

# Inter-Office Memorandum

Date April 13, 1979  
TSG-064

## GPU Service

Subject TMI-2 Modification Criteria for  
System to Measure Water Level in  
the Reactor Building: Task TM:27

Location TMI Trailer City, #11

To

D. G. SLEAR

Attached is a criteria for a method to measure reactor building water level which avoids the difficulties associated with previous methods, i.e., the need to enter hot areas and make direct connection to contaminated water in the reactor building.

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DHC:ms  
Attachment

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THREE MILE ISLAND - UNIT NO. 2

CRITERIA

SYSTEM TO MEASURE WATER LEVEL

IN THE REACTOR BUILDING

TECHNICAL MODIFICATION NO. 27

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<u>REVISION</u>	<u>DATE</u>	<u>PREPARED BY</u>	<u>APPROVED BY</u>
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CRITERIA

TM:27 - SYSTEM TO MEASURE WATER LEVEL IN THE REACTOR BUILDING

A method for non-contact measurement of liquid level within the Reactor Building is based on the large difference in radioactivity between the spilled water and the overhead gas (a ratio of 1000:1 may exist).

Therefore, it is proposed to detect the water level by measuring the radiation passing through the containment wall along a vertical path on the surface. A large change in observed radiation indicates water level.

A suggested method is given in Appendix A.

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APPENDIX A

PROPOSED METHOD:

1. Obtain a multi-channel analyzer with crystal or gell detector.
2. Install shielding (lead) around analyzer to lessen background noise and limit entrance angle.
3. Mount analyzer with shielding on lift truck.
4. Bring equipment to level 260'-6" immediately outside of containment building wall.
5. Take radiation readings as close as possible to containment wall along a vertical line every 2 - 3 inches from the lowest to the highest accessible points.
6. Make plot of readings vs. height. Readings must be compensated for varying thickness of containment wall at this elevation.

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