

TASK CLOSE OUT DOCUMENT

File

Task Scope Evaluate viability of measuring reactor side water level by radiation measurement outside of piping. TIA 1527

To: M. Levenson
S. Levy
E. Zebroski

Task No. HA

Date Complete 4/22/79

Reason felt task is complete:

Examination of necessary instrumentation and measurement was made considering all technical constraints and those configurations indicated that the technique would not be successful.

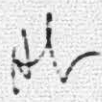
Members of Committee

E. Zebroski

E. Zebroski
Signed
Committee Leader

POOR ORIGINAL

April 22, 1979

TO: S. LEVY
FROM: H. LAWROSKI 
SUBJECT: TM NO. 27 - SYSTEM TO MEASURE WATER LEVEL IN THE REACTOR BUILDING

The method of detection of water level by radiation readings up the side of the reactor building would probably be unsuccessful. The concrete wall is 4 ft. thick. The thick wall would scatter the effective reading outside the wall. The source would also be massive, thus preventing reasonable diagnosis of any readings. Thus, even if the detector was very sensitive and well collimated, any data would be practically nondiscriminatory for indication of water level.

If there were significant voids in the wall, one might have had a chance for success.

HL:dr

2004 235

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.

D. R. CRONBERGER

DHC:ms
Attachment

cc: T. Novak (8) NRC
G. Capodanno
R. F. Wilson
L. Harding
R. W. Keaten
T. G. Broughton
G. Trotter - ME
R. Warren (6) ME
E. Brockman - E&W
R. E. Allen (GPU-Pdg)
Modification Criteria File
G. Staudt/File

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THREE MILE ISLAND - UNIT NO. 2

CRITERIA

SYSTEM TO MEASURE WATER LEVEL

IN THE REACTOR BUILDING

TECHNICAL MODIFICATION NO. 27

POOR ORIGINAL.

<u>REVISION</u>	<u>DATE</u>	<u>PREPARED BY</u>	<u>APPROVED BY</u>
Rev. 0	4/18/79	D. Chisholm/T. Menzel <i>T. Menzel</i>	D. Croneberger/ G. Capodanno <i>G. Capodanno</i>

2004 237

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 280'-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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