

→(DRN 05-127, R14)

3.2

CLASSIFICATION OF STRUCTURES, COMPONENTS AND SYSTEMS

←(DRN 05-127, R14)

3.2.1

SEISMIC CLASSIFICATION

In compliance with General Design Criterion 2, plant structures, systems and components which are important to safety are designed to remain functional in the event of a safe shutdown earthquake (SSE) if they are necessary to assure:

- a) the integrity of the reactor coolant pressure-boundary,
- b) the capability to shutdown the reactor and maintain it in a safe shutdown condition, or

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- c) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposure of 10CFR50.67.

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→(DRN 03-291, R12-B)

Plant structures, systems and components, including their foundations and supports, that are designed to remain functional in the event of a safe shutdown earthquake are designated as seismic Category I, as indicated in Table 3.2-1. The seismic classifications are consistent with the recommendations of Regulatory Guide 1.29, "Seismic Design Classification", August 1973, with a clarification noted in Table 3.2-1 for the reactor coolant pump bearing oil, cooling systems and refueling water storage pool.

←(DRN 03-291, R12-B)

For systems which are partially seismic Category I, the seismic Category I portion includes all components within the seismic boundary and extends to the first seismic restraint beyond the boundary.

All seismic Category I structures, systems and components are analyzed under the loading conditions discussed in Section 3.7.

Non-seismic structures, systems and components are those whose failure would not result in the release of significant radioactivity and would not prevent reactor shutdown or degrade the operation of Engineered Safety Feature Systems. Their failure may, however, interrupt power generation.

The occurrence of adverse interaction between safety and non-safety related components during SSE events are eliminated by adherence to the following:

- a) Whenever practical, the safety related components are separated from the non-safety related components to ensure that failure of the nonsafety related component due to a SSE will not result in loss of function to the safety related components.
- b) In those areas where adequate separation is not possible, the nonsafety related components are provided with seismic supports, or barriers are provided between the safety related and non-safety related components.

Where only portions of systems are identified as seismic Category I, the boundaries of the seismic Category I portions of the system are shown on the piping and instrument diagrams in appropriate sections of this FSAR.

3.2.2 SYSTEM SAFETY CLASSIFICATIONS

Table 3.2-1 specifies the safety class for those plant structures, systems and components that have a safety function. System safety classifications and interfaces between classifications in systems with components of different classifications are indicated on the system piping and instrument diagrams in appropriate sections of this FSAR.

System components important to safety and the containment boundary are classified in accordance with ANSI N18.2, "Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants", 1973, and ANSI N18.2a, "Revision and Addendum to Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants", 1975 as clarified by Table 3.2-1. The relationship between safety classes 1,2,3 and non-nuclear safety (NNS) and NRC quality group classes A,B,C and D is as follows:

<u>Waterford 3 Safety Class</u>	<u>Regulatory Guide 1.26 Quality Group</u>
Safety Class 1	A
Safety Class 2	B
Safety Class 3*	C
NNS (Non-Nuclear Safety)	D

System safety classifications and design and fabrication requirements meet the intent of Regulatory Guide 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants", June 1975, with a clarification noted in Table 3.2-1 for the reactor coolant pump bearing oil and cooling systems. Table 3.2-2 separately lists equipment from Table 3.2-1 which are not designed and built to the exact ASME Code specified in Regulatory 1.26.

- * For original installations, the existing configuration provided for instrument air tubing and components of safety-related valve top assemblies shall either meet all RG 1.26 Quality Group C requirements; or meet the material requirements for ASME Section III Class 2 with exception of the hydrostatic testing and the Authorized Nuclear Inspection, be installed per ANSI B 31.1, and be supported with Seismic Class 1 tubing supports.

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- * Future installations, including replacements, of instrument air tubing and components of safety-related valve top assemblies shall utilize components that satisfy all Division 1 construction requirements as defined in ASME Code Section III Subarticle NCA-1110 Article NCA-9000 and Subsection ND, excepting that 1) the design may be based on the rules of ANSI B31.1 with the tubing supports designed as Seismic Class 1, and 2) the tubing and components may be exempted from the Authorized Nuclear Inspection requirement and 3) components not available to meet the ASME Code Section III and for which ASME Code Section III rules are not intended to be applicable (NCA-1130), such as valve operators, controllers, position indicators, or other accessories and devices may meet original design requirements, including ANSI B31.1, seismic qualification, and 10CFR50 Appendix B program compliance.

←(DRN 05-1637, R14-A)

3.2.2.1 Safety Class Interfaces For Fluid Systems

Unless separated by suitable barriers, interconnected components which fit different safety class definitions are of the higher classification.

A passive barrier (e.g., heat exchanger tubing) that separates safety classes serves as the required barrier between classes but is categorized in the higher class. No additional barrier is provided between the barrier and components of the lower safety class. Otherwise, barriers are supplied in one of the following combinations where components of differing classes are interconnected. The higher class extends to and includes the cited barriers.

Any safety class to a lower safety class:

- a) One safety valve.
- b) Two normally open valves in series if active failure of a single valve combined with failure of any lower class component could prevent a system safety function of the higher class system or result in uncontrollable release to the environment of gaseous activity normally held up.

Safety class 1 to all lower safety class:

- a) One passive* or two active** flow restricting devices. An exception is the leakoff from the reactor coolant pump seal system where the interconnection between safety class 1 and unclassified components (safety class 3 outside containment) contains two seals in series and the leakoff to the waste disposal system contains no isolation valving.
- b) Two normally closed valves in series.

Safety class 2 or 3 to a lower safety class:

- a) One normally closed valve.
- b) One normally open valve if its active failure combined with passive failure of any lower class component could not prevent achievement of the minimum safety system function of the higher class system or result in controllable release to the environment of gaseous activity normally held up.
- c) No valves are necessary if failure of the lower class components will not result in loss of safety function of the higher class component or uncontrollable release to the environment of gaseous activity normally held up. An example is an unclassified vent line on a safety class 2 or 3 atmospheric storage tank, failure of which will not result in loss of fluid from the tank.

The closure time for each normally open valve, used as an interface boundary, is such that for any postulated failure of a lower safety class component outside the interface boundary, the safety system function of the higher safety class system is maintained and orderly reactor shutdown is not prevented.

For a check valve to qualify as the safety class 1 interface boundary, it must be located inside the containment.

The CEDM Cooling Coil and the CCW Radiation Monitors are classified NNS, seismic Category 1. The safety class interface isolation valves in the CCW supply and return lines are normally open. All piping between the interface valves and the CEDM Cooling Coil and CCW Radiation Monitors is Safety Class 3, seismic Category I.

* Examples are controlled leakage shaft seals, or orifices or connected small components where failure of any lower class component would not prevent orderly shutdown.

