



GULF STATES UTILITIES COMPANY

POST OFFICE BOX 2951 • BEAUMONT, TEXAS 77704

AREA CODE 713 838-6631

December 22, 1983

RBC-16,624

File Code: G9.5, G9.8.6.1

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

River Bend Station Units 1 and 2
Docket No. 50-458/459

Enclosed is Gulf States Utilities response to the open item identified in the Draft Safety Evaluation Report (DSER) by the Quality Assurance Branch (QAB). The staff required additional information and clarifications in regard to the list of structures, systems, and components that fall under the control of the QA program. This request was issued as Question 260.23 and required revising Table 3.2-1 or justifying the current format using the items identified in the question. Please refer to Attachment 1 which addresses each item, and provides a reference to the appropriate item in revised Table 3.2-1, and Attachment 2 which provides the necessary justification for items which have not been included in Table 3.2-1. Enclosure 1 provides the necessary changes to the Final Safety Analysis Report which will be incorporated into the next amendment.

Sincerely,

J. E. Booker

J. E. Booker
Manager - Engineering
Nuclear Fuel & Licensing
River Bend Nuclear Group

*as
JEB*
JEB/ERG/JWL/mc
Attachments

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PDR ADOCK 05000458
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ATTACHMENT 1

ITEM NUMBER	ITEM DESCRIPTION	REFERENCES
a.1.	Biological Shielding	XLIII
2.	Internal Missile Barriers	XLIII
3.	Spent Fuel Pool and Liner	XLIII.16.
4.	HPCS Diesel Generator Piping and Valves for (a) Cooling Water System (b) Starting System (c) Lubrication System	XXVII.5.e. XXVII.7.d. XXVII.9.f.
5.	Standby Diesel Generator Piping and Valves for (a) Cooling Water System (b) Starting System (c) Lubrication System	XXVII.6.e. XXVII.8.e. XXVII.10.g.
6.	Fabricated Supports Supporting Systems and Components Identified in Reg. Guide 1.29	XXXV.10
7.	Items Identified in Reg. Guide 1.29 Position C.2 and C.3	Note 33
8.	Control Room Ventilation System	XLV
9.	Duct and Dampers for Fuel Bldg. Ventilation System Isolation	XXXIX
10.	Radioactivity Sampling	Note 34
11.	Radioactivity Contamination Measurement and Analysis Equipment	Note 34
12.	Personnel Monitoring Equipment	Note 34
13.	Instrument Storage, Calibration, and Maintenance Program	Note 34

ITEM NUMBER	ITEM DESCRIPTION	REFERENCES
a. 14.	Decontamination Facilities Personnel, and Equipment	Note 34
15.	Respiratory Protection Equip- ment (including Testing)	Note 34
16.	Contamination Control	Note 34
17.	Radioactivity Monitoring Equipment	VIII & XL
18.	Modifications of Roof and Site Drainage Systems	Note 34
b. 1. XXXIV. (a)	Diesel Generator Auxiliary Packages	XXVII
(b)	4160 Volt Switchgear	XXXIV.1
(c)	480 Volt Load Centers	XXXIV.2
(d)	480 Volt Motor Control Centers	XXXIV.3
(e)	4160/480 Volt Transformers	XXXIV.4
(f)	Instrumentation, Control, and Power Cables	XXXIV.7
(g)	Conduit Cable Trays, and their Supports	XXXIV.9 & 10
(h)	Valve Operators	Note 36
(i)	Protection Relays and Control Panels	XXXIV.6
(j)	Electrical Containment	XXXIV.11
(k)	Raceway Stops & Seals	XXXIV.13
(l)	Emergency Lighting Battery Packs	XXXIV.12
(m)	AC Vital Bus Distribution Equipment	XXXIV.5
XXXV. (a)	Cables	XXXV.8

ITEM NUMBER	ITEM DESCRIPTION	REFERENCES
XXXV.(b)	Conduits, Cable Trays, and their supports	XXXV.9 & 10
(c)	Station Batteries	XXXV.1
(d)	Battery Chargers	XXXV.2
(e)	Battery Racks	XXXV.3
(f)	Inverters	XXXV.4
(g)	DC Switchgear, Distribution Panels, and Protective Relays	XXXV.5,.6, & .7
b.2.	Standby Gas Treatment System Charcoal and Particulate Filter Units, Isolation Ducts and Dampers	XXIX, XXX, XLIX, and XXXI
3.	Commitment to subject all Safety-Related I&C described in 7.1-7.6 to pertinent requirements of Appendix B	Note 37
4.	Feedwater Sparger and other Reactor Internal Structures should be subjected to per- tinent requirements of Appendix B applied per Reg. Guide 1.29 Pos. 4	Note 34
c.	NUREG-0737 Items:	
1.	Reactor Coolant System Vents	Attachment 2
2.	Plant Shielding	XLIII
3.	Post-Accident Sampling Capabilities	LIX
4.	Valve Position Indication	II
5.	Dedicated Hydrogen Penetrations	Attachment 2

ITEM NUMBER	ITEM DESCRIPTION	REFERENCES
c.6.	Containment Isolation Dependability	Note 37
7.	Accident Monitoring Instrumentation	Note 37
8.	Instrumentation to Detect Inadequate Core-Cooling	Note 37
9.	RCIC* Initiation Levels	Note 37
10.	RCIC* Isolation	Note 37
11.	Challenges To & Failure of Relief Valves	Attachment 2
12.	ADS Actuation	Attachment 2
13.	Restart of Core Spray and LPCI	Note 37
14.	RCIC Suction	Attachment 2
15.	RCIC* Space Cooling	Attachment 2
16.	Power on Pump Seals	Attachment 2
17.	Common Reference Level	Attachment 2
18.	ADS: Valve Accumulators Associated Equipment Associated Instrumentation	II.9 II.2 XLII Note 37
19.	Emergency Plans	LX
20.	Emergency Support Facilities	LIX
21.	Inplant Iodine Monitoring	VIII
22.	Control-Room Habitability	XLIII and XLV

* RBS does not have a High Pressure Core Injection (HPCI) System

ATTACHMENT 2

The following items, as identified in Attachment 1, are not included in Table 3.2-1. This attachment provides the justification for exclusion.

ITEM	DESCRIPTION	JUSTIFICATION
a.6	Fabricated Supports, Supporting Systems, and Components identified in Reg. Guide 1.29	Fabricated Supports, such as Unistrut, are being used to support Seismic Category I Cable Trays only. This is covered in Item XXXV.10
c.1	Reactor Coolant System Vents	Primary RCS venting capability is provided by the SRV's. This is covered in Item II.9
c.5	Indicated Hydrogen Penetrations	The RBS recombiners are located inside containment; thus, no penetrations. The containment purge system is already included in Item XLIX
c.11	Challenges to & Failure of Safety Relief Valves	The SRV's are already included in Item II. I&C associated with the SRV's are covered by Note 37
c.12	ADS Actuation	Same as c.11
c.14	RCIC Suction	RCIC Suction switchover I&C are covered by Note 37
c.15	RCIC Space Cooling	RCIC Space Cooling provided by the auxiliary building ventilation system is covered by Item XXXI
c.16	Power on Pump Seals	A test simulating loss of cooling water to the recirculation pump (Temp. 270°F, Time =5 hrs.) determined no leakage above 5gpm. GSU endorses BWROG position and no change in the RBS design is necessary
c.17	Common Reference Level	RPV instrumentation is covered by Item II and Note 37

ENCLOSURE 1

3.2.2.1.1 Safety Class 1

Definition

Safety Class 1 applies to components of the RCPB whose failure could cause a loss of reactor coolant.

Design Requirements

Table 3.2-4 lists industry code requirements for Safety Class 1 mechanical components and correlates these requirements with design condition categories.

3.2.2.1.2 Safety Class 2

Definition

Safety Class 2 applies to those structures, systems, and components that are not Safety Class 1 but are necessary to accomplish the safety functions of:

1. Inserting negative reactivity to shut down the reactor
2. Preventing rapid insertion of positive reactivity
3. Maintaining core geometry appropriate to all operating and accident conditions
4. Providing emergency core cooling
5. Providing and maintaining containment
6. Removing residual heat from the reactor and reactor core
7. Storing spent fuel.

Safety Class 2 includes the following:

1. Reactor protection system (RPS)
2. Those components of the control rod system which are necessary to render the reactor subcritical
3. Systems or components which restrict the rate of insertion of positive reactivity
4. The assembly of components of the reactor core which maintain core geometry including the fuel

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assemblies, core support structure, and core grid plate

5. Other components within the reactor vessel such as jet pumps, core shroud, and core spray components which are necessary to accomplish the safety function of emergency core cooling
6. Emergency core cooling systems (ECCS)
7. Primary containment
8. Shield building and standby gas treatment system (SGTS)
9. Post-accident containment heat removal systems
10. Containment hydrogen control system
11. Initiating systems required to accomplish safety functions, including emergency core cooling initiating system and containment isolation initiating system
12. At least one of the systems which recirculates reactor coolant to remove decay heat when the reactor is pressurized
13. Spent fuel storage racks and spent fuel pool
13. 14. Electrical and instrument auxiliaries necessary to operation of the above
14. 15. Pipes having a nominal pipe size of 3/4 in or smaller that are connected to the RCPB.

