



U.S. NUCLEAR REGULATORY COMMISSION  
**STANDARD REVIEW PLAN**  
OFFICE OF NUCLEAR REACTOR REGULATION

3.2.2 SYSTEM QUALITY GROUP CLASSIFICATION

REVIEW RESPONSIBILITIES

Primary - Mechanical Engineering Branch (MEB)

Secondary - None

I. AREAS OF REVIEW

Nuclear power plant systems and components important to safety should be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed.

The MEB reviews the applicant's classification system for pressure-retaining components such as pressure vessels, heat exchangers, storage tanks, pumps, piping, and valves in fluid systems important to safety, and the assignment by the applicant of quality groups to those portions of systems required to perform safety functions. Where required, specific information or assistance may be required from the ICSB to review electrical and instrumentation systems needed for functioning of plant features important to safety. This review which is coordinated with each branch that has primary review responsibility for these plant features is performed for both construction permit (CP) and operating license (OL) applications. Excluded from this review are: structures; internal parts of mechanical components such as shafts, seals, impellers, packing, and gaskets; fuel, electrical, and instrumentation systems, electrical valve actuation devices, and pump motors.

The applicant presents data in his safety analysis report (SAR) in the form of a table which identifies the fluid systems important to safety; the system components such as pressure vessels, heat exchangers, storage tanks, pumps, piping, and valves; the associated quality group classification, ASME Code and code class; and the quality assurance requirements. In addition, the applicant presents on suitable piping and instrumentation diagrams the system quality group classifications.

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**USNRC STANDARD REVIEW PLAN**

Standard review plans are prepared for the guidance of the Office of Nuclear Reactor Regulation staff responsible for the review of applications to construct and operate nuclear power plants. These documents are made available to the public as part of the Commission's policy to inform the nuclear industry and the general public of regulatory procedures and policies. Standard review plans are not substitutes for regulatory guides or the Commission's regulations and compliance with them is not required. The standard review plan sections are keyed to the Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants. Not all sections of the Standard Format have a corresponding review plan.

Published standard review plans will be revised periodically, as appropriate, to accommodate comments and to reflect new information and experience.

Comments and suggestions for improvement will be considered and should be sent to the U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, Washington, D.C. 20555.

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The MEB also performs the following reviews for the SRP sections indicated:

1. Determines the acceptability of the seismic classification of system components in accordance with SRP Section 3.2.1. The information may be combined with the information in this SRP section which may result in cross-referencing rather than repetition of the information,
2. Verifies that systems and components important to safety that are designated as Quality Groups A, B, C, or D items are constructed in accordance with the regulatory guides, industry codes and standards that are referenced in SRP Sections 3.2.1, 3.9.1 through 3.9.3, and
3. Determines the adequacy of the inservice testing program for pumps and valves in accordance with SRP Section 3.9.6.

## II. ACCEPTANCE CRITERIA

Acceptance criteria is based on meeting the relevant requirements of the following regulations:

10 CFR Part 50, Appendix A, General Design Criterion 1 and 10 CFR Part 50, § 50.55a, as they relate to the requirement that structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety function to be performed.

To meet the requirements of General Design Criterion 1 and 10 CFR Part 50, § 50.55a, the following regulatory guide is used:

Regulatory Guide 1.26, "Quality Group Classification and Standards." This guide describes an acceptable method for determining quality standards for Quality Group B, C, and D water- and steam-containing components important to safety of water-cooled nuclear power plants.

## III. REVIEW PROCEDURES

Selection and emphasis of various aspects of the areas covered by this SRP section will be made by the reviewer on each case. The judgement on the areas to be given attention during the review is to be based on an inspection of the material presented, the similarity of the material to that recently reviewed on other plants, and whether items of special safety significance are involved.

Section 50.55a of 10 CFR Part 50 identifies those ASME Section III, Code Class 1 components of light-water-cooled reactors important to safety which are part of the reactor coolant pressure boundary. These components are designated in Regulatory Guide 1.26 as Quality Group A. In addition, Regulatory Guide 1.26 identifies, on a functional basis, water- and steam-containing components of those systems important to safety that are Quality Groups B and C. Quality Group D applies to water- and steam-containing components of systems that are less important to safety. An applicant may use the NRC Group Classification system identified in Regulatory Guide 1.26 or, alternately, the corresponding ANS classification system of Safety Classes which can be cross-referenced with the classification groups in Regulatory Guide 1.26. There are also systems of light-water-cooled reactors important to safety that are not identified in Regulatory Guide 1.26 and which the staff considers should be classified Quality Group C. Examples of these systems

are: diesel fuel oil storage and transfer system; diesel engine cooling water system, diesel engine lubrication system, diesel engine starting system, diesel engine combustion air intake and exhaust system, and instrument and service air systems required to perform a safety function; and certain ventilation plant systems. Gas treatment systems which are considered as engineered safeguards systems should be classified Quality Group B.

