

211.0
(3.2.1)

REACTOR SYSTEMS BRANCH, Quality Group Classification

Seismic Classification

Structures, systems and components important to safety that are required to be designed to withstand the effects of a Safe Shutdown Earthquake and remain functional have, in general, been properly classified as seismic Category I items. These plant features are those necessary to assure (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shutdown the reactor and maintain it in a safe shutdown condition, or (3) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of 10 CFR Part 100.

All other structures, systems and components that may be required for operation of the facility have been designed to other than seismic Category I requirements including those portions of Category I systems which are not required to perform a safety function. Structures, systems and components important to safety that have been designed to withstand the effects of a Safe Shutdown Earthquake and remain functional are identified in an acceptable manner in the FSAR.

The basis for our acceptance has been conformance of the applicant's designs, design criteria and design bases for structures, systems and components important to safety with the Commission's regulations as set forth in General Design Criterion 2 and industry standards.

We conclude that structures, systems and components important to safety that are designed to withstand the effects of a Safe Shutdown Earthquake and remain functional have, in general, been properly classified as seismic Category I items in conformance with the Commission's regulations and industry standards and are acceptable. Design of these items in accordance with seismic Category I requirements provides reasonable assurance that the plant will perform in a manner providing adequate safeguards to the health and safety of the public.

211.2
(3.2.2)

System Quality Group Classification

Fluid system pressure-retaining components important to safety have, in general, been designed, fabricated, erected and tested to quality standards commensurate with the importance of the safety function to be performed. The applicant has

8002140869

211.2
(3.2.2)

identified those fluid-containing components which are part of the reactor coolant pressure boundary and other fluid systems important to safety where reliance is placed on these systems: (1) to prevent or mitigate the consequences of accidents and malfunctions originating within the reactor coolant pressure boundary, (2) to permit shutdown of the reactor and maintenance in the safe shutdown condition, and (3) to contain radioactive material. These fluid systems have, in general, been classified in an acceptable manner in Sections 3, 5, 6, 9, 10, and 11 of the FSAR and on system Piping and Instrumentation Diagrams in the FSAR.

The basis for acceptance in the staff's review has been conformance of the applicant's designs, design criteria, and design bases for pressure-retaining components such as pressure vessels, heat exchangers, storage tanks, pumps, piping and valves in fluid systems important to safety with the Commission's regulations as set forth in General Design Criterion 1, the requirements of the Codes specified in Section 50.55a of 10 CFR Part 50 and industry standards.

We concluded that fluid systems pressure-retaining components important to safety that have been designed, fabricated, erected and tested to quality standards in conformance with the Commission's regulations and industry standards are acceptable. Conformance with these requirements provides reasonable assurance that the plant will perform in a manner providing adequate safeguards to the health and safety of the public.

211.3
(5.2.1.3)

Compliance with 10 CFR Part 50, Section 50.55a

Components of the reactor coolant pressure boundary as defined by the rules of 10 CFR Part 50, Section 50.55a have been properly identified and classified as ASME Section III, Code Class A and ANSI B31.7, Class 1 components in Table 5-10 of the FSAR. These components within the reactor coolant pressure boundary have been constructed in accordance with the requirements of the applicable codes and addenda as specified by the rules of 10 CFR Part 50, Section 50.55a, Codes and Standards.

We conclude that construction of the components of the reactor coolant pressure boundary in conformance with the Commission's regulations provides reasonable assurance that the resulting quality standards are commensurate with the importance of the safety function of the reactor coolant pressure boundary and is acceptable.

211.4
(5.2.1.4)

Applicable Code Cases

The ASME Code Cases specified in Table 5-11 whose requirements have been applied in the construction of pressure-retaining

211.4
(5.2.1.4)

ASME Section III, Code Class A, components within the Reactor Coolant Pressure Boundary (Quality Group Classification A), are in accordance with those code cases in Regulatory Guides 1.84 and 1.85 that are generally acceptable to the Commission. We conclude that compliance with the requirements of these code cases, in conformance with the Commission's regulations, is expected to result in a component quality level that is commensurate with the importance of the safety function of the reactor coolant pressure boundary and is acceptable.

BIBLIOGRAPHY

General References

1. 10 CFR Part 50, Appendix A, General Design Criterion 1, "Quality Standards and Records."
2. 10 CFR Part 50, Appendix A, General Design Criterion 2, "Design Bases for Protection Against Natural Phenomena."
3. 10 CFR Part 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants."
4. 10 CFR Part 100, Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants."
5. Regulatory Guide 1.26, "Quality Group Classifications and Standards."
6. Regulatory Guide 1.29, "Seismic Design Classification."
7. Regulatory Guide 1.84, "Code Case Acceptability ASME Section III Design and Fabrication."
8. Regulatory Guide 1.85, "Code Case Acceptability ASME Section III Materials."
9. ANSI N18.2, "Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants," American National Standards Institute (1973).
10. ASME Boiler and Pressure Vessel Code, 1968 Edition, Section III, "Nuclear Vessels," American Society of Mechanical Engineers.
11. ASME Boiler and Pressure Vessel Code, 1971 Edition, Section III, "Nuclear Power Plant Components," American Society of Mechanical Engineers.
12. ANSI B31.7-1969, "Nuclear Power Piping," American National Standards Institute.
13. Draft ASME Code for Pumps and Valves for Nuclear Power, (Dated November 1968), American Society of Mechanical Engineers.
14. ASME Boiler and Pressure Vessel Code, 1968 and 1971 Editions, Section VIII, Division 1, "Pressure Vessels," American Society of Mechanical Engineers.
15. ANSI B31.1.0-1967, "Power Piping," American National Standards Institute.
16. API Standard 620, Fourth Edition, February 1970, "Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks," American Petroleum Institute.

17. API Standard 650, Third Edition, July 1966, "Welded Steel Tanks for Oil Storage," American Petroleum Institute.
18. AWWA D100-67, "AWWA Standard for Steel Tanks-Standpipes, Reservoirs, and Elevated Tanks for Water Storage," American Water Works Association.
19. ANSI B96.1-1967, "Specification for Welded Aluminum-Alloy Field-Erected Storage Tanks," American National Standards Institute.