Design Requirements

In applying industry codes to Safety Class 2 equipment, the codes, except for mechanical equipment, do not fit neatly and automatically into the safety class and design condition designations developed in this section. Therefore, mechanical and structural categories are treated separately from electrical. Table 3.2-5 lists the code requirements for Safety Class 2 mechanical systems and structures within the RCPB, and correlates these requirements with design condition categories. Structures not within the RCPB are treated in Section 3.8. The requirements for instrument tubing are listed in Table 3.2-8.

Code requirements for design of Class 1E electrical and protection systems (as defined in IEEE-279 and IEEE-308) of Safety Class 2 are shown in Table 3.2-7.

3.2.2.1.3 Safety Class 3

Definition

Safety Class 3 applies to those structures, systems, and components that are not Safety Class 1 or 2, but which provide or support safety system functions.

Safety Class 3 includes the following:

1. Cooling water systems required for the purpose of:
 - a. Removal of decay heat from the reactor
 - b. Emergency core cooling
 - c. Post-accident heat removal from the suppression pool
 - d. Providing cooling water needed for the functioning of safety-related systems.
2. Fuel supply for the onsite emergency electrical system
3. Standby equipment area cooling
4. Portions of the compressed gas or hydraulic systems required to support control or operation of safety systems
5. Electrical and instrumentation auxiliaries necessary for operation of the above
6. Spent fuel pool cooling.

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Design Requirements

The design requirements for Safety Class 3 mechanical categories are listed in Table 3.2-6. This table correlates these requirements with design condition categories.

Code requirements for Safety Class 3 electrical equipment are shown in Table 3.2-7.

The requirements for instrument tubing are listed in Table 3.2-8.

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7. Spent fuel storage racks, pool, and liner

CHAPTER 9

AUXILIARY SYSTEMS

9.1 FUEL STORAGE AND HANDLING

9.1.1 New Fuel Storage

9.1.1.1 Design Bases

9.1.1.1.1 Safety Design Bases

9.1.1.1.1.1 Safety Design Bases - Structural

1. The new fuel storage racks containing a full complement of fuel assemblies are designed to withstand all credible static and dynamic loadings, to prevent damage to the structure of the racks, and therefore the contained fuel, and to minimize distortion of the racks arrangement (Table 3.9B-2s).
2. The modules are designed to protect the fuel assemblies and bundles from excessive physical damage which may cause the release of radioactive materials in excess of 10CFR20 and 10CFR100 requirements under normal or abnormal conditions caused by impacting from either fuel assemblies, bundles, or other equipment.
3. The racks are constructed in accordance with the quality assurance requirements of 10CFR50, Appendix B.
- 3 4. The new fuel storage racks are categorized as Safety Class 2 and Seismic Category I.
5. The new fuel storage facility is housed within a Seismic Category I structure that is tornado, missile, and flood protected.
6. The new fuel storage facility is designed to conform to the requirements of Regulatory Guide 1.29.
7. The new fuel storage facility is designed in accordance with General Design Criteria 2, 3, 4, 5, 61, 62, and 63.

10CFR100 requirements under normal or abnormal conditions caused by impact from any of the fuel assemblies.

The racks are constructed in accordance with the quality assurance requirements of 10CFR50, Appendix B.

- 3 The spent fuel storage racks are categorized as Safety Class 2 and Seismic Category I.

The spent fuel storage facilities are housed within Seismic Category I structures which are tornado, missile, and flood protected, and are designed to Regulatory Guides 1.13 and 1.29. The spent fuel storage facility is designed in accordance with General Design Criteria 2, 3, 4, 5, 61, 62, and 63.

9.1.2.1.1.2 Safety Design Bases - Nuclear

The fuel array in the fully loaded spent fuel racks is designed to be subcritical, by at least 5 percent Δk . Geometrically safe configurations of fuel stored in the spent fuel array are employed to assure that k_{eff} does not exceed 0.95 under all normal and abnormal storage conditions. The geometry of the spent fuel storage array is such that k_{eff} will be ≤ 0.95 due to overmoderation.

Standard General Electric lattice methods⁽²⁾ and Monte Carlo techniques are employed in the calculations performed to assure that k_{eff} does not exceed 0.95 under all normal and abnormal fuel storage conditions (Section 9.1.2.3.1.1) for the containment fuel pool storage racks.

Standard criticality calculations employing KENO IV three-dimensional Monte Carlo method are utilized to assure that k_{eff} does not exceed 0.95 under all normal and abnormal conditions (Section 9.1.2.3.1.2) for the fuel building fuel pool high-density spent fuel storage racks.

It is assumed that the storage array is infinite in all directions. Since no credit is taken for leakage, the values reported as effective neutron multiplication factors are, in reality, infinite medium neutron multiplication factors.

The biases between the calculated results and experimental results, as well as the uncertainty involved in the calculations, are taken into account as part of the calculational procedure to assure that the specified k_{eff} limits are met.

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TABLE 3.2-1

EQUIPMENT AND STRUCTURE CLASSIFICATION

Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
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I. Reactor System

1. Reactor vessel	1	I	E	E	D	GE	CBIN	
2. Reactor vessel support skirt	1	I	E	E	D	GE	CBIN	
3. Reactor vessel appurtenances, pressure retaining portions	1	I	E	E	D	GE	CBIN	
4. CRD housing supports	2	I	E	E	D	GE	GE	
5. Reactor internal structures, engineered safety features	2	I	B	E	D	GE	GE	
6. Reactor internal structures, other	NNS	NA	S,B	E	D	GE	GE	(34)
7. Control rods	2	I	E	E	D	GE	GE	
8. Control rod drives	2	I	E	E	D	GE	GE	
9. Core support structure	2	I	E	E	D	GE	GE	
10. Power range detector hardware	2	I	E	E	D	GE	GE	(12)
11. Fuel assemblies	2	I	E	E	D	GE	GE	

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II. Nuclear Boiler System

1. Vessels, level instrumentation condensing chambers	1	I	E	E	D	GE	GE	
2. Vessels, air accumulators	2	I	E	E	D	P	S	
3. Piping, relief valve discharge	3	I	E	E	C,D	P	S	
4. Piping, main steam within outermost isolation valve	1	I	B	E	A,C,D	GE	GE	
5. Pipe supports, main steam	1	I	E	E	D	GE	GE	
6. Pipe restraints, main steam	1	I	S	E	D	GE	GE	
7. Piping, other within outermost isolation valves	1	I	B	E	D	P	S	(12)
8. Piping, instrumentation beyond outermost isolation valves	NNS	NA	S	E	D	P	S	(12)
9. Safety/relief valves	1	I	B	E	D	GE	V	
10. Valves, main steam isolation valves	1	I	B	E	A,D	GE	V	
11. Valves, other, isolation valves and within	1	I	E	-	A,D	P	V	(12)
12. Valves, instrumentation beyond outermost isolation valves	NNS	NA	S	E	A,C	P	V	(12)

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
13. Mechanical modules, instrumentation, with safety function	2	I	B	E	C	GE	GE	
14. Electrical modules with safety function	2	I	B	E	C	GE	GE	
15. Cable, with safety function	2	NA	B	E	-	P	S	
III. <u>Recirculation System</u>								
1. Piping	1	I	E	E	D	GE	GE	(12)
2. Pipe suspension, recirculation line	1	I	E	E	D	GE	GE	
3. Pipe restraints, recirculation line	2	I	E	E	D	GE	GE	
4. Pumps	1	I	E	E	D	GE	V	
5. Valves	1	I	B	E	D	GE	V	
6. Motor, pump	2	I	E	E	D	GE	V	
7. Electrical modules, with safety function	2	I	E	E	C	GE	GE	
8. Cable with safety function	2	NA	E	E	-	P	S	
9. LFMG set	NNS	NA	NA	N	T	GE	GE	
IV. <u>CRD Hydraulic System</u>								
1. Valves, scram discharge volume lines	2	I	B	E	C	GE	V	
2. Valves insert and withdraw lines	2	I	E	E	C	P	V	
3. Valves, other	NNS	NA	B	E	C	P	V	(9)
4. Piping, scram discharge volume lines	2	I	S	E	C, F/A, C	P/GE	V	
5. Piping, insert and withdraw lines	2	I	B	E	C	P	S	(20)
6. Piping, other	NNS	NA	E	E	C, D	P	S	(9)
7. Hydraulic control unit	2	I	S	E	C, D, F	P	S	(12)
8. Electrical modules, with safety function	2	I	B	E	C	GE	GE	(17)
9. Cable, with safety function	2	NA	E	E	-	P	S	
10. CRD pumps, filters, and strainers	NNS	NA	S	E	F	GE	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
<u>V. Standby Liquid Control System</u>								
1. Standby liquid control tank	2	I	B	E	C	GE	GE	
2. Pump	2	I	E	E	C	GE	V	
3. Pump Motor	2	I	E	E	C	GE	V	
4. Valves, explosive	1	I	E	E	C	GE	V	
5. Valves, isolation and within	1	I	E	E	C	P	V	
6. Valves, beyond isolation valves	2	I	E	E	C	P	V	
7. Piping, within isolation valves	1	I	E	E	C	P	S	(12)
8. Piping, beyond isolation valves	2	I	B	E	C	P	S	(12)
9. Electrical modules, with safety function	2	I	E	E	C	GE	GE	
10. Cable, with safety function	2	NA	B	E	C	P	S	
<u>VI. Neutron Monitoring System</u>								
1. Piping, TIP	NNS	NA	S	E	D	GE	GE	
2. Drive mechanism, indexing mechanism, multimax connector, purge air control unit, source range monitor (SRM), proximity switch, motor modules	NNS	NA	S	E	C	GE	GE	
3. Cable, IRM, SRM, PRMs	2	NA	B	E	-	GE	V	
<u>VII. Reactor Protection System</u>								
1. Electrical modules	2	I	E		C, R, T	GE	GE	
2. Cable	2	NA	E		-	P	V	
<u>VIII. Process Radiation Monitors</u>								
1. Electrical modules and main steam line monitors	2	I	E	E	A, C	GE	GE	
2. Fuel building ventilation, main plant exhaust, containment atmosphere, reactor building annulus ventilation, drywell atmosphere, main control room intake, RHR heat exchanger service water, and SGTS effluent monitors	2	I	E	E	A, C, F, M, R, T	P	V	
3. All other monitors	NNS	NA	S	E	A, W, F, T, M, C	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
4. Cable, monitors with safety function	2	NA	B	E	-	P	S	
5. Electrical modules for process liquid, process ventilation, air ejector off gas, and standby gas treatment radiation monitoring systems	NNS	NA	S	E	A,R,T,W,F	P	S	
6. Electrical modules for air ejector off gas	NNS	NA	S	E	T	GE	GE	

