

5928-01-20266

CFR 50.90

September 28, 2001

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Three Mile Island, Unit 1 (TMI Unit 1)  
Operating License No. DPR- 50  
Docket No. 50-289

Additional Information – Request for Exemption to 10 CFR 50.44; 10 CFR 50, Appendix A; 10 CFR 50, Appendix E, Section VI; General Design Criterion No. 41; and Proposed License Amendment Request No. 292 Pertaining to the Hydrogen Control Systems

Dear Sir or Madam:

This letter provides additional information as discussed with the NRC project manager on September 20, 2001 regarding the AmerGen submittal of TMI Unit 1 request for exemption and License Amendment Request (LAR) No. 292 on September 20, 2000. Attachment 1 provides a revision to the No Significant Hazards Consideration submitted with LAR No. 292 as requested by the NRC.

In addition, we wish to clarify a statement in the description section of the "Supporting Documentation of Proposed Change," on page 1 of 3 of Enclosure 2 to LAR No. 292, that no changes are being requested to Specification 4.12-2, "Reactor Building Purge Air Treatment System." The statement in item (3) of the first paragraph of that description refers to an intended deletion from Specification 4.12-2; however, the only change intended to that section of the Technical Specifications is a change to the Bases of specification 4.12-2 to delete a reference to hydrogen purge and the hydrogen recombiners on page 4-55c as described in the first paragraph of Enclosure 2, page 1 of 3 to LAR No. 292. A hand markup of page 4-55c was included with LAR No. 292 in Enclosure 3.

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There are no new regulatory commitments established by this submittal. If any additional information is needed, please contact Bob Knight at (717) 948-8554.

I declare under penalty of perjury that the foregoing is true and correct.

Very truly yours,

09-29-01  
Executed On

Michael P. Gallagher  
Michael P. Gallagher  
Director, Licensing & Regulatory Affairs  
Mid Atlantic Regional Operating Group

cc: H. J. Miller, USNRC Regional Administrator, Region I  
T. G. Colburn, USNRC TMI Unit 1 Senior Project Manager  
J. D. Orr, USNRC TMI Unit 1 Senior Resident Inspector  
File No. 00075

**ATTACHMENT 1**

**ADDITIONAL INFORMATION – LICENSE CHANGE APPLICATION NO. 292**

**Revised No Significant Hazards Consideration**

## TMI NO SIGNIFICANT HAZARDS CONSIDERATIONS

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. A discussion of these standards as they relate to this change request follows.

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

No. This change has no effect on plant equipment provided for the Reactor Coolant System, Reactor Building heat removal, or the equipment provided for mixing of the Reactor Building atmosphere following an accident. This proposed change does not alter the design or configuration of the plant beyond that of the containment Combustible Gas Control Systems. The containment Combustible Gas Control Systems are currently classified as safety systems. The containment combustible gas control systems are composed of two hydrogen monitors and two hydrogen recombiners, backed up by portion of the Reactor Building Purge System that can be use to vent the Reactor Building. Hydrogen control components (hydrogen monitors, hydrogen recombiners, and hydrogen vents) do not affect any accident initiation sequence previously identified. Therefore, this change does not increase the probability of an accident previously evaluated.

The containment Combustible Gas Control Systems are provided to ensure that Reactor Building hydrogen concentration is maintained below the lower flammability limit of 4.0%. The existing containment combustible gas control system has no value in defense against containment failure resulting from hydrogen buildup inside the containment following severe accidents and is not credited in the TMI Unit 1 PRA. Therefore, this change does not increase the consequences of accidents previously evaluated.

Therefore, operation of the facility in accordance with this proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

No. This proposed change does not alter the design or configuration of the plant beyond that of the containment Combustible Gas Control Systems. Hydrogen generation following a design basis LOCA has been evaluated in accordance with regulatory requirements. Deletion of the containment Combustible Gas Control System from the Technical Specifications does not alter the hydrogen generation processes post-LOCA. Use of the containment Combustible Gas Control components (hydrogen monitors, hydrogen recombiners, and hydrogen vents) has no value in defense against containment failure resulting from hydrogen buildup inside the containment following severe accidents and is not credited in the TMI Unit 1 (Level 2) PRA.

Therefore, operation of the facility in accordance with this proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

No. This change has no effect on plant equipment provided for the Reactor Coolant System, Reactor Building heat removal, or the equipment provided for mixing of the Reactor Building atmosphere following an accident. This change only involves the deletion of requirements for containment Combustible Gas Control equipment, (hydrogen monitors, hydrogen recombiners, and containment hydrogen vents).

Use of the containment Combustible Gas Control equipment has no value in defense against containment failure resulting from hydrogen buildup inside the containment following severe accidents and is not credited in the TMI Unit 1 PRA. TMI Unit 1 utilizes a large open containment design that precludes the buildup of hydrogen pockets that might be formed if the Reactor Building were of a compartmentalized design. The TMI-1 PRA concluded that the containment would remain intact for severe accidents which included hydrogen burns for which no credit was taken for the Combustible Gas Control System as long as the containment heat removal systems (Reactor Building Emergency Cooling and Reactor Building Sprays) remain functional. Additionally, if the capability for mixing of the containment atmosphere were lost and a hydrogen concentration gradient were to form, hydrogen concentration measurements provided by the hydrogen monitors would not be representative of containment hydrogen concentration and could not be used for any decision to take action to vent the containment.

Removal of the existing requirement for a containment Combustible Gas Control System will, by eliminating the EOP steps for hydrogen control, result in lower operator error probabilities due to diverting the operator's focus away from any need to vent the containment rather than the more important need for maintaining adequate core cooling and by removing the potential for venting the containment atmosphere unnecessarily.

Therefore, operation of the facility in accordance with this proposed change will not involve a significant reduction in a margin of safety.

Based on the negative responses to these three criteria, AmerGen concludes that the proposed change involves no significant hazards consideration.