30 annual discharges in storage in their pools could be very serious in wartime.

Construction of an I-MRS could be the fastest possible way to stop the buildup of spent fuel in storage at reactor sites, and could allow the inventories that had already accumulated by the time an I-MRS could start operation to be drawn down at whatever rate is deemed desirable. In fact, if it is judged to be important to begin moving spent fuel from reactor sites at large scale by 1998, then the I-MRS is probably necessary. If sufficient political consensus can be reached about the I-MRS to prevent it from being to be deferred or cancelled after it was authorized, there is a high degree of probability that it could begin loading according to the schedule proposed by DOE. In that event, it would provide a clear and predictable basis for utility planning for at-reactor storage. Thus, construction of the I-MRS would transfer the burden of dealing with the uncertainty about interim storage after about 1998 from individual utilities to the Office of Civilian Radioactive Waste Management, funded by all nuclear utilities through the nuclear waste fee. An I-MRS would also provide insurance against the possibility that later developments might lead to a desire to remove spent fuel from reactor pools more rapidly than could be easily achieved if large inventories have been allowed to accumulate in the pools.

2.1.2.2. The repository loading schedule

The schedule for repository loading depends upon (1) the time it takes to site the repository, (2) the plan for scaling up to full-scale operations, and (3) the achievable loading rate. By allowing reactor unloading to proceed independently of repository loading, the I-MRS could broaden the base of support