

out in regulations issued by the Small Business Administration in 13 CFR part 121.

Backfit Analysis

This proposed revision to a current regulation by the inclusion of an option that may be voluntarily adopted by licensees, and which relaxes current requirements, is not considered a backfit under 10 CFR 50.109(a). Therefore, a backfit analysis is not necessary.

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Criminal penalties, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendments to 10 CFR part 50.

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 is revised to read as follows:

Authority: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951, as amended by Pub. L. 102-486, sec. 2902, 106 Stat. 3123, (42 U.S.C. 5851). Sections 50.10 also issued under secs. 101, 185, 68 Stat. 936, 955, as amended (42 U.S.C. 2131, 2235); sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, 50.54(dd), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58, 50.91, and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80-50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. Appendix J to 10 CFR Part 50 is amended by adding the following language between the heading and the

Table of Contents and adding the language for Option B after Section V.B3.

Appendix J—Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors.

This appendix includes two options, A and B, either of which can be chosen for meeting the requirements of this appendix.

Options A—Prescriptive Requirements

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Option B—Performance-Based Requirements

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I. Introduction

One of the conditions required of all operating licenses for light-water-cooled power reactors as specified in § 50.54(o) is that primary reactor containments meet the leakage rate test requirements in either Option A or B of this appendix. These test requirements ensure that (a) leakage through these containments or systems and components penetrating these containments does not exceed allowable leakage rates specified in the Technical Specifications and (b) integrity of the containment structure is maintained during its service life. Option B of this appendix identifies the performance-based requirements and acceptance criteria for preoperational and subsequent periodic leakage rate testing.⁷

II. Definitions

Acceptance criteria means the performance standards against which test results are to be compared for establishing the acceptability of the containment system as a leakage limiting boundary.

Containment system means the principal barrier, after the reactor coolant pressure boundary, to prevent the release of quantities of radioactive material that would have a significant radiological effect on the health of the public.

Overall integrated leakage rate means the total leakage rate through all tested leakage paths, including containment welds, valves, fittings, and components that penetrate the containment system.

La (percent/24 hours) means the maximum allowable leakage rate at pressure Pa as specified in the Technical Specifications.

Pa (p.s.i.g) means the calculated peak containment internal pressure related to the design basis loss-of-coolant accident as specified in the Technical Specifications.

⁷Specific guidance concerning a performance-based leak test program, acceptable leakage rate test methods, procedures, and analyses that may be used to implement these requirements and criteria are provided in draft Regulatory Guide DG-1037, "Performance-Based Containment System Leakage Testing."

III. Performance-Based Leakage Test Requirements

A. Type A Test

Type A tests to measure the containment system overall integrated leakage rate must be conducted under conditions representing design basis loss-of-coolant accident containment peak pressure. A Type A test must be conducted (1) after the containment system has been completed and is ready for operation and (2) at a periodic interval based on the historical performance of the overall containment system as a barrier to fission product releases to reduce the risk from reactor accidents. A general visual inspection of the accessible interior and exterior surfaces of the containment system for structural deterioration which may affect the containment leaktight integrity must be conducted prior to each test, and at a periodic interval between tests based on the performance of the containment system. The leakage rate must not exceed the allowable leakage rate (L_a) with margin as specified in the Technical Specifications. The test results must be compared with previous results to examine the performance history of the overall containment system to limit leakage.

B. Type B and C Tests

Type B pneumatic tests to detect and measure local leakage rates across pressure retaining, leakage limiting boundaries, and Type C pneumatic tests to measure containment isolation valve leakage rates, must be conducted (a) prior to initial criticality, and (b) periodically thereafter at intervals based on the safety significance and historical performance of each boundary and isolation valve to ensure the integrity of the overall containment system as a barrier to fission product release to reduce the risk from reactor accidents. The performance-based testing program must contain performance goals and acceptance criteria, consideration of factors that affect performance when establishing test intervals, evaluations of performance of containment system components, and comparison to previous test results to examine the performance history of the overall containment system to limit leakage. The tests must demonstrate that (1) the sum of the leakage rates at accident pressure of Type B tests, and pathway leakage rates from Type C tests, is less than the total allowable leakage rate (L_a) specified in the Technical Specification with margin; and (2) the performance goal for the reliability of the overall containment system to limit leakage during reactor accidents is not exceeded.

IV. Recordkeeping

The results of the preoperational and periodic Type A, B, and C tests must be documented to show that acceptance criteria for leakage have been met. The comparison to previous results of the performance of the overall containment system and of individual components within it must be documented to show that the test intervals established for the containment system and components within it are adequate. These records must be available for inspection at plant sites.

If any Type A, B, or C tests fail to meet their leakage rate acceptance criteria as