** Example is excess flow valve which includes a restricting bypass.

→ (DRN 99-0820)

3.2.3 CODES FOR SAFETY CLASS COMPONENTS

3.2.3.1 Original Construction Codes

The original construction codes used for the materials, design, fabrication, inspection, and testing of structures, components, and systems are as specified in applicable sections of the FSAR.

3.2.3.2 Codes for Repairs and Replacements

Repairs and replacements of structures, components, and systems are performed in accordance with the original construction codes. However, later editions and addenda of the original codes are used as allowed by 10CFR50.55a and as described below:

- 3.2.3.2.1 For ASME Section XI repairs and replacements, later editions and addenda of the original codes may be used as allowed by ASME Section XI.
- 3.2.3.2.2 For welder and procedure qualifications later editions and addenda of ASME Section IX may be used as specified in engineering specifications.
- 3.2.3.2.3 For repairs and replacements to ASME Section VIII pressure vessels and ANSI B31.1 piping systems, later editions and addenda of these codes may be used as specified in engineering specifications.
- 3.2.3.2.4 For structural steel, sheet steel, and sheet metal welding, later editions of the AWS welding codes may be used as specified in engineering specifications.

← (DRN 99-0820)

CLASSIFICATION OF STRUCTURES, SYSTEMS AND COMPONENTS (13)(19)

<u>Structures</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Shield Building	_(a)	I	a	b	
Containment Vessel	2	I	b	b	
Reactor Auxiliary Building	-	I	a	a	
Fuel Handling Building	-	I	a	a	
Containment Internal Structure	-	I	b	b	
→(DRN 00-1172, R11)					
Supports for Category I Equipment	-	I	a or b or c	b	
←(DRN 00-1172, R11)					
→(DRN 06-903, R15)					
Masonry Walls (concrete block)	-	d	b	b	17
←(DRN 06-903, R15)					
Missile Barriers					
→(DRN 00-1172, R11)					
a) RAB - MS/FW valves, diesel generator intakes	-	I	b or c	-	
b) Dry Cooling Towers-towers, piping, transformers, MCC	-	I	a or b or c	-	
c) RAB - doors	-	I	a or c	a or b	
←(DRN 00-1172, R11)					
d) RCB - rollaway missile shield over RV	-	I	b	b	
Fuel transfer tube shielding	-	I	b	b	
Jet Impingement Barriers	-	I	b	b	
Plant Shielding (II.B.2) - reinforced concrete stub walls	-	I	b	b	
Emergency Support Centers (III.A.1.2)					
a) Technical Support Center	-	I	b	b	
→(DRN 06-903, R15)					
b) Operational Support Center	-	-	-	-	
←(DRN 06-903, R15)					
<u>Systems and Components</u>					
<u>Reactor Coolant System</u>					
Reactor Pressure Vessel	1	I	b	b	
a) Vessel Internals	-	I	b	b	
Steam Generators					
a) Vessel (primary side)	1	I	b	b	
b) Vessel (secondary side)	2	I	b	b	

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Revision 307 (07/13)

<u>Reactor Coolant System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
c) Snubbers and Restraints	-	I	b	b	
d) Supports (sliding base)	-	I	b	b	
e) Piping inside containment	1 or 2	I	b	b	
Reactor Protective System	IE	I	b	b	1, 7, 18
Reactor Coolant System Vents (II.B.I)	2 or NNS	I or -	b	b	16, 17
Reactor Coolant Pumps					2
a) Pumps (pressure retaining portions)	1	I	b	b	
b) Supports	-	I	b	b	
c) Operating and Backup Oil Lift Pumps	NNS	(b)	(c)	(c)	
d) Motor Heat Exchanger	NNS	-	-	-	
Pressurizer					
a) Vessel	1	I	b	b	
→(DRN 06-903, R15)					
b) Heaters	NNS	-	b	-	
←(DRN 06-903, R15)					
c) Supports (Integral)	-	I	b	b	
d) Safety Valves	1	I	b	b	
e) Position Indication System	NNS	-	b	b	
Reactor Coolant System Valve Indications (II.D.3)	NNS	-	b	b	17
Control Rod Drive Mechanism	-	I	b	b	3
Control Rod Drive Mechanism Housing	1	I	b	b	
Control Rod Drive Mechanism Supports	-	I	b	b	3
→(EC-33471, R307)					
Control Element Drive Mechanism Exhaust Fans	NNS	I	b	b	
←(EC-33471, R307)					
→(DRN 02-1476, R12)					
Control Element Assemblies	-	I	b	b	3
←(DRN 02-1476, R12)					
Fuel Assemblies	-	I	b	b	
Quench Tank	NNS	-	-	-	
Piping and Valves					5
a) Part of RCPB	1 or 2	I	b	b	6
b) Other than the RCPB	NNS	-	-	-	

<u>Safety Injection System</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Safety Injection Tanks	2	I	b	b	
Low Pressure Safety Injection Pumps	2	I	b	b	
High Pressure Safety Injection Pumps	2	I	b	b	
S.I. Sump & Screens	-	I	b	b	
Trisodium Phosphate Baskets	-	I	b	b	
Piping and Valves					5
a) Part of RCPB	1 or 2	I	b	b	6
b) Required only for initial injection of water for emergency core cooling	2	I	b	b	
c) Required for recirculation on containment sump water for emergency core cooling	2	I	b	b	
d) Whose failure would prevent operation of portion of system covered in a, b or c	3	I	b	b	
e) Normally isolated or automatically isolated from parts of system covered by a, b, c or d.	NNS	-	-	-	
Instrumentation					7, 18
1. Primary Elements for:					
-Piping & valves for Type a)	IE	I	b	b	
-Piping & valves for Type b & c)	IE	I	b	b	
-Piping & valves for Type d)	IE	I	b	b	
-Piping & valves for Type e)	NNS	-	b	b	17
2. Signal Transmitters for:					
-Controls and interface	IE	I	b	b	
-Status displays	IE	I	b	b	
-Alarm & computer logging	NNS	-	b	b	17
3. Signal Processing & Interlocking for:					
-Panel controls and indicators/recorders	IE	I	b	b	
-Alarm/computer	NNS	-	b	b	17
<u>Shutdown Cooling System</u>					
Shutdown Heat Exchangers					
a) Reactor coolant side	2	I	b	b	
→(DRN 06-903, R15)					
b) Component cooling water side	3	I	b	b	
←(DRN 06-903, R15)					

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Shutdown Cooling System (Cont'd)

Piping and Valves

- a) Required for residual heat removal
- a) Part of RCPB
- b) Other than the RCPB

<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
				5
2	I	b	b	28
1 or 2	I	b	b	6
NNS	-	-	-	

→(DRN 06-903, R15)

←(DRN 06-903, R15)

Refueling Water Level Indicating System

RCPB Isolation Valves
 Piping, Tubing and Valves
 Instrumentation

1 or 2	I	b	b
3	I	b	b
NNS	-	b	b

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Revision 305 (11/11)