IX. RHR System

1. Heat exchangers, shell side	2	I	B	E	A	GE	GE	
2. Heat exchangers, tube side	3	I	B	E	A	GE	GE	
3. Piping, within outermost isolation valves	1	I	B	E	C,D	P	S	(11)
4. Piping, beyond outermost isolation valves	2	I	B	E	A	P	S	(12)
5. Pumps	2	I	B	E	A	GE	V	
6. Pump motors	2	I	B	E	A	GE	V	
7. Valves, isolation, LPCI and shutdown lines	1	I	B	E	D,A	P	V	
8. Valves, isolation, other	2	I	B	E	A	P	V	(12)
9. Valves, beyond isolation valves	2	I	B	E	A	P	V	(12)
10. Electrical modules, with safety function	2	I	B	E	A	GE	GE	
11. Cable, with safety function	2	NA	B	E	-	P	S	
12. Discharge line fill pump	2	I	B	E	A	P	V	
13. Piping through tunnel, drains	NNS	NA	S	E	A,M	P	S	
14. Flush drain to radwaste	3	I	B	E	A,W	P	S	

X. Low Pressure Core Spray

1. Piping, within outermost isolation valves	1	I	B	E	C,D	P	S	(12)
2. Piping, beyond outermost isolation valves	2	I	B	E	A	P	S	(12)
3. Pump	2	I	B	E	A	GE	V	
4. Pump motor	2	I	B	E	A	GE	V	
5. Valves, isolation and within	1	I	B	E	C,D	P	V	(12)
6. Valves, beyond outermost isolation valves	2	I	B	E	A	P	V	(12)

