

TASK CLOSE OUT DOCUMENT

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JAG

Task Scope Explore methods of determining
containment water level by from
outside containment wall

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Task No. 44

Date Complete 5/4/79

Reason felt task is complete:

Potential approaches identified do not appear
feasible

Members of Committee

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EXTERNAL CONTAINMENT LEVEL MEASUREMENT

The following approaches were considered:

1. Ultrasonic - Attach transducer to outer wall and look at reflected signal. The transmission losses in traversing the 4 ft. concrete wall would be large, further, sound waves would be dissipated by inner wall surface. The likelihood of generating useful information is too low to justify attempting this approach.
2. Low frequency sound - Use of low frequency sound has the benefit of greatly reducing sound losses in the medium. This approach would include pulse - echo techniques (hitting the wall with a hammer). The basic problem with low frequency techniques is resolution. While this method might be able to verify that there is water on the inside wall, it would not be likely to establish the level within less than a few feet.
3. Radiography - Use of the activity in the water as a source for radiography from outside. The attenuation and spatial discrimination problems of traversing approximately four feet of concrete laced with rebar are sufficient to eliminate this approach.

Summary - None of the approaches considered showed reasonable promise of capability to measure the water level with sufficient accuracy (within a few inches) to be of any net benefit.