The information supplied in the application identifying fluid systems important to safety is reviewed for completeness, and the quality group classification, ASME Code and code class, and quality assurance requirements of each individual major component are checked for compliance with the above criteria. The various modes of system operation are checked to assure that the assigned NRC quality groups are acceptable.

The piping and instrumentation diagrams are reviewed to assure that the applicant has delineated in detail the system quality group classification boundaries for systems important to safety. Each individual line on a diagram is checked to assure the accuracy of the assigned quality group classification, including branch lines such as vent lines, drain lines, fill lines, test lines, and sample lines. Changes in quality group classification are permitted normally only at valve locations, with the valve assigned the higher classification. A change in quality group classification with no valve present is permitted only when it can be demonstrated that the safety function of the system is not impaired by a failure on the lower-classification side of the boundary.

The following fluid systems important to safety for pressurized water reactor (PWR) and boiling water reactor (BWR) plants are reviewed by the MEB with regard to quality group classification.

#### FLUID SYSTEMS IMPORTANT TO SAFETY FOR PWR PLANTS

Reactor Coolant System  
Emergency Core Cooling System  
Containment Spray System  
Chemical and Volume Control System  
Boron Thermal Regeneration System<sup>1,2</sup>  
Boron Recycle System<sup>1,2</sup>  
Residual Heat Removal System  
Component Cooling Water System<sup>2</sup>  
Spent Fuel Pool Cooling and Cleanup System<sup>2</sup>  
Sampling System<sup>3</sup>  
Service Water System<sup>2</sup>  
Compressed Air System<sup>1,2</sup>  
Emergency Diesel Engine Fuel Oil Storage and Transfer System  
Emergency Diesel Engine Cooling Water System  
Emergency Diesel Engine Starting System  
Emergency Diesel Engine Lubrication System  
Emergency Diesel Engine Combustion Air Intake and Exhaust System  
Main Steam System<sup>3</sup>  
Feedwater System<sup>3</sup>  
Auxiliary Feedwater System  
Steam Generator Blowdown System<sup>3</sup>  
Containment Cooling System  
Containment Purge System

Ventilation Systems for Areas such as Control Room and Engineered Safety Features Rooms  
Combustible Gas Control System  
Condensate Storage System<sup>1</sup>

#### FLUID SYSTEMS IMPORTANT TO SAFETY FOR BWR PLANTS

Reactor Recirculation System  
Main Steam System (up to but not including the turbine)  
Feedwater System (up to outermost containment isolation valve or shutoff valve, as applicable)  
Relief Valve Discharge Piping  
Control Rod Drive Hydraulic System<sup>2</sup>  
Standby Liquid Control System  
Reactor Water Cleanup System  
Fuel Pool Cooling and Cleanup System<sup>2</sup>  
Sampling System<sup>3</sup>  
Residual Heat Removal System  
High Pressure Core Spray System  
Low Pressure Core Spray System  
Reactor Core Isolation Cooling System  
RHR Service Water System  
Emergency Equipment Service Water System  
Compressed Air System<sup>1,2</sup>  
Emergency Diesel Engine Fuel Oil Storage and Transfer System  
Emergency Diesel Engine Cooling Water System  
Emergency Diesel Engine Starting System  
Emergency Diesel Engine Lubrication System  
Emergency Diesel Engine Combustion Air Intake and Exhaust System  
Standby Gas Treatment System  
Combustible Gas Control System  
Containment Cooling System  
Main Steam Isolation Valve Leakage Control System  
Condensate and Refueling Water Storage System<sup>2</sup>  
Ventilation Systems for Areas such as Control Room and Engineered Safety Features Rooms

Clarification of the Quality Group Classification provided in Regulatory Guide 1.26 and applicable to those portions of BWR main steam and feedwater systems (other than the reactor coolant pressure boundary) on the turbine side of the containment isolation valves, are given in Appendices A and B, attached to this SRP section.