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
7. Electrical modules with safety function	2	I	B	E	R	GE	GE	
8. Cable, with safety function	2	NA	B	E	-	P	S	
9. Water leg pump	2	I	B	E	A	P	V	
<u>XI. High Pressure Core Spray</u>								
1. Day supply diesel tank	3	I	B	E	S	P	S	
2. Piping, within outermost containment isolation valve	1	I	B	E	C, D	P	S	(12)
3. Piping, diesel service water	3	I	B	E	S	P	S	
4. Piping, return test line to condensate storage tank beyond second isolation valve; piping suction line from the condensate storage tank to the piping tunnel	NNS	NA	S	E	O	P	S	
5. Piping, beyond outermost containment isolation valve	2	I	B	E	A	P	S	(12)
6. Pump, HPCS	2	I	B	E	A	GE	V	
7. HPCS pump motor	2	I	B	E	A	GE	V	
8. Valves, outer isolation and within	1	I	B	E	C, D	P, GE	V	(12)
9. Valves, beyond isolation valves, motor operated	2	I	B	E	A	GE	V	(12)
10. Valves, diesel service water	3	I	B	E	O	P	V	
11. Valves, other	2	I	B	E	A	P	V	(12)
12. Electrical modules, with safety function	2	I	B	E	A	GE	GE	
13. Electrical auxiliary equipment	3	I	B	E	A	GE	GE	
14. Cable with safety function	2	NA	B	E	-	P	S	
15. Water leg pump	2	I	B	E	A	P	V	
<u>XII. RCIC System</u>								
1. Piping, within outermost isolation valves	1	I	B	E	C, D	P	S	(12)
2. Piping, beyond outermost isolation valves	2	I	B	E	A, O	P	S	(12)
3. Piping, return test line to condensate storage tank beyond second isolation valve	NNS	NA	S	E	C, A	P	S	(12)
4. Pump	2	I	B	E	A	GE	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
5. Valves, isolation and within	1	I	B	E	C	P	V	(12)
6. Valves, return test line to condensate storage beyond second isolation valve and vacuum pump discharge line to containment isolation valves	NNS	NA	S	E	O, A	P	V	(12)
7. Valves, other	2	I	E	E	A	P	V	(12)
8. Turbine	2	I	B	E	A	GE	V	(13)
9. Electrical modules, with safety function	2	I	E	E	A	GE	GE	
10. Cable, with safety function	2	NA	B	E	-	P	S	
11. Water leg pump	2	I	E	E	A	P	V	
<u>XIII. Fuel Service Equipment</u>								
1. Fuel preparation machine	UNC	I	B	E	C, F	GE	GE	
2. General purpose grapple	UNC	I	B	E	C, F	GE	GE	
<u>XIV. Reactor Vessel Service Equipment</u>								
1. Steam line plugs	UNC	NA	S	E	C	GE	GE	
2. Dryer and separator sling and head strongback	2	I	B	E	C	GE	GE	
<u>XV. In-Vessel Service Equipment</u>								
1. Control rod grapple	3	I	B	E	C	GE	GE	
<u>XVI. Refueling Equipment</u>								
1. Refueling equipment platform assemblies	2	I	B	E	C, F	GE	GE	
2. Refueling bellows	NNS	NA	S	E	D	P	S	
3. Fuel transfer tube	2	I	B	E	C, F	GE	GE	
4. Isolation valves, fuel transfer tube	2	I	B	E	C, F	P	V	
5. Penetration sleeve assembly, fuel transfer tube	2	I	B	E	C, F	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
<u>XVII. Storage Equipment</u>								
Spent								
1. Fuel building fuel storage racks	23	I	B	E	F	P	V	
2. Containment fuel storage racks	23	I	B	E	C	GE	GE	
3. Defective fuel storage container	3	I	B	E	F	GE	GE	
<u>XVIII. Radwaste System</u>								
1. Tanks, atmospheric	NNS	NA	S	N	W	P	S	
2. Heat exchangers	NNS	NA	S	N	W	P	V	
3. Piping, other	NNS	NA	S	N	W, M	P	S	
4. Pumps	NNS	NA	S	N	W	P	V	
5. Valves, flow control and filter system	NNS	NA	S	N	W, M	P	V	(15)
6. Valves, other	NNS	NA	S	N	W	P	V	(12)
7. Mechanical modules	NNS	NA	S	N	W	P	V	(15)
<u>XIX. Reactor Water Cleanup System</u>								
1. Vessels: filter/demineralizer	3	NA	B	E	C	GE	GE	(25)
2. Heat exchangers	3	NA	B	E	C	GE	GE	(24, 25)
3. Piping within outermost isolation valves	1	I	B	E	C, D	P	S	(12)
4. Piping, beyond outermost isolation valves	3/NNS	I/NA	B/S	E	A, C	P	S	(12, 25)
5. Pumps	3	I/NA	B/S	E	A, C	GE	V	(25)
6. Valves, containment isolation valves	1	I	B	E	D, A	P	V	(12, 25)
7. Valves, beyond outermost isolation valves	3/NNS	I/NA	B/S	E	C, A	P	V	(12, 25)
8. Valves, containment isolation	2	I	B	E	A, C	P	V	
9. Piping, containment isolation	2	I	B	E	A, C	P	S	
10. Sample station	NNS	NA	S	E	C	GE	GE	(12)
<u>XX. Fuel Pool Cooling and Cleanup System</u>								
1. Demineralizer vessel	NNS	NA	S	E	F	P	V	
2. Filters	NNS	NA	S	E	F	P	V	
3. Heat exchangers	3	I	S	E	F	P	V	
4. Pumps, cooling	3	I	S	E	F	P	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
5. Pumps, purification	NNS	NA	S	E	F	P	V	
6. Piping, containment isolation	2	I	B	E	C, F	P	S	(12)
7. Valves, containment isolation	2	I	B	E	C, F	P	V	
8. Piping, cooling subsystem	3	I	B	E	C, F	P	S	
9. Valves, cooling subsystem	3	I	B	E	C, F	P	V	
10. Piping, purification subsystem	NNS	NA	S	E	C, F	P	S	
11. Valves, purification subsystem	NNS	NA	S	E	C, F	P	V	
<u>XXI. Main Control Room Panels</u>								
1. Electrical modules, with safety function	2	I	B	E	R	P	S	
	2	I	B	E	R	GE	GE	
2. Cable, with safety function	2	NA	B	E	-	P	S	
	2	NA	B	E	-	GE	S	
<u>XXII. Local Panels and Racks</u>								
1. Electrical modules, with safety function	2	I	B	E	A, C, F, T	P	S	
	2	I	B	E	A, C, F, T	GE	GE	
2. Cable, with safety function	2	NA	B	E	-	P	S	
<u>XXIII. Off Gas System *</u>								
1. Tanks	NNS	NA	S	E	T	GE	GE	(16)
2. Heat exchangers	NNS	NA	S	E	T	GE	GE	(16)
3. Piping	NNS	NA	S	E	T	P	S	(12, 16)
4. Valves, flow control	NNS	NA	S	E	T	GE	GE	(16)
5. Valves, other	NNS	NA	S	E	T	P	V	(12, 16)
6. Mechanical modules	NNS	NA	S	E	T	GE	GE	(12, 16)
7. Pressure vessels	NNS	NA	S	E	T	GE	GE	(16)
8. Charcoal adsorber tanks	NNS	NA	S	E	T	GE	GE	(16, 26)
<u>XXIV. Standby Service Water System</u>								
1. Piping	3	I	B	E	A, F, O, P, S, R	P	S	
2. Pumps	3	I	B	E	P	P	V	
3. Pump motors	3	I	B	E	P	P	V	
4. Valves, isolation	3	I	B	E	A, F, S, R	P	V	
5. Valves, other	3	I	B	E	A, F, O, P, S, R	P	V	
6. Electrical modules, with safety function	3	I	B	E	R, P	P	S	
7. Cable, with safety function	3	NA	B	E	-	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
8. Piping, containment isolation	2	I	B	E	C,A	P	S	
9. Valves, containment isolation	2	I	B	E	C,A	P	V	
<u>XXV. Normal Service Water System</u>								
1. Pumps	NNS	NA	S	N	C	P	V	
2. Pump Motors	NNS	NA	S	N	O	P	V	
3. Valves, isolation from standby service water	3	I	E	E	A,R,S	P	V	
4. Piping, isolation from standby service water	3	I	B	E	A,R,S	P	S	
5. Piping, other	NNS	NA	S	E,N	A,O,R,S	P	S	
6. Valves, other	NNS	NA	S	E,N	A,O,R,S	P	V	
7. Other equipment	NNS	NA	S	E,N	A,O,R,S	P	V	
<u>XXVI. Instrument and Service Air Systems</u>								
1. Vessels, accumulators, supporting safety-related systems	3	I	B	E	A,C,D,S	P	S	(19)
2. Piping in lines between accumulators and safety-related systems	3	I	B	E	A,C,D,S	P	S	(19)
3. Valves in lines between accumulators and safety-related systems	3	I	B	E	A,C,D,S	P	V	(19)
4. Piping, containment isolation	2	I	E	E	A,C,D	P	S	
5. Valves, containment isolation	2	I	E	E	A,C,D	P	V	
6. Electrical modules with safety function	2	I	E	E	A,C,D,R	P	S	(19)
7. Cables with safety function	2	NA	B	E	-	P	S	(19)
8. Piping, other	NNS	NA	B	E,N	M	P	S	
9. Valves, other	NNS	NA	B	E,N	M	P	V	
10. Other equipment	NNS	NA	B	E,N	M	P	V	
<u>XXVII. Diesel Generator Systems</u>								
1. Diesel-generators								
a. HPCS diesel-generator	2	I	B	E	S	GE	V	
b. Standby diesel-generator	3	I	B	E	S	P	V	
2. Electrical modules with safety functions								
a. HPCS diesel-generator	2	I	B	E	P,S	GE	GE	
b. Standby diesel-generator	3	I	B	E	A,R,S	P	V	
3. Cable, with safety functions	3	NA	B	E	-	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
4. Fuel Oil Storage and Transfer System								
a. Fuel oil storage tanks	3	I	B	E	S	P	S	
b. Fuel oil day tanks	3	I	B	E	S	P	S	
c. Pumps								
HPCS diesel generator	3	I	B	E	S	GE	GE	
Standby diesel generator	3	I	B	E	S	P	V	
d. Pump motors	3	I	B	E	S	P	V	
e. Piping	3	I	B	E	S	P	S	
f. Valves	3	I	B	E	S	P	V	
5. Cooling Water System - HPCS Diesel-Generator								(8)
a. Water expansion tank	3	I	B	E	S	GE	V	
b. Heat exchanger	3	I	B	E	S	GE	V	
c. Oil cooler	3	I	B	E	S	GE	V	
d. Pumps	3	I	B	E	S	GE	V	
e. Piping and valves, integral with engine	NNS	I	S	E	S	GE	V	
f. Piping, other	3	I	B	E	S	P	S	
g. Valves, other	3	I	B	E	S	P	V	
h. Flexible connections	3	I	B	E	S	GE	V	
6. Cooling Water System - Standby Diesel-Generator								(8)
a. Standpipe	3	I	B	E	S	P	V	
b. Heat exchanger	3	I	B	E	S	P	V	
c. Lube oil cooler	3	I	B	E	S	P	V	
d. Pump	3	I	B	E	S	P	V	
e. Piping and valves, integral with engine	NNS	I	S	E	S	P	V	
f. Piping, other	3	I	B	E	S	P	S	
g. Valves, other	3	I	B	E	S	P	V	
7. Starting System - HPCS Diesel-Generator								(8)
a. Air receivers	3	I	B	E	S	GE	V	
b. Air compressors	3	I	B	E	S	GE	V	
c. Aftercooler, air to air	3	I	B	E	S	GP	V	
d. Piping and valves, integral with engine	NNS	I	S	E	S	GE	V	
e. Piping, other	3	I	B	E	S	P	S	
f. Valves, other	3	I	B	E	S	P	V	
g. Flexible connections	3	I	B	E	S	GE	V	
8. Starting System - Standby Diesel-Generator								(8)
a. Air receivers	3	I	B	E	S	P	V	
b. Air compressors	NNS	NA	S	E	S	P	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
c. Aftercoolers	NNS	NA	S	E	S	P	V	
d. Air desiccant dryers	NNS	NA	S	E	S	P	V	
e. Piping and valves, integral with engine	NNS	I	S	E	S	P	V	
f. Piping, between engine and air receivers	3	I	B	E	S	P	S	
g. Valves, between engine and air receivers	3	I	B	E	S	P	V	
h. Piping, other	NNS	NA	S	E	S	P	S	
i. Valves, other	NNS	NA	S	E	S	P	V	
j. Flexible connections	3	I	E	E	S	P	V	
9. Lubrication System - HPCS Diesel-Generator								
a. Pumps	3	I	B	E	S	GE	V	
b. Lube oil cooler	3	I	B	E	S	GE	V	
c. Sump pan	3	I	B	E	S	GE	V	
d. Strainer	3	I	B	E	S	GE	V	
e. Filter	3	I	B	E	S	GE	V	
f. Piping and valves, integral with engine	NNS	I	S	E	S	GE	V	
g. Piping, other	3	I	B	E	S	P	S	
h. Valves, other	3	I	B	E	S	P	V	
10. Lubrication System - Standby Diesel-Generator								
a. Lube oil pump (engine-driven)	NNS	I	S	E	S	P	V	
b. Before and after pump	3	I	B	E	S	P	V	
c. Lube oil cooler	3	I	B	E	S	P	V	
d. Sump tank	NNS	I	S	E	S	P	V	
e. Strainers	NNS	I	S	E	S	P	V	
f. Filters	3	I	B	E	S	P	V	
g. Piping and valves, integral with engine	NNS	I	S	E	S	P	V	
h. Piping, other	3	I	B	E	S	P	S	
i. Valves, other	3	I	B	E	S	P	V	
11. Combustion Air Intake and Exhaust System - HPCS Diesel-Generator								
a. Intake and exhaust silencers	3	I	B	E	S	GE	V	
b. Intake air filter	3	I	B	E	S	GE	V	
c. Expansion joints	3	I	B	E	S	GE	V	
d. Piping	3	I	B	E	S	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ <u>Class</u>	Seismic ⁽²⁾ <u>Category</u>	Quality ⁽³⁾ Assurance <u>Category</u>	Tornado ⁽⁴⁾ Protection <u>Designation</u>		Scope ⁽⁶⁾ of <u>Supply</u>	Design ⁽⁷⁾ <u>Detail</u>	<u>Notes</u>
12. Combustion Air Intake and Exhaust System - Standby Diesel-Generator								
a. Intake and exhaust silencers	3	I	B	E	S	P	V	
b. Intake air filter	3	I	B	E	S	P	V	
c. Expansion joints	3	I	B	E	S	P	V	
d. Piping	3	I	B	E	S	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
<u>XXVIII. Combustible Gas Control System</u>								
1. Piping	2	I	B	E	C, D	P	S	
2. Valves	2	I	B	E	C, D	P	V	
3. Fans	2	I	B	E	C	P	V	
4. Hydrogen recombiners	2	I	E	E	C	P	V	
5. Electrical modules with safety functions	2	I	B	E	C, D, R	P	S	
6. Cables with safety function	2	NA	B	E	-	P	S	
<u>XXIX. Standby Gas Treatment System</u>								
1. Pressure components with safety function	2	I	B	E	A	P	V	
2. Exhaust fans	2	I	B	E	A	P	V	
3. Electrical modules with a safety function	2	I	B	E	R, A	P	S	
4. Cable with a safety function	2	NA	B	E	-	P	S	
<u>XXX. Containment Ventilation System</u>								
1. Containment unit coolers/coils (1HVR*UC1A, UC1E)	2/3	I	B	E	C	P	V	(30)
2. Pressure relief dampers	2	I	B	E	C	P	V	
3. Containment unit cooler discharge backdraft dampers	2	I	B	E	C	P	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
4. Containment unit cooler ductwork up to pressure relief damper	2	I	B	E	C	P	S	
5. Ductwork, other	NNS	NA	S	E	C	P	S	
6. Dampers, other	NNS	NA	S	E	C	P	V	
7. Dome recirculation fan	NNS	NA	S	E	C	P	V	
8. Containment unit cooler (1HVR*UC1C)	NNS	NA	S	E	C	P	V	
XXXI. Auxiliary Building Ventilation System								
1. Outside air intake ductwork from tornado damper to isolation damper	3	I	B	E	A	P	S	
2. Unit cooler ductwork	3	I	B	E	A	P	S	
3. Unit cooler dampers	3	I	B	E	A	P	V	
4. Exhaust ductwork to isolation dampers	3	I	B	E	A	P	S	
5. Inlet isolation dampers	3	I	B	E	A	P	V	
6. Outlet isolation dampers	2	I	B	E	A	P	V	
7. Air exhaust system ductwork from isolation damper to tornado dampers	2	I	B	E	A	P	S	
8. Inlet tornado dampers	3	I	B	P	A	P	V	
9. Outlet tornado dampers	2	I	B	P	A	P	V	
10. Fire dampers	3	I	B	E	A	P	V	
11. Exhaust system balancing dampers	3	I	B	E	A	P	V	
12. Exhaust system backdraft dampers	3	I	B	E	A	P	S	
13. Inlet and exhaust fans	NNS	NA	S	E	A	P	V	
14. Intake and exhaust filters	NNS	NA	S	E	A	P	V	
15. Dampers, other	NNS	NA	S	E	A	P	V	
16. Ductwork, other	NNS	NA	S	E	A	P	S	
XXXII. Power Conversion System								
1. Main steam line (MSL) from second isolation valve to and including first field weld outside the jet impingement wall and all branch lines out to and including the first valve in the branch line	1	I	B	E	A	P	S	(10)

