

**GPU Nuclear**

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July 7, 1982

5211-82-160

Office of Nuclear Reactor Regulations  
Attn: Harold R. Denton, Director  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
Proposed NRC Staff Recommendations Concerning  
Pressurized Thermal Shock (PTS)

- References:
1. Letter from P. Shewmon (ACRS) to Dr. Palladino (NRC) dated June 7, 1982
  2. Letter from Dr. A. P. Rochino (B&W Owner's Group-Material's Subcommittee) to H. Denton (NRC) dated June 22, 1982

In reference to the June 9, 1982 meeting where you sought comments from industry concerning the proposed NRC Staff recommendations concerning PTS, GPU Nuclear offers the following comments:

o Proposed failure criteria is too conservative because it does not take into account

- Thermal Stress through wall
- Flux attenuation through wall (circumferentially and radially)
- Crack arrest mechanisms

o Proposed Governing Transient is too severe since

- Pressure is assumed to remain constant
- Exponential temperature decay is very conservative
- No credit given for any operator action
- No credit given for recent system modifications to prevent and mitigate transients.

o Overly conservative assumption of worst condition where final temperature (Tr) and maximum stress field occur at the same time.

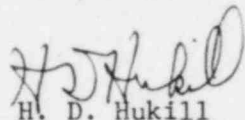
o Unrealistic assumption that all plants, even within the same vendor design, will respond the same way.

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- o Undue emphasis of relying on RTndt as a measure of toughness while emphasis should be on the actual toughness of the material.
- o GPU Nuclear supports the short term actions suggested by the ACRS (Reference 1).
- o GPU Nuclear also supports the position outlined by the B&W Owners' Group materials Subcommittee (Reference 2)

We also feel that the Staff should closely examine the representative analyses submitted by GPU which is based on sound, analytical techniques and realistic, but conservative assumptions. Having committed substantial time and resources on the PTS concern, GPU Nuclear believes the Staff can develop recommendations that are technically sound and assure the public of the integrity of the PWR Reactor Vessel without invoking the undue conservatism in the proposed staff position.

Sincerely,



H. D. Hukill  
Director, TMI-1

HDH:JD:vjf