<u>Chemical and Volume Control System</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Charging Pumps	2	I	b	b	
Boric Acid Makeup Tanks	3	I	b	b	
Letdown Heat Exchanger					
a) Reactor coolant side	2	I	b	b	
b) Component cooling water side	3	I	b	b	
Regenerative Heat Exchanger	2	I	b	b	
Volume Control Tank	2	I	b	b	
Boric Acid Batching Tank	NNS	-	-	-	
Purification Ion Exchangers	2	I	b	b	
→(DRN 99-1003, R11)					
←(DRN 99-1003, R11)					
Piping and Valves					5
→(DRN 03-759, R13)					
a) Part of RCPB	1 or 2	I	b	b	6, 28
←(DRN 03-759, R13)					
b) Required only for reactor coolant letdown and makeup	2	I	b	b	28
c) Required for injection of concentrated boric acid or whose failure would prevent the operation of that portion of system covered in a or b.	3	I	b	b	
d) Normally or automatically isolated from parts or system covered by a, b or c.	NNS	-	-	-	7, 18
Boric Acid Pumps	3	I	b	b	
Chemical Addition Tank	NNS	-	-	-	
Chemical Addition Pump	NNS	-	-	-	
→(EC-4019, R305)					
Zinc Injection Skid	NNS	-	-	-	
←(EC-4019, R305)					
Pulsation Dampeners	2	I	b	b	
Instrumentation					7, 18
1. Primary Elements for:					
a) Charging Pump, Boric Acid Make-up Tank, Volume Control Tank, Boric Acid Pumps	IE	I	b	b	21
→(DRN 99-1003, R11)					
b) Letdown Heat Exchanger, Boric Acid Batching Tank, Purification Ion Exchanger	NNS	-	b	b	17
←(DRN 99-1003, R11)					
2) Digital Signals and Transmitter Signals for:					

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<u>Chemical and Volume Control System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
a) Controls & Interface for Type 1a above	IE	I	b	b	
b) Controls & Interface for Type 1b above	NNS	-	b	b	17
c) Alarms and Computer	NNS	-	b	b	17
3) Controls and transfers to Remote Shutdown Panel	IE	I	b	b	
4) Controls, Displays and Interlocks for Type 1b	NNS	-	b	b	17
<u>Containment Spray System</u>					
Containment Spray Pumps	2	I	b	b	
Piping and Valves					
a) Required for long-term recirculation of SIS sump water for spray	2	I	b	b	
b) Normally or automatically isolated from parts of system covered by a.	NNS	-	-	-	
Containment Spray Nozzles Instrumentation	2	I	b	b	
1. Primary elements for:					7, 18
a) Containment Spray Pumps	IE	I	b	b	
b) Long term recirculation	IE	I	b	b	
c) Isolation valves	IE	I	b	b	
2. Signal transmitters/Digital Signals for:					
a) Controls & interface	IE	I	b	b	
b) Status display	IE	I	b	b	
c) Alarms and computers	NNS	-	b	b	17
3. Signal processing and/or interlocking for:					
a) Control panel controls	IE	I	b	b	
b) Indicators	IE	I	b	b	
c) Alarms and computer inputs	NNS	-	b	b	17
<u>Waste Management System</u>					
Waste Tanks and Pumps	NNS	-	-	-	
Waste Storage Tank "C"	NNS	-	-	-	
Laundry Tanks and Pumps	NNS	-	-	-	
Waste Concentrator Package	NNS	-	-	-	
Waste Condensate Ion Exchanger	NNS	-	-	-	

<u>Waste Management System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Waste Condensate Tanks and Pumps	NNS	-	-	-	
Gas Surge Tank	NNS	(d)	b	b	17
Spent Resin Tank	NNS	-	-	-	
Dewatering Tank and Pump	NNS	-	-	-	
Waste Gas Compressors	NNS	-	b	b	17
Gas Decay Tanks	NNS	(d)	b	b	3, 17
Waste Concentrate Storage Tank and Pump	NNS	-	-	-	
Chemical Waste Tank and Pump	NNS	-	-	-	
Piping and Valves					5
a) Not isolated from SC 3 Components	3	I	b	b	
b) Associated with GDT	NNS	(d)	-	-	3, 17
→ (DRN 00-1172, R11)					
c) Other	NNS	-	c	-	17
← (DRN 00-1172, R11)					
Boron Management System					
Reactor Drain Tank	NNS	-	-	-	
Equipment Drain Tank	NNS	-	-	-	
Holdup Tanks	3	I	b	b	
Holdup Recirculation Pump	NNS	-	-	-	
Holdup Recirculation/Drain Pump	NNS	-	-	-	
Holdup Drain Pump	NNS	-	-	-	
Equipment Drain Tank Pump	3	I	b	b	
Reactor Drain Tank Pump	3	I	b	b	
→ (DRN 00-804, R11-B)					
Flash Tank*	3	I	b	b	
Flash Tank Pumps*	3	I	b	b	
← (DRN 00-804, R11-B)					
Preconcentrator Ion Exchangers	NNS	-	-	-	
Boric Acid Concentrator Packages	NNS	-	-	-	
Boric Acid Condensate Ion Exchangers	NNS	-	-	-	
Boric Acid Condensate Tanks and Pumps	NNS	-	-	-	
Piping and Valves					5
a) Not isolated from SC 3 components	3	I	b	b	
b) Other	NNS	-	-	-	

→ (DRN 00-804, R11-B)

* The Flash Tank and Flash Tank Pumps have been made inactive per ER-W3-00-0225-00-00.

← (DRN 00-804, R11-B)

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<u>Component Cooling Water System</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Component Cooling Water Surge Tank	3	I	b	b	
Component Cooling Heat Exchangers	3	I	b	b	
Component Cooling Water Pumps	3	I	b	b	
Component Cooling Water Makeup Pumps	3	I	b	b	
Auxiliary Component COoling Water Pumps	3	I	b	b	
→(DRN 00-1172, R11)					
Wet Cooling Tower Basin	3	I	a or b or c	b	
Dry Cooling Towers	3	I	a or b or c	b	
Piping and Valves					5
→(DRN 06-499, R14-B; 05-1572, R15)					
a) Required for performance of safety functions	3	I	b or c	b	28
←(DRN 06-499, R14-B; 05-1572, R15)					
→(DRN 06-903, R15)					
b) Normally or automatically isolated from parts covered by a.	NNS	-	a, b or c	-	
←(DRN 06-903, R15)					
←(DRN 00-1172, R11)					
Instrumentation:					7, 18
1. Primary elements for:					
a) CCW Pumps, Heat Exchangers and Surge tank	IE	I	b	b	
→(DRN 00172, R11)					
b) Dry and Wet Cooling Towers	IE	I	b or c	b	
c) Isolation valves for Dry & Wet Cooling Towers	IE	I	b or c	b	
2. Signal transmitters and digital signal for:					
a) Dry and Wet Towers	IE	I	b or c	b	
←(DRN 00-1172, R11)					
b) Status display and controls	IE	I	b	b	
c) Alarms and Computer	NNS	-	b	b	17
3. Signal processing and/or interlocking for:					
a) Panel controls	IE	I	b	b	17
b) Indicators	IE	I	b	b	
c) Indicators-controllers	IE	I	b	b	
d) Computer inputs	NNS	-	b	b	17
e) Alarms	NNS	-	b	b	17
<u>Sampling System</u>					
Sample Heat Exchangers	NNS	-	-	-	
Sample Collecting Tank	NNS	-	-	-	
Piping and Valves					5
a) Part of RCPB	2	I	b	b	
b) Normally or automatically isolated from RCPB	NNS	-	-	-	