Additional guidance on the quality group classification of systems and components important to safety for a typical PWR plant is given in Appendix C attached to this SRP section. Similarly, additional guidance on the quality group classification of systems and components important to safety for a typical BWR plant is given in Appendix D attached to this SRP section. Appendices C and D, in part, identify individual system components including appropriate interconnecting piping and valves, by quality group and the applicable code and

<sup>1</sup>On some plants this system may be non-safety-related, providing it complies with the requirements of Regulatory Guide 1.26.

<sup>2</sup>Portions of the system that perform a safety-related function.

<sup>3</sup>Portions of the system to outermost containment isolation valve.

code class. Table 3.2.2-1 attached to this SRP section provides a summary of the construction Codes and Standards for components of water-cooled nuclear power plants and is based on the NRC quality group classification system in Regulatory Guide 1.26.

In the event an applicant intends to take exception to Regulatory Guide 1.26 and has not provided adequate justification for his proposed quality group classification, questions are prepared by the staff which may require additional documentation or an analysis to establish an acceptable basis for his proposed quality group classification. Staff comments may also be prepared requesting clarification, in order to assure a clear understanding of the quality group classifications assigned to a system by the applicant.

Exceptions and alternatives to the specified quality group classifications of Regulatory Guide 1.26 are unacceptable unless "equivalent quality level" is justified. In such cases, justification can be demonstrated if: the component is classified to meet the requirements of a higher group classification than specified in Regulatory Guide 1.26 or alternative design rules are based on the use of a more conservative design; the extent of component nondestructive examination is equal to or greater than required by the specified code; and the quality assurance requirements of Appendix B, 10 CFR Part 50 are met.

If the staff's questions are not resolved in a satisfactory manner, a staff position is taken requiring conformance to Regulatory Guide 1.26.

#### IV. EVALUATION FINDINGS

The staff's review should verify that adequate and sufficient information is contained in the SAR and amendments to arrive at a conclusion of the following type, which is to be included in the staff's safety evaluation report:

Pressure-retaining components of fluid systems important to safety such as pressure vessels, heat exchangers, storage tanks, pumps, piping and valves have been classified Quality Group A, B, C, or D and have been identified in an acceptable manner in Table 3.X.X and on system piping and instrumentation diagrams in the SAR. These components have been constructed to quality standards commensurate with the importance of the safety function to be performed. The review of Quality Group A and B (ASME Section III, Class 1 and 2) reactor coolant pressure boundary components is discussed in Section 5.2.1.1 of the SER. Other Quality Group B components of systems identified in Position C.1.a through C.1.e of Regulatory Guide 1.26 are constructed to ASME Section III, Class 2. Components in systems identified in Position C.2.a through C.2.d of Regulatory Guide 1.26 are constructed to Quality Group C standards, ASME Section III, Class 3. Components in systems identified in Position C.3 of Regulatory Guide 1.26 are constructed to Quality Group D standards such as, ASME Section VIII and ANSI B31.1.

The staff concludes that pressure-retaining components of fluid systems important to safety have been properly classified as Quality Group A, B, C, or D items and meets the requirements of General Design Criterion 1, "Quality Standards and Records." This conclusion is based on the applicant having met the requirements of General Design Criterion 1 by having properly classified these

pressure-retaining components important to safety Quality Group A, B, C, or D in accordance with the positions of Regulatory Guide 1.26, "Quality Group Classifications and Standards," and by our conclusion that the identified pressure-retaining components are those necessary (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 maintain it in a safe shutdown condition, and (3) to contain radioactive materials.

#### V. IMPLEMENTATION

The following is intended to provide guidance to applicants and licensees regarding the NRC staff's plan for using this SRP section.

Except in those cases in which the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the method described herein will be used by the staff in its evaluation of conformance with Commission regulations.

Implementation schedules for conformance to parts of the method discussed herein are contained in the referenced Regulatory Guide.

