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PEACH BOTTOM ATOMIC POWER STATION
PROPOSED CONTAINMENT TESTING SPECIFICATION

50-171

In an effort to achieve some degree of uniformity among containment testing requirements, I have prepared a suggested specification suitable for the Peach Bottom Containment Vessel.

Since the applicant has not yet conducted the final pre-operational leakage rate test (tentatively scheduled for August 1964), this may be an appropriate time to discuss retest requirements and compare our suggested specifications with the applicant's proposed program.

Attachment:
Proposed Containment Testing Specification

cc: Forrest Western, Dir., SS (w/att.)
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SUGGESTED CONTAINMENT TESTING SPECIFICATION
PEACH BOTTOM ATOMIC POWER STATION

A. ~~Containment Vessel Leakage Testing~~

An integrated leakage rate test of the containment shell shall be conducted at 8 psig at approximately yearly intervals, following the final preoperational leakage rate test, except that the test frequency may be revised by the requirements of Section F.

The accuracy of the leakage rate measuring system in any test shall be verified either (1) by superimposing a controlled leakage rate (measured through a gas flow meter) upon the vessel leakage rate, and extending the test a sufficient period to measure the composite leakage rate, or (2) by other means which may provide an equivalent measurement accuracy of the test determination.

The maximum total leakage rate shall not exceed 0.2 percent in 24 hours of the contained atmosphere at 8 psig pressure and based on the temperature and composition of the atmosphere calculated for the most severe postulated accident. The allowable leakage rate under test conditions shall be modified to reflect any significant differences between accident and test conditions. In the event the allowable leakage rate is exceeded, a retest shall be made following repairs of leaks in the containment vessel.

In order that retests be representative of the "as is" condition of containment, no preliminary local tests or repairs of the containment boundary or isolation valves, which may influence the test results, shall be performed directly prior to the scheduled integrated leakage rate test, unless such repairs are reported in number and extent as part of the record of the leakage rate results.

Prior to the retest, closure of the isolation valves shall be effects by normal means of automatic controls provided for valve operation.

B. Leak Detection Tests

Leak detection tests, using the soap bubble technique or the halide leak detector, shall be conducted by local pressurization of the space between doors or valves, respectively, at 8 psig for the following items:

(a) Personnel air lock (normal access to ground floor)

(b) Emergency escape air lock (ground floor)

(c) Personnel air lock (refueling floor)

(d) Ventilation penetration isolation valves

(e) Vacuum breaker valve.

The leak detection tests for items (a), (b), and (c) shall be performed after each closure following operation of the air lock doors and containment leak tight integrity is required, but need not be more frequent than once every three months except as modified by Section F.

The leak detection tests for (d) and (e) shall be performed at intervals of approximately 3 months or as modified by Section F.

The equipment access door (10 ft. diameter) at ground floor elevation shall be leak detection tested by pressurization of the containment vessel to 8 psig after each closure following usage for access. This test may be omitted, however, if an integrated leakage rate test, as required by paragraph A, is scheduled directly following closure of the equipment access door.

All detectable leaks revealed by either the soap bubble technique or halide leak detector shall require repair and retests, with the exception that small leaks whose flow rate with an 8 psig pressure differential can be demonstrated to be less than 100 standard atmospheric cubic inches per day, need not be repaired provided the number of such unrepaired leaks is reported for each leak detection test.

C. Visual Inspections

All containment penetrations and isolation valves not subject to the leak detection tests of paragraph B shall be visually inspected on the outside of the containment on a quarterly basis, and on the inside of the containment following each plant shutdown and access to the containment vessel.

Any indication of deterioration or damage which could impair the leak tight integrity of the containment vessel between intervals of integrated leakage rate tests shall require corrective repairs. Such

repairs may be performed following the completion of the next scheduled integrated leakage rate test as required by Section A. In the event visual inspections reveal deterioration or damage sufficient to require repairs prior to the scheduled integrated leakage rate tests, such repairs or corrective measures employed shall be included as part of the leakage rate test report.

D. Containment Isolation Valves

All containment isolation valves shall be subjected to a test at approximately yearly intervals to verify the operability of the valves. The operability of automatic controls and instrumentation associated with these valves shall be verified at approximately quarterly intervals during which test the valves need not be exercised.

Defective operation of the valves and controls shall require immediate repair and retests.

E. Containment Modifications

Any modifications of the containment vessel which may significantly change the leakage rate shall require the performance of an integrated leakage rate test directly upon completion of the modification.

If the modification, however, permits an individual local leakage rate determination at 5 psig, in lieu of a containment integrated leakage rate test, the measured leakage rate of the modification when combined with the previously measured total vessel leakage rate shall not exceed the allowable leakage rate as determined under Section A.

F. Test Frequency

The frequency of integrated leakage rate tests of the containment vessel shall comply with the successive intervals of 1 yr., 2 yrs., 3 yrs., and every 3rd year thereafter, provided the measured leakage rate of any test does not exceed the allowable leakage rate.

In the event the allowable leakage rate is exceeded as determined by the results of any test, the successive test intervals shall revert to the beginning of the test interval series as specified above.

If the allowable leakage rate is exceeded in two successive 1-year interval tests, the frequency of testing shall be subject to adjustment following analysis of the leakage rate measurements by the Division of Reactor Licensing.

The specified test intervals may be adjusted by plus or minus 4 months if required to schedule a test coincident with either a planned plant shutdown or an unscheduled plant outage.

The frequency of leak detector tests specified under Section B shall correspond with the following schedule:

Leakage Rate Test Interval	Leak Detection Test Interval
1 yr.	3 months
2 yrs.	6 months
3 yrs.	12 months

The specified interval for leak detection tests may be ajusted by plus or minus 1 month, if required.