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TABLE 3.2-1 (Cont)

	<u>Safety⁽¹⁾ Class</u>	<u>Seismic⁽²⁾ Category</u>	<u>Quality⁽³⁾ Assurance Category</u>	<u>Tornado⁽⁴⁾ Protection Designation</u>	<u>Location⁽⁵⁾</u>	<u>Scope⁽⁶⁾ of Supply</u>	<u>Design⁽⁷⁾ Detail</u>	<u>Notes</u>	
2. MSL from but not including the first field weld outside the jet impingement wall to and including the third isolation valve and all branch lines out to and including the first valve in the branch line	2	I	B	E	A	P	S	(10)	2
3. Feedwater line from second isolation valve to and including shutoff valve	2	I	B	E	A	P	S	(10, 11)	
4. Branch lines off the feedwater line between the second isolation valve and the feedwater shutoff valve, from the branch point at the feedwater line to and including the first valve in the branch line	2	I	B	E	A	P	S	(10)	2
5. MSL piping downstream of the third isolation valve to the turbine stop valves and all branch lines	NNS NNS	NA NA	S S	E, N N	A, T T	P P	S S	(10, 21) (10)	
6. Turbine bypass piping									
7. Branch lines of the MSL between the MSL shutoff valve and the turbine main stop valve	NNS	NA	S	E, N	A, T	P	V	(10)	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
8. Turbine valve, turbine control valve, turbine bypass valves, and the main steam leads from the turbine control valve to the turbine casing	NNS	NA	S	N	T	P	V	(10, 21, 22, 23)
9. Feedwater system components beyond the feedwater shutoff valve	NNS	NA	S	E, N	A, T	P	S	(10)
<u>XXXIII. Condensate Makeup and Drawoff System</u>								
1. Condensate storage tank	NNS	NA	S	E	O	P	V	(10)
2. Piping, containment isolation	2	I	B	E	A, C, F	P	S	
3. Valves containment isolation	2	I	B	E	A, C, F	P	V	
4. Other piping	NNS	NA	S	E	A, C, F, D, T, M, W, O	P	S	
5. Other valves and components	NNS	NA	S	E	A, C, F, D, T, M, W, O	P	V	
<u>XXXIV. Auxiliary AC Power System</u>								
1. All components with safety function	2	I	B	E	-	P	V	REPLACE WITH INSERT
<u>XXXV. 125-Volt DC Power System</u>								
1. All components with safety function	2	I	B	E	-	P	V	REPLACE WITH INSERT
<u>XXXVI. Miscellaneous Components</u>								
1. Reactor building polar crane	3	I	B	E	C	P	V	
2. Spent fuel cask trolley	NNS	I	B	E	F	P	V	
3. Fuel building bridge crane	NNS	NA	S	E	F	P	V	(10)
4. Radwaste building crane	NNS	NA	S	N	W	P	V	
<u>XXXVII. Reactor Plant Component Cooling Water</u>								
1. Pumps and heat exchangers	NNS	NA	S	E	A	P	V	
2. Piping, containment and drywell isolation	2	I	B	E	A, C, D	P	S	
3. Valves, containment and								

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
4. Differential flow switch	2	I	B	E	C, D	GE	V	
5. Pressure switch	2	I	B	E	C, D	GE	V	
6. Differential pressure switch	2	I	B	E	C, D	GE	V	
7. Differential flow summer	2	I	B	E	C, D	GE	V	
<u>XLII. Main Steam-Positive Leakage Control System (MS-PLCS) and Penetration Valve Leakage Control System (PVLCS)</u>								
1. Piping and valves up to first isolation valve of inboard subsystem (MS-PLCS)	1	I	B	E	C	P	S	2
2. Piping and valves, other	2	I	B	E	C, A	P	S	
3.a. Electrical modules (MS-PLCS)	2	I	B	E	A	GE	GE	
b. Electrical modules (PVLCS)	2	I	B	E	A	P	S	
4. Compressor assembly (PVLCS)	2	I	B	E	A	P	V	(29)
5. Cable, with safety function	2	I	B	E	C, A	P	S	2
<u>XLIII. Structures (32)</u>								
1. Primary containment	2	I	B	E		P	S	
2. Drywell	2	I	B	E		P	S	
3. Shield building	2	I	B	P		P	S	
4. Auxiliary building	2	I	B	P		P	S	
5. Fuel building	3	I	B	P		P	S	
6. Control building	2	I	B	P		P	S	
7. Diesel generator building	3	I	B	P		P	S	
8. Standby service water cooling tower and basin	3	I	B	P		P	S	(8)
9. Standby service water pump house	3	I	B	P		P	S	
10. Piping and electrical tunnels housing safety-related systems	UNC	I	B	P		P	S	
11. Turbine building	UNC	(26, 29)	S	N		P	S	
12. Radwaste building	UNC	(26, 29)	S	N		P	S	(27)
13. Auxiliary control building	UNC	NA	S	N		P	S	
14. Services building	UNC	NA	S	N		P	S	
15. Condensate demineralizer, regeneration, and off-gas building	UNC	(26, 29)	S	N		P	S	
<u>XLIV. Control Building Chilled Water System</u>								
1. Centrifugal liquid chillers	3	I	B	E	R	P	V	2
2. Condenser cooling water pumps	3	I	B	E	R	P	V	

TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
drywell isolation	2	I	B	E	A, C, D	P	V	
4. Piping, RHR Pump and fuel pool coolers cooling water	3	I	B	E	A, F	P	S	
5. Valves, RHR Pump and fuel pool coolers cooling water	3	I	B	E	D, A, F	P	V	
6. Piping, other	NNS	NA	S	E	A, C, D, F	P	S	
7. Valves, other	NNS	NA	S	E	A, C, D, F	P	V	
<u>XXXVIII. Equipment and Floor Drainage Systems</u>								
1. Sumps	NNS	NA	S	E	A, C, D, F, T, W, M	P	S	
2. Pumps	NNS	NA	S	E	A, C, D, F, T, W, M	P	V	
3. Piping, containment isolation	2	I	B	E	A, C, D	P	S	
4. Valves, containment isolation	2	I	B	E	A, C, D	P	V	
5. Cable, with a safety function	2	NA	B	E	-	P	S	
6. Piping, other	NNS	NA	S	E	A, C, D, F, W, T, M	P	S	
7. Valves, other	NNS	NA	S	E	A, C, D, F, W, T, M	P	V	
<u>XXXIX. Fuel Building Ventilation System</u>								
1. Supply system air conditioning unit	NNS	NA	S	E	F	P	V	
2. Unit coolers	NNS	NA	S	E	F	P	V	
3. Exhaust fans	NNS	NA	S	E	F	P	V	
4. Charcoal filtration system fans	3	I	B	E	F	P	V	
5. Charcoal filtration system filters	3	I	B	E	F	P	V	
6. Charcoal filtration system ductwork	3	I	B	E	F	P	S	
7. Charcoal filtration system balancing dampers	3	I	B	E	F	P	V	
8. Emergency air intake ductwork	3	I	B	E	F	P	S	
9. Isolation dampers, and associated	3	I	B	E	F	P	V	
10. Tornado dampers ductwork	3	I	B	P	F	P	V	
11. Fire dampers	3	I	B	E	F	P	V	
12. Dampers, other	NNS	NA	S	E	F	P	V	
13. Ductwork, other	NNS	NA	S	E	F	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ <u>Class</u>	Seismic ⁽²⁾ <u>Category</u>	Quality ⁽³⁾ Assurance <u>Category</u>	Tornado ⁽⁴⁾ Protection <u>Designation</u>	<u>Location⁽⁵⁾</u>	Scope ⁽⁶⁾ of <u>Supply</u>	Design ⁽⁷⁾ <u>Detail</u>	<u>Notes</u>
<u>XL. Area Radiation Monitoring System</u>								
1. Personnel airlock to drywell and equipment hatch monitors	2	I	B	E	C	P	S	
2. Cable, monitors with safety function	2	NA	B	E	C	P	S	
3. All other components	NNS	NA	S	E	A, F, W, T	P	S	
<u>XLI. Leak Detection System</u>								
1. Temperature element	2	I	B	E	C, D	GE	V	
2. Temperature switch	2	I	B	E	C, D	GE	V	
3. Differential temperature switch	2	I	B	E	C, D	GE	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
3. Chilled water recirculation pumps	3	I	B	E	R	P	V	
4. Compression tanks	3	I	B	E	R	P	S	
5. Piping	3	I	B	E	R	P	S	
6. Valves	3	I	B	E	R	P	V	
<u>XLV. Control Building Ventilation System</u>								
1. Main control room air-conditioning units and heating coils	3	I	B	E	R	P	V	
2. Standby switchgear room air-conditioning units, return air fans and battery room exhaust fans	3	I	B	E	R	P	V	
3. Chiller equipment room air-conditioning units	3	I	B	E	R	P	V	
4. Main control room charcoal filter trains	3	I	B	E	R	P	V	
5. Smoke removal fans	NNS	NA	S	E	R	P	V	
6. Chiller equipment room supply and exhaust fans	NNS	NA	S	E	R	P	V	
7. Elevator equipment room, kitchen and toilet exhaust fans	NNS	NA	S	E	R	P	V	
8. Ductwork for the smoke removal system	NNS	I	S	E	R	P	S	
9. Ductwork for a portion of the chiller equipment room ventilation supply and exhaust ductwork	NNS	I	S	E	R	P	S	
10. Dampers for the smoke removal system and for a portion of the chiller equipment room ventilation supply and exhaust ductwork	NNS	NA	S	E	R	P	V	
11. Ductwork for the control building ventilation and air-conditioning systems, including remote air intake	3	I	B	E	M/R	P	S	
12. Dampers for the control building ventilation and air-conditioning systems, including remote air intake	3	I	B	E	M/R	P	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
13. Inlet and outlet tornado dampers	3	I	B	P	M/R	P	V	
14. Inlet and outlet filters	NNS	NA	S	E	R	P	V	
15. Fire dampers	3	I	B	E	R	P	V	
<u>XLVI. Drywell Ventilation System</u>								
1. Unit coolers	NNS	NA	S	E	D	P	V	
2. Ductwork	NNS	NA	S	E	D	P	S	
3. Dampers	NNS	NA	S	E	D	P	V	
<u>XLVII. Annulus Mixing System</u>								
1. Fans	2	I	B	E	A	P	V	
2. Balancing dampers	2	I	B	E	A	P	V	
3. Ductwork	2	I	B	E	A	P	S	
<u>XLVIII. Annulus Pressure Control System</u>								
1. Ductwork from isolation damper to plant exhaust duct	2	I	B	E	A	P	S	
2. Isolation dampers	2	I	B	E	A	P	V	
3. Fans	NNS	NA	S	E	A	P	V	
4. Dampers, other	NNS	NA	S	E	A	P	V	
5. Ductwork, other	NNS	NA	S	E	A	P	S	
<u>XLIX. Containment and Drywell Purge System</u>								
1. Containment and drywell penetrations and isolation valves	2	I	B	E	A	P	V	
2. Fire dampers	3	I	B	E	A	P	V	
3. Filters	NNS	NA	S	E	A	P	V	
4. Fans	NNS	NA	S	E	A	P	V	
5. Ductwork	NNS	NA	S	E	A	P	V	
6. Dampers, other	NNS	NA	S	E	A	P	V	
<u>L. Diesel Generator Building Ventilation System</u>								
1. Exhaust fans	3	I	B	E	S	P	V	
2. Tornado dampers	3	I	B	P	S	P	V	
3. Backdraft and balancing dampers	3	I	B	E	S	P	V	
4. Ductwork	3	I	B	E	S	P	S	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
5. DG control room vent fans	3	I	B	E	S	P	V	
6. DG control room ductwork	3	I	B	E	S	P	S	
7. DG control room dampers	3	I	B	E	S	P	V	
8. Filters	NNS	NA	S	E	S	P	V	
9. Normal ventilation fans	NNS	NA	S	E	S	P	V	
10. Dampers, other	NNS	NA	S	E	S	P	V	
11. Ductwork, other	NNS	NA	S	E	S	P	S	
<u>LI. Standby Service Water Pumphouse Ventilation System</u>								
1. Fans	3	I	B	E	P	P	V	
2. Tornado dampers	3	I	B	P	P	P	V	
3. Ductwork	3	I	B	E	P	P	S	
<u>LII. Turbine Building Ventilation System</u>								
1. Fans	NNS	NA	S	N	T	P	V	
2. Filters	NNS	NA	S	N	T	P	V	
3. Unit coolers	NNS	NA	S	N	T	P	V	
4. Dampers	NNS	NA	S	N	T	P	V	
5. Ductwork	NNS	NA	S	N	T	P	S	
<u>LIIL. Radwaste Building Ventilation System</u>								
1. Fans	NNS	NA	S	N	W	P	V	
2. Unit coolers	NNS	NA	S	N	W	P	V	
3. Dampers	NNS	NA	S	N	W	P	V	
4. Ductwork	NNS	NA	S	N	W	P	S	
5. Charcoal filter	NNS	NA	S	N	W	P	V	
6. Filters, other	NNS	NA	S	N	W	P	V	
<u>LIV. Fire Pumphouse Heating and Ventilation System</u>								
1. Fans	NNS	NA	S	N	P	P	V	
2. Unit heaters	NNS	NA	S	N	P	P	V	

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TABLE 3.2-1 (Cont)

	Safety ⁽¹⁾ Class	Seismic ⁽²⁾ Category	Quality ⁽³⁾ Assurance Category	Tornado ⁽⁴⁾ Protection Designation	Location ⁽⁵⁾	Scope ⁽⁶⁾ of Supply	Design ⁽⁷⁾ Detail	Notes
<u>LV. Normal Switchgear Building HVAC System</u>								
1. Air-conditioning units	NNS	NA	S	N	M	P	V	
2. Fans	NNS	NA	S	N	M	P	V	
3. Heating coils	NNS	NA	S	N	M	P	V	
4. Dampers	NNS	NA	S	N	M	P	V	
5. Ductwork	NNS	NA	S	N	M	P	S	
<u>LVI. Auxiliary Boiler Building HVAC System</u>								
1. Air-conditioning units	NNS	NA	S	N	M	P	V	
2. Fans	NNS	NA	S	N	M	P	V	
3. Dampers	NNS	NA	S	N	M	P	V	
4. Ductwork	NNS	NA	S	N	M	P	S	
<u>LVII. Makeup Water Intake Structure and Switchgear Ventilation System</u>								
1. Air-conditioning units	NNS	NA	S	N	M	P	V	
2. Fans	NNS	NA	S	N	M	P	V	
3. Heaters	NNS	NA	S	N	M	P	V	
4. Ductwork	NNS	NA	S	N	M	P	V	
5. Dampers	NNS	NA	S	N	M	P	S	
<u>LVIII. Electrical and Piping Tunnel Ventilation System</u>								
1. Fire dampers in the Category I firewall	3	I	S	N	M	P	V	
2. Fans	NNS	NA	S	N	M	P	V	
3. Dampers, other	NNS	NA	S	N	M	P	V	
4. Ductwork	NNS	NA	S	N	M	P	S	