#### V. REFERENCES

1. 10 CFR Part 50, Appendix A, General Design Criterion 1, "Quality Standards and Records."
2. Regulatory Guide 1.26, "Quality Group Classifications and Standards."
3. ASME Boiler and Pressure Vessel Code, 1980 Edition, Section III, "Nuclear Power Plant Components," American Society of Mechanical Engineers (1980).
4. ASME Boiler and Pressure Vessel Code, 1980 Edition, Section VIII, Division 1, "Pressure Vessels," American Society of Mechanical Engineers (1980).
5. ANSI/ASME B31.1-1980, "Power Piping," American National Standards Institute (1980).
6. API Standard 620, Sixth Edition, "Recommended Rules for Design and Construction of Large, Welded, Low-Pressure Storage Tanks," American Petroleum Institute (1977).
7. API Standard 650, Sixth Edition, Revision 1, "Welded Steel Tanks for Oil Storage," American Petroleum Institute (1978).
8. AWWA D100-79, "AWWA Standard for Steel Tanks-Standpipes, Reservoirs, and Elevated Tanks for Water Storage," American Water Works Association (1979).
9. ANSI B96.1-1980, "Specification for Welded Aluminum-Alloy Field-Erected Storage Tanks," American National Standards Institute (1980).
10. Appendix A, "Classification of Main Steam Components Other Than the Reactor Coolant Pressure Boundary for BWR Plants," attached to this SRP section.

11. Appendix B, "Classification of BWR/6 Main Steam and Feedwater Components Other Than the Reactor Coolant Pressure Boundary," attached to this SRP section.

TABLE 3.2.2-1

SUMMARY OF CONSTRUCTION<sup>1</sup> CODES AND STANDARDS FOR COMPONENTS OF WATER-COOLED NUCLEAR POWER PLANTS BY NRC QUALITY CLASSIFICATION SYSTEM<sup>2</sup>

Components	NRC Quality Classification System			
	Quality Group A	Quality Group B	Quality Group C	Quality Group D
Pressure Vessels	ASME Boiler and Pressure Vessel Code, Section III, Division 1, Subsection NB -Class 1, Nuclear Power Plant Components <sup>3,4</sup>	ASME Boiler and Pressure Vessel Code, Section III, Division 1, Subsection NC -Class 2, Nuclear Power Plant Components <sup>3,4</sup>	ASME Boiler and Pressure Vessel Code, Section III, Division 1, Subsection ND -Class 3, Nuclear Power Plant Components <sup>3,4</sup>	ASME Boiler and Pressure Vessel Code, Section VIII, Division 1.
Piping	As above	As above	As above	ANSI B31.1 Power Piping
Pumps	As above	As above	As above	Manufacturers standards.
Valves	As above	As above	As above	ANSI B31.1 Power Piping and ANSI B16.34
Atmospheric Storage Tanks	Not applicable	As above	As above	API-650, AWWA D100, or ANSI B96.1
0-15 psig Storage Tanks	Not applicable	As above	As above	API-620
Supports	As above except Subsection NF	As above except Subsection NF	As above except Subsection NF	Manufacturers standards
Metal Containment Components	Not applicable	As above except Subsection NE, Class MC	Not applicable	Not applicable
Core Support Structures	Not applicable	As above except Subsection NG	Not applicable	Not applicable

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NOTES:

<sup>1</sup>As defined in Subsubarticle NCA-1110 of Section III, of the ASME Boiler and Pressure Vessel Code, construction is an all-inclusive term comprising materials, design, fabrication, examination, testing, inspection, and certification required in the manufacture and installation of components.

<sup>2</sup>As defined in Regulatory Guide 1.26, the NRC Quality Classification System identifies on a functional basis components of fluid systems by Quality Groups A, B, C, and D.

<sup>3</sup>See Section 50.55a, "Codes and Standards," of 10 CFR Part 50 for guidance with regard to the Code Edition and Addenda to be applied

<sup>4</sup>The specific applicability of ASME Code Cases is covered separately in SRP Section 5.2.1.2, Regulatory Guides 1.84 and 1.85, or in Commission regulations, where appropriate. Applicants proposing the use of ASME Code Cases not covered by these SRP and Regulatory Guides should receive approval from the Commission prior to their use and should demonstrate that an acceptable level of quality and safety would be achieved.

## APPENDIX A\*

### CLASSIFICATION OF MAIN STEAM COMPONENTS OTHER THAN THE REACTOR COOLANT PRESSURE BOUNDARY FOR BWR PLANTS

#### A. BACKGROUND

A pipe classification of "D + QA" for main steam line components of BWR plants was proposed by the General Electric Company in 1971 as an alternative to Quality Group B and has been accepted by the staff in a number of licensing case reviews.