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<u>Containment Cooling System</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Containment Fan Coolers	2	I	b	b	
Ductwork	2 or NNS	I or -	b	b	8
Instrumentation:					7, 18
1. Primary elements for:					
a) CCW in	IE	I	b	b	
b) CCW out	IE	I	b	b	
c) Optical flow detectors	NNS	-	b	b	17
2. Signal Transmitters for:					
a) Types 1a and 1b above	IE	I	b	b	
b) Type c	NNS	-	b	b	17
3. Signal processing and displays:					
a) Panel indicators for Type 1a and 1b	IE	I	b	b	
b) Signal to computer Type 1c	NNS	-	b	b	17
<u>Essential Services Chilled Water System</u>					
Water Chillers	3	I	b	b	
Chilled Water Pumps	3	I	b	b	
Chilled Water Expansion Tanks	3	I	b	b	
→(DRN 06-870, R15)					
a) Required for performance of safety function	3	I	b	b	5
←(DRN 06-870, R15)					
Instrumentation:					7, 18
1. Primary elements for:					
a) Water Chillers	IE	I	b	b	
b) Chilled Water Tanks	IE	I	b	b	
c) Piping (safety and isolation)	IE	I	b	b	
2. Signal Transmitter for:					
a) Controls	IE	I	b	b	

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<u>Essential Services Chilled Water System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
b) Indication and Data logging	IE	I	b	b	
3. Signal Processing for					
a) Panel indicators	IE	I	b	b	
b) Computer	NNS	-	b	b	17
<u>Fuel Handling System</u>					
Spent Fuel Handling Machine and Tool	NNS	I	b	b	17
Refueling machine	NNS	I	b	b	17
CEA Change Mechanism	NNS	-	b	b	17
Fuel Transfer Equipment Set	NNS	-	b	b	17
Fuel Transfer Tube and Penetration Assembly	2	I	b	b	
<u>Spent Fuel Pool System</u>					
Fuel Pool Pumps	3	I	b	b	
Fuel Pool Heat Exchangers	3	I	b	b	
Refueling Canal Drain Pump	NNS	-	-	-	
Fuel Pool Purification Pump	NNS	-	-	-	
Fuel Pool Ion Exchanger	NNS	-	-	-	
Piping and Valves					5
→ (DRN 00-1172, R11)					
a) Spent fuel cooling subsystem	3	I	b or c	b	
← (DRN 00-1172, R11)					
b) Purification subsystem	NNS	-	-	-	
c) Spent fuel pool purification pump suction piping	NNS	d			
Instrumentation:					7, 18
1. Primary elements for:					
a) Pool Pumps and Purification Pump	NNS	-	b	b	17
b) Heat Exchanger	NNS	-	b	b	17
c) Ion Exchanger	NNS	-	b	b	17
d) Spent Fuel Pool Piping	NNS	-	b	b	17

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TABLE 3.2-1 (Sheet 11 of 27)

Revision 15 (03/07)

<u>Spent Fuel Pool System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
2. Signal Transmitters for:					
Types 1a, 1b, 1c and 1d	NNS	-	b	b	17
3. Signal Processing for:					
a) Alarms	NNS	-	b	b	17
b) Computer	NNS	-	b	b	17
c) Indicators	NNS	-	b	b	17
<u>Main Steam and Feedwater System</u>					
→(DRN 06-870, R15)					
Piping and Valves Machine and Tool					9
←(DRN 06-870, R15)					
a) From Steam Generator to outermost isolation valve	2	I	b	b	
→(DRN 00-1172, R11)					
b) Main Steam to Emergency Feedwater Pump A/B	3	I	b or c	b	
c) From Isolation Valves to Col. G	NNS	I	b or c	b	
←(DRN 00-1172, R11)					
d) Other	NNS	-	-	-	
Flow Measurement Primary Elements (Flow Venturis)	2	I	b	b	
Instrumentation:					7, 18
a) From Steam Generator to Isolation Valves	IE	I	b	b	
→(DRN 00-1172, R11)					
b) From Isolation Valves to Turbine	NNS	-	b or c	b	17
←(DRN 00-1172, R11)					
2. Signal Transmitters for:					
- Type 1a above	IE	I	b	b	
- Type 1b above	NNS	-	b	b	17
3. Signal Processing and Interlocking for:					
- Type 1a above (except Alarm and computer)	IE	I	b	b	
- All other (incl Alarms and computer)	NNS	-	b	b	17

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TABLE 3.2-1 (Sheet 12 of 27)

Revision 15 (03/07)

<u>Emergency Feedwater System</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
→(DRN 00-1172, R11) Emergency Feedwater Pumps Piping and Valves	3	I	b, c	b	5
←(DRN 00-1172, R11) a) From Steam Generator up to and including outermost isolation valve	2	I	b	b	
b) Emergency Feedwater piping from CSP to isolation valves to SG 1	3	I	b	b	
→(DRN 00-1172, R11) c) Emergency Feedwater piping from CSP to isolation valves to SG 2	3	I	b, c	b	
←(DRN 00-1172, R11) d) Normally or automatically isolated from parts covered by a), b) and c).	NNS	-	-	-	
→(DRN 06-870, R15) Instrumentation: Machine and Tool					7, 18
←(DRN 06-870, R15)					
1. Initiation Elements for:					
a) Switchgear operation	IE	I	b	b	
b) Alarms	NNS	-	b	b	17
c) Computer	NNS	-	b	b	17
2. Signal Transmitters	IE	I	b	b	17
3. Signal Processing					
a) Panel Displays (Lights)	IE	I	b	b	
b) Alarms	NNS	-	b	b	17
<u>Compressed Air Systems</u>					
Compressors & Receivers Accumulators	NNS	-	-	-	
→(DRN 00-1172, R11) a) Required for the performance of safety functions of safety class 1, 2 or 3 valves	3	I	b or c	b	10
←(DRN 00-1172, R11) b) Other	NNS	-	-	-	

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TABLE 3.2-1 (Sheet 13 of 27)

Revision 309 (06/16)

