



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAY 19/92

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NUMBER OF PAGES 1 AND COVER SHEET

FROM S. NINIK PHONE EXT. 301-509-1125

Staff's COMMENT ON G. 2.6.3.1, General containment
isolation valve leakage rate test (type).

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6.2.6.3 Containment Isolation Valve Leakage Rate Test (Type C)

6.2.6.3.1 General

430.50m Type C tests will be performed on all containment isolation valves required to be tested per 10CFR50 Appendix J. All testing is performed pneumatically, except hydraulic testing may be performed on isolation valve Type C tests using water as a sealant provided that the valves will be demonstrated to exhibit leakage rates that do not exceed those in the ABWR standard technical specifications. *System line for the Valve is not a potential Containment atmosphere leak path.*

Type C tests (like Type B test) are performed by local pressurization using either pressure decay or flowmeter method. The test pressure is applied in the same direction as when the valve is required to perform its safety function, unless it can be shown that results from tests with pressure applied in a different direction are equivalent or conservative. For the pressure decay method, test volume is pressurized with air or nitrogen to at least P_a . The rate of decay of pressure of the known test volume is monitored to calculate leakage rate. For the flowmeter method, required pressure is maintained in the test volume by making up air, nitrogen or water (if applicable) through a calibrated flowmeter. The flowmeter fluid flow rate is the isolation valve (or Type B test volume) leakage rate.

All isolation valve seats which are exposed to containment atmosphere subsequent to a LOCA are tested with air or nitrogen at containment peak accident pressure, P_a .

430.50c MSIVs and isolation valves isolated from a sealing system will use a test pressure of at least P_a .

Those valves which are in lines designed to be, or remain, filled with a liquid for at least 30 days subsequent to a loss-of-coolant accident are leakage rate tested with that liquid. The liquid leakage measured is not converted to equivalent air leakage nor added to the Type B and C test total.

All test connections, vent lines, or drain lines consisting of double barrier (e.g. 2-valves in series, one valve and a cap, or one valve and

a flange), that are connected between isolation valves and form a part of the primary containment boundary need not be Type-C tested due to their infrequent use and multiple barriers as long as the barrier configurations are maintained using an administrative control program.

For Type C testing of containment penetrations, all testing will be done in the correct direction unless it can be shown that testing in the reverse direction is equivalent, or more conservative. The correct direction for this design is defined as flow from inside the containment to outside the containment.

6.2.6.3.2 Acceptance Criteria

The combined leakage rate of all components subject to Type B and Type C (Subsection 6.2.6.3) tests shall not exceed 60% of L_a . If repairs are required to meet this limit, the results shall be reported in a separate summary to the NRC, to include the structural conditions of the components which contributed to the failure.

6.2.6.4 Scheduling and Reporting of Periodic Tests

The periodic leakage rate test schedules for Type A, B and C tests are described in Chapter 16.

430.50g Type B and C tests may be conducted at any time during normal plant operations or during shutdown periods, as long as the time interval between tests for any individual Type B or C tests does not exceed 2 years. Each time a Type B or C test is completed, the overall total leakage rate for all required Type B and C tests is updated to reflect the most recent test results. In addition to the periodic tests, any major modification, replacement of component which is part of the primary reactor containment boundary, or resealing a seal welded door, performed after the preoperational leakage rate test will be followed by either a Type A, Type B, or Type C test as applicable for the area effected by the modification. Type A, B and C test results shall be submitted to the NRC in the summary report approximately three months after each test.