However, we have recently identified a number of potential problems which are applicable to main steam lines of BWR plants. These problems relate to postulated breaks in high-energy fluid-containing lines outside the containment. The criteria pertaining to protection required for structures, systems, and components outside containment from the effects of postulated pipe breaks, as contained in the Director of Licensing's letter to utilities dated July 12, 1973, reference ASME Section III, Class 2, which corresponds to NRC Quality Group B.

The recent ASME Code Section XI revision contains in-service inspection requirements for Class 2 components. Steam lines classified as "D + QA" could be interpreted to be exempt from these inspection requirements. Such interpretations would be contrary to the intent of the code and inconsistent with requirements of the NRC Codes and Standards rule, Section 50.55a of 10 CFR Part 50.

Furthermore, the applicability of the following NRC Regulatory Guides, Standard Review Plan section, and Regulations, as they relate to ASME Section III, Class 2 components is not always clearly identified or implemented in case applications wherever "D + QA" classification is adopted:

1. SRP Section 3.9.3, "ASME Code Class 1, 2, and 3 Components, Component Supports, and Core Support Structures."
2. Regulatory Guide 1.26, "Quality Group Classifications and Standards."
3. 10 CFR Part 50, § 50.55a, "Codes and Standards for Nuclear Power Plants."
4. 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants."

In view of the foregoing, we find it necessary to clarify the quality group classification criteria for main steam components for BWR plants.

#### B. BRANCH TECHNICAL POSITION

The main steam line components of BWR plants should conform to the criteria listed in the attached Table A-1 of SRP Section 3.2.2.

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\* Formally BTP RSB No. 3-1

C. REFERENCES

1. Letter of March 22, 1973, J. A. Hinds to J. M. Hendrie.
2. Letters of August 13, 1973 and November 26, 1973, J. M. Hendrie to J. A. Hinds.

Table A-1

CLASSIFICATION REQUIREMENTS FOR MAIN STEAM COMPONENTS OTHER THAN THE REACTOR COOLANT PRESSURE BOUNDARY

<u>Item</u>	<u>System or Component</u>	<u>Classification Quality Group</u>
1.	Main Steam Line from 2nd Isolation Valve to Turbine Stop Valve.	B
2.	Main Steam Line Branch Lines to First Valve.	B
3.	Main Turbine Bypass Line to Bypass Valve.	B
4.	First Valve in Branch Lines Connected to Either Main Steam Lines or Turbine Bypass Lines.	B
5.	a. Turbine Stop Valves, Turbine Control Valves, and Turbine Bypass Valves.	D + QA <sup>1</sup> or Certification <sup>2</sup>
	b. Main Steam Leads from Turbine Control Valves to Turbine Casing.	D + QA <sup>1,3</sup> or Certification <sup>2</sup>

<sup>1</sup>The following requirements shall be met in addition to the Quality Group D requirements:

1. All cost pressure-retaining parts of a size and configuration for which volumetric examination methods are effective shall be examined by radiographic methods by qualified personnel. Ultrasonic examination to equivalent standards may be used as an alternate to radiographic methods.
2. Examination procedures and acceptance standards shall be at least equivalent to those specified as supplementary types of examination in ANSI B31.1-1973, Par. 136.4.

<sup>2</sup>The following qualification shall be met with respect to the certification requirements:

1. The manufacturer of the turbine stop valves, turbine control valves, turbine bypass valves, and main steam leads from turbine control

Table A-1 (cont'd)

valves to the turbine casing shall utilize quality control procedures equivalent to those defined in General Electric Publication GEZ-4982A, "General Electric Large Steam Turbine - Generator Quality Control Program."

2. A certification shall be obtained from the manufacturer of these valves and steam leads that the quality control program so defined has been accomplished.

<sup>3</sup>The following requirements shall be met in addition to the Quality Group D requirements:

1. All longitudinal and circumferential butt weld joints shall be radiographed (or ultrasonically tested to equivalent standards). Where size or configuration does not permit effective volumetric examination, magnetic particle or liquid penetrant examination may be substituted. Examination procedures and acceptance standards shall be at least equivalent to those specified as supplementary types of examinations, Paragraph 136.4 in ANSI B31.1-1973.
2. All fillet and socket welds shall be examined by either magnetic particle or liquid penetrant methods. All structural attachment welds to pressure retaining materials shall be examined by either magnetic particle or liquid penetrant methods. Examination procedures and acceptance standards shall be at least equivalent to those specified as supplementary types of examinations, Paragraph 136.4 in ANSI B31.1-1973.
3. All inspection records shall be maintained for the life of the plant. These records shall include data pertaining to qualification of inspection personnel, examination procedures, and examination results.