<u>Containment Isolation System</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Piping and Valves (of all systems penetrating containment)					
a) Part of RCPB	1 or 2	I	b	b	6
b) From first isolation valve inside containment Penetration weld to outermost isolation valve	2	I	b	b	
Instrumentation:					
1. Primary Elements for all Valves and Piping	IE	I	b	b	7, 18
2. Signal Transmitters for all equipment	IE	I	b	b	
3. Signal Processing					
- Panel displays	IE	I	b	b	
- Alarms and CComputer	NNS	-	b	b	17
<u>Emergency Diesel Generator System</u>					
→(LBDCR 13-016, R308; LBDCR 15-001, R309)					
Diesel Oil Storage Tanks	3	I	b,c, and d	b and c	
←(LBDCR 13-.16, R308; LBDCR 15-001, R309)	3	I	b	b	
Diesel Oil Transfer Pumps					
→ (DRN 00-1172, R11)					
Diesel Oil Storage Feed Tanks	3	I	b or c	b	
←(DRN 00-1172, R11)					
Maintenance Lube Oil Storage Tank	NNS	-	-	-	
Motor-Driven Jacket Water Pump	3	I	b	b	
Emergency Diesel Generators	IE	I	b	b	12
Starting Air Receivers	3	I	b	b	
Starting Air Compressors	NNS	-	-	-	
Jacket Water Heat Exchanger	3	I	b	b	
Jacket Water Standpipe	3	I	b	b	
Lube Oil Heat Exchanger	3	I	b	b	
Lube Oil Pump	3	I	b	b	
→ (DRN 00-1172, R11)					
Diesel Generator Intakes and Exhausts	-	I	a or b or c	b	
←(DRN 00-1172, R11)					
Instrumentation:					
1. Primary elements for					7, 18

<u>Emergency Diesel Generator System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>	
a) Generator	IE	I	b	b		
b) Diesel oil	IE	I	b	b		
c) Air supply	IE	I	b	b		
d) Water for cooling	IE	I	b	b		
e) Alarms and computer interface	NNS	-	b	b	17	
2. Signal Transmitters/Digital signals for:						
- Type 1a, 1b, 1c and 1d above	IE	I	b	b		
- Type 1e above	NNS	-	b	b	17	
3. Signal processing and/or interlocking for:						
- Type 1a, 1b, 1c and 1d above	IE	I	b	b		
- Type 1e above	NNS	-	b	b	17	
<u>Control Room Air Conditioning System</u>						
Control Room Emergency Filtration Units	S-8	3	I	b	b	15
Control Room Air Handling Units	AH-12	3	I	b	b	
Control Room Toilet Exhaust Fans	E-34	NNS	I	b	b	
Control Room Conference and Kitchen Exhaust Fan	E-42	NNS	-	-	-	17
Supplemental Recir Air Handling Units	AH-31	NNS	-	-	-	17
Chlorine & Broad Range Detectors		NNS	-	b	b	17, 25
Ductwork and Dampers						
a) Required for the performance of Safety Functions	3	I	b	b		
b) Other	NNS	-	-	-		
Instrumentation:						
1. Panel mounted components for all units	IE	I	b	b		
2. Control relays in Auxiliary Panel for all units	IE	I	b	b		
→ (DRN 00-1172, R11)						
3. Alarm signals for all units	IE	I	b or c	b		
← (DRN 00-1172, R11)						
4. Computer signals for all units	NNS	-	b	b	17	

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TABLE 3.2-1 (Sheet 15 of 27)

Revision 12-B (04/03)

<u>RAB Cable Vault and Switchgear Areas Ventilation System</u>		<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Switchgear Area Air Handling Units	AH-25	3	I	b	b	
Switchgear Area Air Handling Units	AH-30	3	I	b	b	
Battery Rooms Exhaust Fans	E-29, 30, 31	3	I	b	b	
Battery Room Exhaust Fans	E-46	3	I	b	b	
H&V Room Ventilation Fans	E-52	3	I	b	b	
Ductwork and Dampers						
a) Required for the performance of Safety Functions		3	I	b	b	
b) Other		NNS	-	-	-	
Instrumentation:						7, 18
1. Panel mounted components (switches, lamps) for all units		IE	I	b	b	
2. Control relays in Auxiliary Panels for all units		IE	I	b	b	
3. Alarms signals for all units		IE	I	b	b	
4. Computer signals for all units		NNS	-	b	b	17
<u>RAB H&V Equipment Room Ventilation System</u>						
Supply Air Handling Units	AH-13	3	I	b	b	
Exhaust Fans	E-41	3	I	b	b	
Ductwork and Dampers						
a) Required for the performance of Safety Functions		3	I	b	b	
b) Other		NNS	-	-	-	

<u>RAB H&V Equipment Room Ventilation System</u> (Cont'd)	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Instrumentation:					7, 18
1. Primary elements for Supply Air Hand Units and Exhaust Fan	IE	I	b	b	
2. Signal Transmitter (PAC)	IE	I	b	b	
3. Signal processing and/or interlocking	IE	I	b	b	
4. Alarms and Computer Signals	NNS	-	b	b	17
<u>FHB Ventilation System</u>					
FHB H&V Room Exhaust Fans	E-21	3	I	b	b
FHB Emergency Filtration Units	E-35	3	I	b	b
					15
Ductwork and Dampers					
a) Required for the performance of Safety Functions	3	I	b	b	
b) Other	NNS	-	-	-	
Instrumentation:					7, 18
1. Primary elements for H & V Room Exhaust Fan (Thermocouple)	IE	I	b	b	
2. Signal processing (through PAC) for both units (E21 and E35)	IE	I	b	b	
3. Alarms displayed in CP-18 section of RTGB	IE	I	b	b	
4. Computer signals	NNS	-	b	b	17
<u>Containment Atmospheric Release System</u>					
CARS Supply Fans	S-3	2	I	b	b
CARS Exhaust Fans	E-18	2	I	b	b
					11
Ductwork and Dampers					
a) Required for the performance of Safety Functions	2	I	b	b	

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TABLE 3.2-1 (Sheet 17 of 27)

Revision 12-B (04/03)

		<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
<u>Containment Atmospheric Release System</u> (Cont'd)						
Instrumentation:						7, 18
1. Panel mounted components (switches, lamps) for both Supply Fan and Exhaust Fan		IE	I	b	b	
2. Control Relays in Auxiliary Panels for both units		IE	I	b	b	
3. Alarms and Computer Signals for both units		NNS	-	b	b	17
<u>Shield Building Ventilation System</u>						
Filtration Units	E-17	2	I	b	b	15
Ductwork and Dampers						
a) Required for the Performance of Safety Functions		2	I	b	b	
Instrumentation:						7, 18
1. Panel mounted controls and displays		IE	I	b	b	
2. Control relays in AUxiliary		IE	I	b	b	
3. Alarms in CP-18 Section of the RTGB		IE	I	b	b	
<u>Controlled Ventilation Area System</u>						
Filtration Units	E-23	3	I	b	b	15
Ductwork and Dampers						
a) Required for the performance of Safety Functions		3	I	b	b	
b) Other		NNS	-	-	-	
Instrumentation:						7, 18
1. Primary Elements for:						
a) Exhaust Fans		IE	I	b	b	
b) Electric Heating Coils		IE	I	b	b	