INSERT →

		<u>Safety(1)</u> <u>Class</u>	<u>Seismic(2)</u> <u>Category</u>	<u>Quality(3)</u> <u>Assurance</u> <u>Category</u>	<u>Tornado(4)</u> <u>Protection</u> <u>Designation</u>	<u>Location(5)</u>	<u>Scope(6)</u> <u>of</u> <u>Supply</u>	<u>Design(7)</u> <u>Detail</u>	<u>Notes</u>
Pg. 1/19									
Item I.	12.	Reactor Vessel Insulation	NNS	NA	S	E	D	P	S
Item II.	10.	Safety Relief Valve							
		Position Monitors	NNS	I	B	E	C,D,R	P	V
Pg. 3/19									
Item VIII.	1.	Main Steam Line							
		Monitors and Related							
		Electrical Modules	2	I	B	E	A,C	GE	GE
	2.	Main Plant Exhaust							
		(Gas Extended Range),							
		Fuel Bldg. Exhaust,							
		Reactor Bldg. Annulus							
		Ventilation, Main Con-							
		trol Room Air Intakes,							
		Containment and Drywell							
		Atmosphere, F.R. Heat							
		Exchanger Service Water,							
		Containment Purge Isola-							
		tion, and Related Elec-							
		trical Modules	2	I	B	E	A,C,F, M,R,T	P	V (35)
	3.	All Other Monitors							
		(Fixed and Portable)							
		and Related Electrical							
		Modules and Cables	NNS	NA	S	E	A,W, F,T,M	P	V
	6.	Air Ejector Offgas							
		Monitors and Related							
		Electrical Modules	NNS	NA	S	E	T	GE	GE
	7.	Portable Inplant Iodine							
		Monitoring Equipment	NNS	NA	S	E	--	P	V
Pg. 7/19									
Item XVII.	4.	Fuel Building New Fuel							
		Storage Racks	3	I	B	E	F	GE	GE
Pg. 10/19									
Item XXIX.	1.	Charcoal Filter Units	2	I	B	E	A	P	V
	3.	Ductwork	2	I	B	E	A	P	V
	4.	Isolation Dampers	2	I	B	E	A	P	V

		<u>Safety(1)</u> <u>Class</u>	<u>Seismic(2)</u> <u>Category</u>	<u>Quality(3)</u> <u>Assurance</u> <u>Category</u>	<u>Tornado(4)</u> <u>Protection</u> <u>Designation</u>	<u>Location(5)</u>	<u>Scope(6)</u> <u>of</u> <u>Supply</u>	<u>Design(7)</u> <u>Detail</u>	<u>Notes</u>
Pg. 11/19									
Item XXXI.	17.	Unit Coolers/Coils (1HVR*UC2 through UC11 A,B)	3/3	I	B	E	A	P	V
	18.	Unit Cooler 1HVR-UC14	NNS	NA	S	E	A	P	V
Pg. 12/19									
Item XXXIV.	1.	4160 Volt Switchgear	2	I	B	E	A,F,R	P	V
	2.	480 Volt Load Centers	2	I	B	E	A,R	P	V
	3.	480 Volt Motor Control Centers	2	I	B	E	A,F,R,M	P	V
	4.	4160/480 Volt Trans- formers	2	I	B	E	A,R,M	P	V
	5.	120 Volt Instrument (Vital) Bus	2	I	B	E	P	P	V
	6.	Protective Relays for 1 through 5 above	2	I	B	E	A,F,R,M	P	V
	7.	Cables (including splices) with Safety Function	2	NA	B	E	--	P	V
	8.	Terminal Blocks	2	I	B	E	--	P	V
	9.	Conduits	NNS	NA	B	E	--	P	V
	10.	Cable Trays, Tray Sup- ports, and Conduit Supports	2	I	B	E	--	P	V,S (33)
	11.	Containment Electrical Penetrations and Pro- tection	2	I	B	E	C	P	V
	12.	Emergency Lighting Battery Packs	NNS	NA	S	E,N	--	P	V (33)
	13.	Raceway Firestops and Seals	NNS	NA	S	E,N	--	P	V
Item XXXV.	1.	125 Volt Batteries	2	I	B	E	R	P	V
	2.	Battery Chargers	2	I	B	E	R	P	V
	3.	Battery Racks	2	I	B	E	R	P	V
	4.	Uninterruptible Power Supplies (UPS)	2	I	B	E	R	P	V
	5.	125 Volt Switchgear	2	I	B	E	R	P	V

	<u>Safety(1)</u> <u>Class</u>	<u>Seismic(2)</u> <u>Category</u>	<u>Quality(3)</u> <u>Assurance</u> <u>Category</u>	<u>Tornado(4)</u> <u>Protection</u> <u>Designation</u>	<u>Location(5)</u>	<u>Scope(6)</u> <u>of</u> <u>Supply</u>	<u>Design(7)</u> <u>Detail</u>	<u>Notes</u>
Pg. 12/19 Continued								
Item XXXV. 6. 125 Volt Distribution Panels	2	I	B	E	R	P	V	
7. Protective Relays	2	I	B	E	R	P	V	
8. Cables with Safety Function	2	NA	B	E	--	P	V	
9. Conduits	NNS	NA	S	E	--	--	V	
10. Cable Trays, Tray Supports, and Conduit Supports	2	I	B	E	--	P	V,S	(33)
11. Raceway Fire Stops and Seals	NNS	NA	S	E,N	--	P	V	
Pg. 13/19								
Item XXXIX. 9. Isolation Dampers and Associated Ductwork	3	I	B	E	F	P	V	
Pg. 13a/19								
Item XL. 1. Containment Post Accident and Drywell Post Accident Area Monitors	2	I	B	E	C,D	P	V	
Pg. 14/19								
Item XLIII. 2. Drywell, Including Biological Shielding	2	I	B	E		P	S	
3. Shield Building, Including Biological Shielding	2	I	B	P		P	S	
4. Auxiliary Building, Including Biological Shielding	2	I	B	P		P	S	
5. Fuel Building, Including Biological Shielding	3	I	B	P		P	S	

	Safety(1) <u>Class</u>	Seismic(2) <u>Category</u>	Quality(3) Assurance <u>Category</u>	Tornado(4) Protection <u>Designation</u>	Location(5)	Scope(6) of Supply	Design(7) Detail	Notes
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Pg. 14/19 Continued

- Item XLIII. 6. Control Building, Including the Control Room, Office Area, and Biological Shielding
16. Spent Fuel Pool and Liner
17. Internal Missile Barriers

2	I	B	P	C,F	P	S	
3	I	B	E	C,F	P	S	
2	I	B	E	C	P	S	

Pg. 14a/19

- Item XLV. 11. Ductwork for the Control Building Ventilation and Air Conditioning Systems, Including Main Control Room and Remote Air Intake
12. Dampers for the Control Building Ventilation and Air Conditioning Systems, Including Main Control Room Isolation Dampers and Remote Air Intake

3	I	B	E	M/R	P	S	
3	I	B	E	M/R	P	V	

Pg. 14d/19

Item LIX. Post Accident Sampling System

1. Sample Tubing, Piping, and Valves Up To and Including the Outermost Containment Isolation Valve, Containment Atmosphere Monitoring Isolation Valves, and Drain Line Isolation Valves
2. Cable with Safety Function
3. Other Sample Tubing, Piping, and Valves
4. Sample Panel Wet Section
5. Sample System Control Panel

2	I	B	E	A,C	P	S	
2	NA	B	E	A,C	P	S	
NNS	NA	S	E	A	P	S	
NNS	NA	S	E	A,M	GE	V	(38)
NNS	NA	S	E	A,M	GE	V	(38)

		<u>Safety(1)</u>	<u>Seismic(2)</u>	<u>Quality(3)</u>	<u>Tornado(4)</u>	<u>Scope(6)</u>		<u>Design(7)</u>	<u>Notes</u>
		<u>Class</u>	<u>Category</u>	<u>Assurance</u>	<u>Protection</u>	<u>Location(5)</u>	<u>of</u>	<u>Detail</u>	
				<u>Category</u>	<u>Designation</u>	<u>Supply</u>			
Item LX.	<u>Permanent Emergency Support Facilities (34)</u>								
	1. Technical Support								
	Center (TSC)	NNS	NA	S	N	TSC	P	V	
	2. Emergency Operations								
	Facility (EOF)	NNS	NA	S	N	EOF	P	V	
	3. Operational Support								
	Center (OSC)	NNS	NA	S	N	BR	P	V	
Item LXI.	<u>Emergency Response Information System (34)</u>								
	1. Interface with Category								
	I Systems	3	I	B	E	C	GE	V	
	2. Safety Parameter Display								
	System (SPDS)								
	a. Control Room	NNS	NA	S	E	R	GE	V	
	b. TSC	NNS	NA	S	N	TSC	GE	V	
	c. EOF	NNS	NA	S	N	M	GE	V	
	3. Electrical Modules								
	with Display Functions								
	Other Than SPDS								
	a. Control Room	NNS	NA	S	E	R	GE	V	
	b. TSC	NNS	NA	S	N	TSC	GE	V	
	c. EOF	NNS	NA	S	N	M	GE	V	
	4. Radiological/Meteorological								
	Display								
	a. Control Room	NNS	NA	S	E	R	P	V	
	b. TSC	NNS	NA	S	N	TSC	P	V	
	c. EOF	NNS	NA	S	N	EOF	P	V	

TABLE 3.2-1 (Cont)

NOTES:

(1) Safety Classes 1, 2, 3, and NNS are defined in Section 3.2.2. The equipment is constructed in accordance with the codes listed in Table 3.2-4. (unc. = unclassified)

(2) I = The equipment is constructed in accordance with the seismic requirements for the SSE as described in Section 3.7. For civil and structural codes, see Section 3.8.

NA = The seismic requirements for the SSE are not applicable to the equipment.

(3) B = The equipment meets the quality assurance requirements of 10CFR50, Appendix B, in accordance with the quality assurance program described in Chapter 17.

