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Date JUN 1 9 1979

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FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Robert L. Tedesco, L[2] Task Force, TMI-2	P-1122B
	Phone No. X28090

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 15 1979

NOTE TO: R. Tedesco

FROM: T. Speis, Acting Chief, Reactor Systems Branch, DSS

SUBJECT: ITEM 13 OF LL TASK FORCE, "PROVIDE DEDICATED AND REDUNDANT PENETRATIONS FOR HYDROGEN RECOMBINERS"

Regarding the discussions on the above subject by the LL Task Force (during the morning of 6/15/79) I am providing you with the following comments/observations that you may find useful.

1. Even though I agree with your recommendation, as you know the use of recombiners is "effective" only when the rate of hydrogen production is low, i.e., the recombiners will only keep up with a very slow evolution of hydrogen.

2. The amount of hydrogen in the TMI-2 containment following the 3/28/79 accident exceeded the design basis - i.e., based on the amount of $Zr\text{-}H_2O$ reaction allowed; it should be noted though that Reg. Guide 1.7 talks about hydrogen that could be as high as five (5) times the amount calculated for margin purposes (see pg. 1.7-3 of Reg. Guide 1.7).

3. Purging of hydrogen with the concurrent release of activity, even though within 10 CFR 100 guidelines might not be publicly acceptable anymore.

4. I recommend that the LL Task Force look very carefully at this problem and consider, (a) hydrogen detection in the containment, (b) means of igniting (burning) before explosive limits are reached, or even before reaching limits that could threaten containment integrity (including protecting features inside containment that are required for eventual reactor cooldown).

In conclusion, the protection of containment - even on a near-term basis, should not be inhibited by any "legal constraints" of the DBA theology.

I would be happy to discuss this further with you and provide you additional information developed by the staff during the review of advanced reactors (including the reaction of the ACRS).

Themis P. Speis, Acting Chief
Reactor Systems Branch
Division of Systems Safety

cc: R. Mattson
R. Denise

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