<u>Controlled Ventilation Area System (Cont'd)</u>		<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
2. Signal Transmitter for:						
a) Recording		IE	I	b	b	
b) Alarms		IE	I	b	b	
c) Computer recording		IE	I	b	b	
3. Signal processing and/or interlocking for:						
a) Panel controls and alarms		IE	I	b	b	
b) Panel Recorder		IE	I	b	b	
c) Auxiliary panels relays for interlocks		IE	I	b	b	
d) Computer data logging		NNS	-	b	b	17
<u>Reactor Cavity Cooling System</u>						
Supply Fans	S-2	NNS	I	b	b	
Exhaust Fans	E-28	3	I	b	b	
Ductwork and Dampers						
a) Required for the rperformance of Safety Functions		3	I	b	b	
b) Other		NNS	-	-	-	
<u>Miscellaneous HVAC Equipment</u>						
Safeguards Pump Rm Air Handling Units	AH-2	3	I	b	b	
Shutdown Heat Exchanges Air Handling Units	AH-3	3	I	b	b	
Component Cooling Water Pumps Air Handling Units	AH-10	3	I	b	b	
Emergency FW Pump Air Handling Units	AH-17	3	I	b	b	
Charging Pumps Air Handling Units	AH-18	3	I	b	b	
Component Cooling Water Pump AB Air Handling Unit	AH-20	3	I	b	b	
Safeguard Pump AB Air Handling Unit	AH-21	3	I	b	b	
Charging Pump AB Air Handling Units	AH-22	3	I	b	b	
Component Cooling Water Heat Exchanger Air Handling Units	AH-24	3	I	b	b	
Control Room (Mechanical Equip RM) Handling Unit	AH-26	3	I	b	b	

<u>Miscellaneous HVAC Equipment (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Ductwork and Dampers					
a) Required for the performance of Safety Functions	3	I	b	b	
b) Other	NNS	-	-	-	
Instrumentation:					7, 18
1. Primary elements for all equipment	IE	I	b	b	
2. Signal Transmitter on all equipment used for:					
- Computer signal (isolator)	IE	I	b	b	
- Alarms	IE	I	b	b	
3. Controls and Displays					
- Panels mounted controls and status displays	IE	I	b	b	
4. Signal interlocking					
- relays in Auxiliary Panels	IE	I	b	b	
<u>Combustible Gas Control</u>					
Hydrogen Recombiners	2	I	b	b	
Hydrogen Analyzer System	IE	I	b	b	7
Piping and Valves:					
1. Hydrogen Recombiners	N/A	N/A	N/A	N/A	20
2. Hydrogen Analyzer					
a) All piping and valves inside containment up to and including outmost isolation valve of sample feed header	2	I	b	b	
b) All piping and valves inside containment up and including the outmost isolation valve of sample return line	2	I	b	b	

	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Instrumentation:					
1. Hydrogen Recombiner					7, 18
a) Power Meter	IE	I	b	b	
b) Potentiometer (Power Adjust)	IE	I	b	b	
c) Off-on Switch	IE	I	b	b	
d) Power Available Light	IE	I	b	b	
2. Hydrogen Analyzer					
a) Analyzer Cell	IE	I	b	b	
b) Pressure and Flow Switches	IE	I	b	b	
c) Hydrogen Concentration Recorder	IE	I	b	b	
d) Mode Selector Switch	IE	I	b	b	
e) Sample Light Indicators	IE	I	b	b	
<u>Containment Vacuum Relief Actuation System</u>					
Instrumentation:					
					7, 18
1. Primary elements:					
a) Containment/Annulus Differential Pressure Switch	IE	I	b	b	
b) Valves and valve position switches	IE	I	b	b	
2. Digital signals for:					
a) Starting signal and interlock	IE	I	b	b	
b) Data logging in multiplexor	NNS	-	b	b	17
3. Signal processing for:					
a) Panel Control switches	IE	I	b	b	
b) Panel Status lights	IE	I	b	b	24
c) Alarms	IE	I	b	b	
<u>Containment Pressure Indication System</u>					

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TABLE 3.2-1 (Sheet 21 of 27)

Revision 15 (03/07)

<u>Containment Pressure Indication System (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Instrumentation:					7, 18
1. Primary elements	IE	I	b	b	
2. Signal transmitters	IE	I	b	b	
3. Signal processing and displays:					
a) Panel Indicators	IE	I	b	b	
b) Alarms	NNS	-	b	b	17
<u>Containment Water Level Indication System</u>					
Instrumentation:					7, 18
1. Primary Elements	IE	I	b	b	
2. Signal transmitters	IE	I	b	b	
3. Signal processing for:					
a) Panel Indicators	IE	I	b	b	
b) Data logging in multiplexors	NNS	-	b	b	
<u>Electrical Systems and Equipment</u>					12, 14
Safety System 4.16 kV Switchgear →(DRN 00-1172, R11)	IE	I	b	b	
Safety System 480 V Switchgear and Transformers →(DRN 06-870, R15)	IE	I	b, c	b	
Safety System 480 V Motor Control Centers ←(DRN 06-870, R15)	IE	I	b, c	b	
Safety System Motors	IE	I	b or c	b	
Containment Electrical Penetrations	IE	I	b	b	
Vital dc Switchgear and Control Boards	IE	I	b	b	
Station Batteries and Chargers	IE	I	b	b	
Safety System Power, Control and Instrument Cables and Raceways	IE	I	b or c	b	
Vital ac Inverters and Distribution Panels ←(DRN 00-1172, R11)	IE	I	b or c	b	
Cable splices, Connectors, Terminal Blocks	IE	I	b	b	
Fire stops	NNS	-	b	b	
Boric Acid Heat Tracing System	IE	I	b	b	
Safety System 125V DC and 120VAC Power Distribution Panels	IE	I	b	b	