S = The equipment meets the quality assurance requirements defined in the purchase specification.

(4) P = Those structures or components designed to withstand a design base tornado.

E = Those systems or components enclosed within the structure or component designed to withstand a design base tornado.

N = Those components and structures which are not designed for tornado protection.

- (5) A = Auxiliary building
- C = Part of, or within, containment
- D = Drywell
- F = Fuel building
- M = Any other location
- O = Outdoors onsite
- P = Pump house
- R = Control building
- S = Diesel generator building
- T = Turbine building
- W = Radwaste building

INSERT

- (6) GE = General Electric
- P = Gulf States

TABLE 3.2-1 (Cont)

- (7) GE = General Electric - Nuclear Energy Business Group (NEBG) is responsible for details of component design.
- S = Stone & Webster is responsible for details of component design.
- V = Component vendor is responsible for details of component design.
- CBIN = Chicago Bridge & Iron Nuclear is responsible for details of component design.

(8) Details of internal equipment design by Vendor.

(9) A portion of the CRD insert and withdraw lines from the drive flange are Safety Class 1. The remainder of the piping is Safety Class 2 up to and including the first valve on the hydraulic control unit.

(10) See Section 3.2.2.1 for explanation.

(11) In addition to a swing check valve inside the containment and a positive acting check valve outside containment, a third valve with high leaktight integrity is provided in each line outside the containment. The spring loaded piston operator of the positive acting check valve is held open by air pressure during normal operation. Fail-open solenoid valves are used to release air pressure to permit the check valve piston operator to close. The positive acting check valve and the high leaktight integrity isolation valve are remote manually operated from the main control room, using signals which indicate loss of feedwater flow.

The classification of the feedwater lines from the reactor vessel to and including the second isolation valve is Safety Class 1; from the second isolation valve to and including the seismic restraint (including the shut-off valve) is Safety Class 2; beyond the seismic restraint is classified NNS.

- (12) 1. Lines equivalent to a 3/4-in or smaller liquid line which are part of the RCPB are Safety Class 2.
- 2. All instrument lines which are connected to the RCPB and are utilized to actuate safety systems are Safety Class 2 from the outer isolation valve or the process shutoff valve (root valve) to the sensing instrumentation.
- 3. All instrument lines which are connected to the RCPB and not utilized to actuate safety systems are classified

TABLE 3.2-1 (Cont)

NNS from the outer isolation valve or the process shutoff valve (root valve) to the sensing instrumentation.

4. All other instrument lines:

- a. through the root valve are of the same classification as the system to which they are attached.
- b. beyond the root valve, if used to actuate a safety system, are of the same classification as the system to which they are attached.

5. All sample lines from the outer isolation valve or the process root valve through the remainder of the sampling system are classified NNS.

- (13) The RCIC turbine does not fall within the applicable design codes. To assure that the turbine is fabricated to the standards commensurate with their safety and performance requirements, GE has established specific design requirements for this component.
- (14) The condensate storage tank is designed, fabricated, and tested to meet the intent of ANSI-B96.1.
- (15) ASME Section VIII-1 and ANSI B31.1 apply downstream of outermost isolation valves.
- (16) The gaseous radwaste system piping, pumps, and valves containing gaseous radwaste are constructed in accordance with the applicable codes of classification NNS.
- (17) The hydraulic control unit (HCU) is a GE factory-assembled engineered module of valves, tubing, piping, and stored water which controls a single CRD by the application of precisely timed sequences of pressures and flows to accomplish slow insertion or withdrawal of the control rods for power control and rapid insertion for reactor scram.

Although the HCU, as a unit, is field installed and connected to process piping, many of its internal parts differ markedly from process piping components because of the more complex functions they must provide. Thus, although the codes and standards invoked for Safety Classes 1, 2, 3, and NNS

TABLE 3.2-1 (Cont)

pressure integrity quality levels clearly apply at all levels to the interfaces between the HCU and the connecting conventional piping components (e.g., pipe nipples, fittings, simple hand valves), it is considered that they do not apply to the specialty parts (e.g., solenoid valves, pneumatic components and instruments).

The design and construction specifications for the HCU do invoke such codes and standards as can be reasonably applied to individual parts in developing required quality levels, but these codes and standards are supplemented with additional requirements for these parts and for the remaining parts and details. For example, 1) all welds are LP inspected, 2) all socket welds are inspected for gap between pipe and socket bottom, 3) all welding is performed by qualified welders, and 4) all work is done in accordance with written procedures. Classification NNS is generally applicable because the codes and standards invoked by that group contain clauses which permit the use of manufacturer's standards and proven design techniques which are not explicitly defined within the codes for Safety Classes 1, 2, or 3. This is supplemented by the QC techniques previously described.

- (18) This crane is not seismically designed, but is provided with earthquake restraints to prevent the trolley and bridge from coming off the rails. This crane does not carry a load over spent fuel.
- (19) The safety-related systems and equipment supported by the air systems are the automatic depressurization system, the main steam isolation valves, and the air-starting system of the diesel generators.
- (20) In addition to a swing check valve inside the drywell and a positive acting check valve outside the drywell, a third valve with high leaktight integrity is provided in each line. The spring loaded piston operator of the positive acting check valve is held open by air pressure during normal operation. Fail-open solenoid valves are used to release air pressure to permit the check valve piston operator to close. The positive acting check valve and the high leaktight integrity isolation valve are remote manually operated from the main control room, using signals which indicate loss of CRD system return line flow.

TABLE 3.2-1 (Cont)

- (21) All inspection records are maintained for the life of the plant. These records include data pertaining to qualification of inspection personnel, examination procedures, and examination results.
- (22) All cast pressure-retaining parts of a size and configuration for which volumetric methods are effective are examined by radiographic methods by qualified personnel. Ultrasonic examination to equivalent standards is used as an alternate to radiographic methods. Examination procedures and acceptance standards are at least equivalent to those defined in Paragraph 136.4, Nonboiler External Piping, ANSI B31.1-1973.
- (23) The following qualifications are 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 valve to turbine casing utilizes quality control procedures equivalent to those defined in GE Publication GEZ-4982A, General Electric Large Steam Turbine Generator Quality Control Program.
 2. A certification obtained from the manufacturer of these valves and steam loads demonstrates that the quality control program as defined has been accomplished.
- (24) The nonregenerative heat exchanger is Safety Class 3 on the tube side and nonnuclear safety class on the shell side.
- (25) The filter/demineralizer, heat exchangers, pumps, tanks, and valves supplied by GE which are Safety Class 3, are not required to mitigate the consequences of a LOCA, and their failure does not result in release to the environment of radioactive material which would give a single event dose greater than the annual dose from 10CFR20.105(1). Therefore, they are not Seismic Category I.
- The purchaser-furnished piping and valves which are Safety Class 3 are also Seismic Category I.
- (26) The design satisfies the requirements of Regulatory Guide 1.143 as described in Sections 11.2 and 11.3. The seismic design of the charcoal adsorber tanks is discussed in Section 11.3.2.2.2.1.

TABLE 3.2-1 (Cont)

- is (27) The radwaste building is not tornado-protected above grade. | 1
- and design (28) The structures are designed in accordance with the simplified seismic analysis approach as described in Sections 3.7.2, 16A and 3.7.2.17A, 3.8.4.4.9, respectively. 17A
- (29) The PVLCS compressor assembly includes the compressor, filter, moisture separator, aftercooler, and accumulator. All these components are supplied as a single skid-mounted unit. 2
- (30) The cooling coils for the containment unit coolers are Safety Class 3.
- (31) Requirements for instrument and pneumatic tubing classified as Safety Class 3 are shown in Table 3.2-8. 7
- INSERT →

INSERTS for Table 3.2-1 Notes:

<u>NOTE</u>	<u>INSERT</u>
(5)	TSC = Technical Support Center EOF = Emergency Operations Facility BR = Baton Rouge
(32)	The classification of a structure described herein also applies to all major structural components of that structure.
(33)	Systems and components whose failure could adversely affect safety related systems or components are analyzed to Seismic Category I requirements.
(34)	The operational QA program is applied to the following non-safety related items: <ul style="list-style-type: none"> a. Radioactivity sampling (air, surfaces, liquids). b. Radioactivity containment measurement and analysis equipment. c. Personnel monitoring equipment. d. Instrument storage, calibration, and maintenance program. e. Decontamination facilities, personnel, and equipment. f. Respiratory protection equipment (including testing). g. Contamination control. h. Equipment and other items associated with the Emergency Support Facilities. i. Site grading including maintenance of the West Creek Fabricform Channel. j. Activities affecting reactor internal structures.
(35)	Effluent monitors meet the Environmental Qualification and Quality Assurance requirements of Regulatory Guide 1.97, Revision 2.
(36)	Valve actuators for active safety related valves are subject to the same Quality Assurance requirements as the valve.
(37)	The safety related instrumentation and controls described in Section 7.1 through 7.6 are subject to the requirements of Appendix B Quality Assurance Program and Class 1E requirements (IEEE 279). However, Post Accident Monitoring Instrumentation discussed in Section 7.5 have design and qualification criteria as designated in Table 7.5-2 (e.g. Category 1, 2, or 3 or Regulatory Guide 1.97).
(38)	The sample panel and cooler rack are seismically supported. The instruments are not.