## APPENDIX B\*

### CLASSIFICATION OF BWR/6 MAIN STEAM AND FEEDWATER COMPONENTS OTHER THAN THE REACTOR COOLANT PRESSURE BOUNDARY

#### A. BACKGROUND

At various times the NRC staff has discussed with the General Electric Company the subject of appropriate classification requirements in boiling water reactor (BWR) plants for main steam system components. These discussions have included consideration of components that are (a) not classified as safety-related items but are located downstream of the isolation valves, (b) not specifically designed to seismic Category I standards, and (c) not housed in Seismic Category I structures.

To date, BWR plant reviews have resulted in various approaches for different individual applications. While these different approaches have resulted in acceptable levels of safety in each case, they have required time-consuming case-by-case reviews. The GESSAR (PDA) BWR/6 application which was reviewed as part of our standardization program, includes this portion of the BWR plant.

In the course of the GESSAR PDA review, we have identified a systematic basis for classification of such components that will result in an acceptable and uniform design basis for the main steam lines (MSL) and feedwater lines (MFL) in BWR/6 plants.

#### B. BRANCH TECHNICAL POSITION

The main steam and feedwater system components of BWR/6 plants should be classified in accordance with SRP Section 3.2.2, Appendix A, or alternately, in accordance with the attached Table B-1 of SRP Section 3.2.2. The classifications indicated are consistent with the guidelines currently specified in Regulatory Guide 1.26 and Regulatory Guide 1.29.

As an additional requirement, a suitable interface restraint should be provided at the point of departure from the Class I structure where the interface exists between the safety and nonsafety-related portions of the MSL and MFL.

A sketch is attached (Figure B-1) to clarify the specified alternate classification system.

#### C. REFERENCES

1. Letter of April 19, 1974, J. M. Hendrie to J. A. Hinds.

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\* Formally BTP RSB No. 3-2

Table B-1

CLASSIFICATION REQUIREMENTS FOR BWR/6 MAIN STEAM AND FEEDWATER  
SYSTEM COMPONENTS OTHER THAN THE REACTOR COOLANT PRESSURE BOUNDARY

Item	SYSTEM OR COMPONENT	QUALITY GROUP CLASSIFICATION
1.	Main Steam Line (MSL) from second isolation valve to and including shutoff valve.	B
2.	Branch lines of MSL between the second isolation valve and the MSL shutoff valve, from branch point at MSL to and including the first valve in the branch line.	B
3.	Main feedwater line (MFL) from second isolation valve and including shutoff valve.	B
4.	Branch lines of MFL between the second isolation valve and the MFL shutoff valve, from the branch point at MFL to and including the first valve in the branch line.	B
5.	Main steam line piping between the MSL shutoff valve and the turbine main stop valve.	D (1)
6.	Turbine bypass piping.	D
7.	Branch lines of the MSL between the MSL shutoff valve and the turbine main stop valve.	D
8.	Turbine valves; turbine control valves, turbine bypass valves, and main steam leads from the turbine control valves to the turbine casing.	D (1,2) or Certification (3)
9.	Feedwater system components beyond the MFL shutoff valve.	D

(1) All inspection records shall be maintained for the life of the plant. These records shall include data pertaining to qualification of inspection personnel, examination procedures, and examination results.

(2) All cast pressure-retaining parts of a size and configuration for which volumetric methods are effective shall be examined by radiographic methods by qualified personnel. Ultrasonic examination to equivalent standards may be used as an alternate to radiographic methods. Examination procedures and acceptance standards shall be at least equivalent to those defined in Paragraph 136.4, "Examination Methods of Welds - Non-Boiler External Piping," ANSI B31.1-1973.

Table B-1 (cont'd)

(3) The following qualifications shall be met with respect to the certification requirements:

1. The manufacturer of the turbine stop valves, turbine control valves, turbine bypass valves, and main steam leads from turbine control valves to the turbine casing shall utilize quality control procedures equivalent to those defined in General Electric Publication GEZ-4982A, "General Electric Large Steam Turbine-Generator Quality Control Program."
2. A certification shall be obtained from the manufacturer of these valves and steam leads that the quality control program so defined has been accomplished.