	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
<u>Radiation Monitoring</u>					
Process Rad Monitors - CCWS	IE	I	b	b	
Area Rad Monitors (Channels RE-24 through 33)	IE	I	b	b	
Airborne Rad Monitors:					
Containment Atmosphere	IE	I	b	b	
Main Control Room	IE	I	b	b	
→ (DRN 00-1172, R11)					
Plant Stack	IE	I	b, c	b	
← (DRN 00-1172, R11)					
Process Radiation Monitors	NNS	-	b	b	17
Effluent Radiation Monitors	NNS	-	b	b	17
In Plant Airborne Rad Monitors	NNS	-	b	b	17
Area Radiation Monitors	NNS	-	b	b	17
Portable Continuous Air Monitors	NNS	-	b	b	17
Gamma Spectrometer	NNS	-	b	b	17
Liquid Scintillation	NNS	-	b	b	17
<u>Accident Radiation Monitors</u>					
→ (DRN 00-1172, R11)					
Plant Vent Stack	NNS	-	b, c	b	17
Main Steam Line	NNS	-	b	b	17
Condenser Vacuum Pump	NNS	-	-	b	17
← (DRN 00-1172, R11)					
FHB Emergency Exhaust	NNS	-	b	b	17
High Range Containment	IE	I	b	b	7, 18
<u>Post Accident Sampling System (II.B.3)</u>					
	NNS	-	b	b	17
<u>Inadequate Core Cooling Instrumentation (II.F.2)</u>					
	IE	I	b	b	17, 22
1. Saturation Margin Monitor					
2. Heated Junction Thermocouples					
3. Core Exit Thermocouples					
4. Signal Processing and Display					
<u>Miscellaneous</u>					
Spent and New Fuel Storage Racks	-	I	b	b	
Main Control Panel	IE	I	b	b	

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TABLE 3.2-1 (Sheet 23 of 27)

Revision 308 (11/14)

<u>Miscellaneous (Cont'd)</u>	<u>Safety Class</u>	<u>Seismic Category</u>	<u>Tornado* Wind Criterion</u>	<u>Flood** Criterion</u>	<u>Notes</u>
Containment Vacuum Relief System	2	I	b	b	7, 12, 18
FHB Bridge Crane	-	I	b	b	
Reactor Polar Crane	-	I	b	b	
→(DRN 02-0694, R12)					
Containment Piping Penetrations	2	I	b	b	29
←(DRN 02-0694, R12)					
Radwaste Cask Handling Bridge Crane	-	I	b	b	
→ (DRN 00-1172, R11)					
Maintenance Hatch Shielding Door	-	I	a	b	
← (DRN 00-1172, R11)					
Auxiliary Control Panel (Hot Shutdown) (Table 7A--3)	IE	I	b	b	7, 18
Reactor Building Canal Liner	-	I	b	b	23
FHB Spent Fuel & Spent Fuel Cask Storage Pools & Pool Liners	-	I	b	b	23
→(DRN 03-291, R12-B)					
RAB Condensate & Refueling Water Storage Pools and Pool Liners	-	I	b	b	23, 30
← (DRN 03-291, R12-B)					
Fuel Transfer Tube and Penetration Assembly	2	I	b	b	
→ (DRN 99-2514, R11; 00-1172, R11)					
UHS Sump Pumps (Cooling Tower Areas)	NNS	----	b or c	b	17
← (DRN 99-2514, R11; 00-1172, R11)					
Decontamination - Area Structure	-	I	b	b	
Meteorological data collection equip.	NNS	-	-	-	17
→ (DRN 00-1172, R11)					
Containment - Personnel Lock, equipment hatch and escape lock	2	I	a or b or c	b	
← (DRN 00-1172, R11)					
Annulus access lock	-	I	a	a	
Plant-safety-parameter display console (I.D.2)	NNS	-	b	b	17, 18
Engineered safety features actuation system	IE	I	b	b	7, 18
RCP Oil Collection System	NNS	-	b	b	
ATWS Mitigating Systems	IE or NNS	1 or -	b	b	26

* Tornado Wind Criterion (Section 3.3)

a. Structure or component is designed to withstand design wind.

→ (DRN 00-1172, R11)

b. The system or components are housed within a structure and/or protected by a barrier which is designed to withstand the design wind and/or missile loads.

c. System or component failure is not credible because tornado missile induced failure modes are considered improbable. Ref. section 3.5.1.4.1.

← (DRN 00-1172, R11)

→(LBDCR 13-016, R308)

d. Diesel Oil Storage Tank fill and vent lines are outside the nuclear plant island structure (NPIS) and are designed to withstand the design wind loads.

←(LBDCR 13-016, R308)

**Flood Criterion (Section 3.4)

a. Structure or component is part of NPIS which is protected against flooding.

b. System or component is housed within another structure (NPIS) designed to protect against flooding.

→(LBDCR 13-016, R308)

c. Diesel Oil Storage Tank fill and vent lines are outside the nuclear plant island structure (NPIS) and are designed to withstand flood loads.

←(LBDCR 13-016, R308)

- (a) represents no safety class or quality group classification
- (b) represents not designed to seismic Category I requirements
- (c) represents no criterion specified because not safety-related or seismically designed
- (d) represents designed to seismic Category I requirements, but not classified seismic Category I

General Notes

Expendable and consumable items used in conjunction with safety-related equipment are considered safety-related. These items have and will receive applicable 10CFR50 Appendix B QA. Examples of these items are weld rod, diesel fuel oil, boric acid, etc.

NSSS Supplied Equipment

- All safety-related valve operators are procured as an integral part of the associated valve. All relevant requirements specified for the valve apply to the valve operator. Seismic qualification of valves and valve operators is described in the FSAR in the response to Item No. 18, Appendix 110A, Response to NRC Questions. This equipment has and will receive applicable 10CFR50 Appendix B QA.
- All safety-related motors for safety-related pumps are procured as an integral part of the associated pump. All relevant requirements specified for the pump apply to the pump driver. Seismic qualification of pump/driver assemblies is described in the FSAR in the responses to Items No. 26 and 27, Appendix 110A, Response to NRC Questions. This equipment has and will receive applicable portions of 10CFR50 Appendix B QA.

Non-NSSS Supplied Equipment

- Actuators are considered as part of valve assemblies. All safety-related valve assemblies are qualified to seismic Category I requirements. All safety-related motor and solenoid actuators and all safety-related electrical accessories on hydraulic and pneumatic actuators required for Accident Mitigation or Post-Accident Monitoring are 1E qualified. In addition where such equipment on a non-active valve is connected to an electrical circuit or bus whose safety function may be adversely affected by failure of that accessory, this equipment is also 1E qualified. These assemblies receive applicable portions of 10CFR50 Appendix B QA.

→(DRN 06-870, R15)

- All motors on safety-related pumps are qualified to seismic Category I requirements as part of the pump assemblies. All motors on safety-related pumps required for Accident Mitigation, Post-Accident Monitoring, or whose failure may adversely affect the safety function of its electrical bus or circuit, are qualified to 1E requirements. These motors receive applicable portions of 10CFR50 Appendix B QA.

←(DRN 06-870, R15)

ITEMIZED NOTES:

1. Class 1E as defined by IEEE 308.

→(DRN 03-633, R12-C)

2. Loss of cooling water to the reactor coolant pump motors caused by a failure of the non-seismic category (Quality Group D) motor bearing oil systems or the air coolers may prevent normal continuous operation of the pumps. However, continuous operation of the pumps is not required during or following a SSE because they do not serve a safety function. Therefore, the specific recommendations of Regulatory Guides 1.26 and 1.29 are not applied to these pump auxiliaries.

3. These components and associated supporting structures must be designed to retain structural integrity during and after a seismic event but do not have to retain operability for protection of public safety. The basic requirement is prevention of structural collapse and damage to equipment and structures required for protection of public safety.