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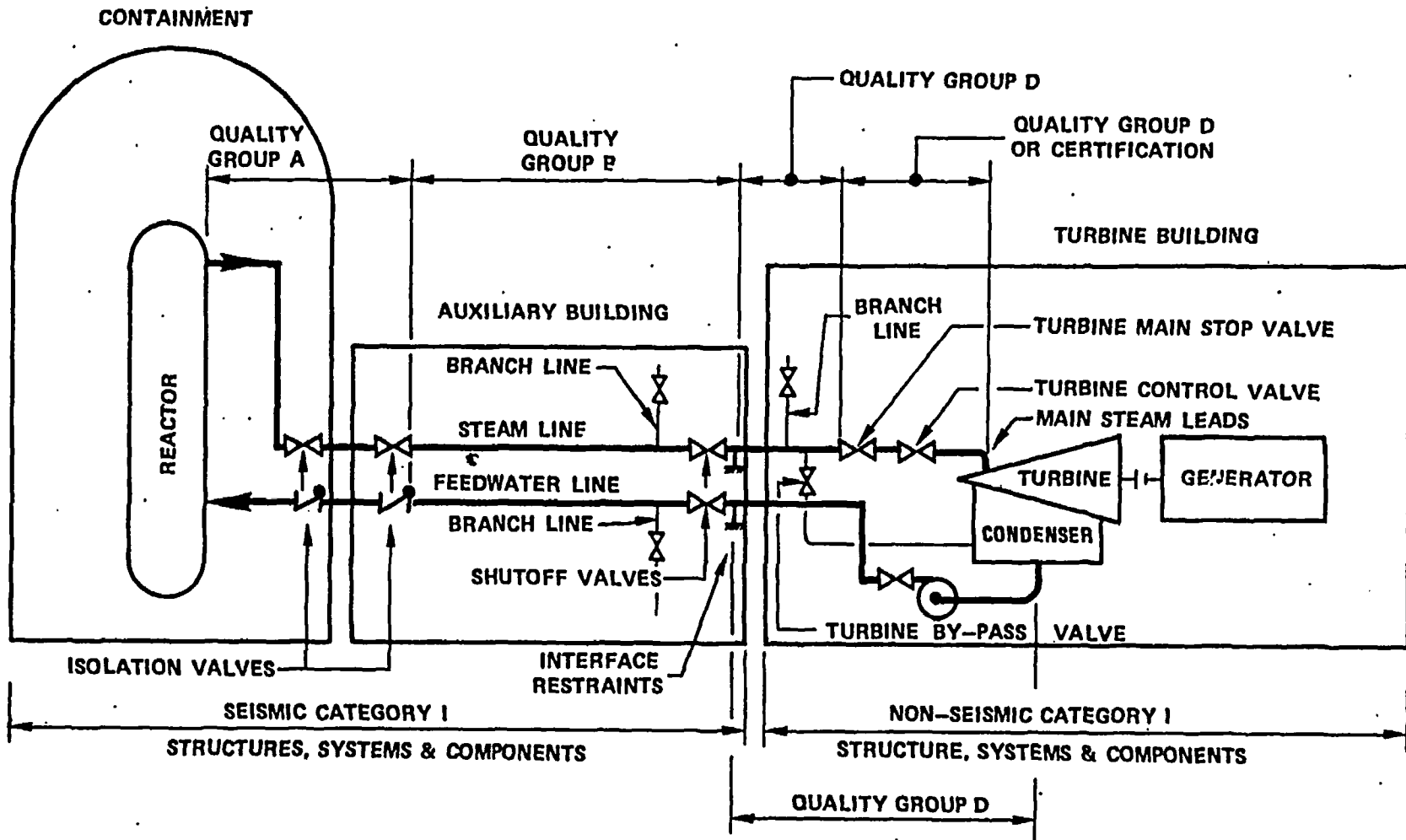


Figure B-1 NRC Quality Group and Seismic Category Classifications Applicable to Power Conversion System Components in BWR/6 Plants.



**Appendix C**

**PWR Plants**

**Classification of Systems and Components**

**In Course of Preparation**

**Classification of Structures**

**In Course of Preparation**

**Appendix D**

**BWR Plants**

**Classification of Systems and Components**

**In Course of Preparation**

**Classification of Structures**

**In Course of Preparation**