←(DRN 03-633, R12-C)

ITEMIZED NOTES: (Cont'd)

→(DRN 02-1476, R12)

4. Deleted.

←(DRN 02-1476, R12)

5. Piping and Valves - Piping and valves between seismic Category 1 equipment, components or tanks shall be Category 1. Piping shall be Category 1 up to and including the barrier (as defined in Subsection 3.2.2.3) in the line from a Category 1 component to a non-seismic component. Reactor coolant pressure boundary (RCPB) is defined in 10CFR 50.2

6. Components which are connected to the RCS and are part of the RCPB are classified as Safety Class 2 provided:

a) In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in the orderly manner, assuming makeup is provided by Chemical and Volume Control System only, or

→(DRN 03-633, R12-C)

b) The component is or can be isolated from the RCS by two valves (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the Chemical and Volume Control System only.

←(DRN 03-633, R12-C)

7. Instrumentation - Instrumentation required to actuate, maintain operation of, or detect failure of equipment needed to safely shut down, isolate and maintain the reactor in a safe condition and prevent uncontrolled release of radioactivity from the station shall be Class 1E/seismic Category I. Instrumentation designated as Class 1E/seismic Category I shall include as Class 1E/Category I all sensing lines, instrument valves and instrumentation racks. All Class 1E/Category I instrumentation will receive applicable 10CFR50 Appendix B QA during the operations phase.

8. The only portion of the ductwork that is safety-related is the short ducted emergency outlet. The remaining portion is seismically supported.

9. The Main Steam and Feedwater lines are seismic Category 1 up to the system of restraints at column line G as shown on Drawing G134.

→(DRN 03-633, R12-C)

10. For safety-related components which are not covered by ASME Section III, the design of the component is in accordance with other recognized industry codes or standards applicable to that of component. The quality assurance program applied to the design, manufacture, installation, testing and operation of the component meets the applicable requirements of the facility QA program.

←(DRN 03-633, R12-C)

11. This is an outdated Safety Classification (i.e., Safety Class 2). Regulatory Guide 1.7 (April 1974) no longer requires the purge system to be redundant or be designated seismic Category I, except insofar as portions of the system constitute part of the primary containment boundary.

→(DRN 03-633, R12-C; 06-870, R15)

12. Electrical Equipment - All cables, relays, motors, switchgear and other electrical equipment serving safety system components required to function during the SSE shall be Class 1E, if they are necessary for the performance of the component's safety function. All Class 1E electrical equipment will receive applicable portions of 10CFR50 Appendix B QA during the operations phase.

←(DRN 03-633, R12-C; 06-870, R15)

→(DRN 06-903, R15; EC-44877, R307)

13. All structures, systems and components identified as Seismic Category I receive the 10CFR50 Appendix B Quality Assurance Program consistent with their safety function. Safety-related Seismic Category I items receive the full Quality Assurance Program while NNS Seismic Category I items receive the pertinent Quality Assurance requirements specified in the Quality Assurance Program.

←(DRN 06-903, R15; EC-44877, R307)

14. Collectively identifies safety-related components, including equipment in Cooling Tower Areas.

ITEMIZED NOTES: (Cont'd)

15. Operational 10CFR50 Appendix B QA is applied for HEPA filter & charcoal absorber.
16. Safety and seismic considerations meet the requirements of NUREG-0737.
17. These items will receive applicable 10CFR50 Appendix B QA during the operational phase. Items/services will be procured whenever possible from a vendor with a 10CFR50 Appendix B QA program. When this is not possible, additional steps will be taken by LP&L QA, such as a detailed receiving inspection to assure that it performs its required functions.
18. Isolators that connect the protective systems (Class 1E) to the plant computer (non-Class 1E) are Class 1E and seismic Category I.
→(DRN 00-1032, R11-A)
19. This table is an overview of the structures, components, and systems. Refer to the station's Component Database process and instrument diagrams, and control wiring diagrams for further detail.
←(DRN 00-1032, R11-A)
20. The Hydrogen Recombiner has no piping and valves.
21. Suction pressure and lube oil pressure switches on charging pumps are Safety Class N2 (C-E Quality Class 2B).
22. The ICCI SYSTEM is environmentally and seismically qualified. Out-of-vessel components, i.e., cables and connectors are environmentally qualified in accordance with IEEE-323-1974. In addition, the HJTC System has been extensively tested and verified under conditions similar to what it may encounter during an ICC event. The CET's have also been tested and verified to function up to a temperature of 2300F. The ICCI System will be installed and operational prior to first cycle commercial operation. Although all cabling for the CET's is qualified to Class 1E criteria, some of the cabling is run in NNS cable trays, see Appendix 1.9A for details.
23. The canal, pools, and their liners are classified as structures and are therefore not assigned a safety class, but are designed and constructed as seismic Category I under the 10CFR50 Appendix B requirements. The liners and their nozzles are constructed to ASME Section VIII code requirements using ASME Section III materials.
24. Pressure switches PS-HV-5222 AS and BS function only to alarm on a loss of instrument air. This alarm function will not be lost as a result of a failure of the associated tubing. Therefore, the signal process tubing for these switches has been classified non-safety.
25. Detector design criteria is discussed in Subsection 6.4.4.2.
26. ATWS Instrumentation and components will receive NRC QA guidance for ATWS equipment, NRC Generic Letter 85-06, Quality Assurance Guidance for ATWS Equipment that is not safety related.
→(EC-33471; R307)
27. Deleted by EC 33471.
←(EC-33471; R307)
28. Pressure relieving devices may have administratively controlled manual block valves installed in their piping.
→(DRN 03-759, R13)
←(DRN 03-759, R13)
→(DRN 02-0694, R12)
29. Resolution of Generic Letter 96-06 containment penetration over pressurization has resulted in an Operating License Amendment authorizing a licensing basis change to exempt installation of relief valves on the Steam Generator Blowdown System (BD), primary sampling system (PSL), and secondary sampling system (SSL) penetrations.
(Reference ER-W3-99-0726 and Operating License Amendment No. 179)
←(DRN 02-0694, R12)

ITEMIZED NOTES: (Cont'd)

→(DRN 03-291, R12-B)

30. The Refueling Water Storage Pool (RWSP) is designed in accordance with the recommendations of Regulatory Guide 1.29 "Seismic Design Classification" with exception to footnote 1. Regulatory Guide 1.29 recommends the system boundary include portions of the system required to accomplish the specified safety function and connected piping up to and including the first valve that is either normally closed or capable of automatic closure when the safety function is required. The RWSP purification system is non-safety and connected to the RWSP by normally open, manual isolation valves. Operator actions may be required to isolate the purification system from the RWSP (Reference Operating License Amendment No. 186 in ER-W3-1999-3544-001).

←(DRN 03-291, R12-B)

WSES-FSAR-UNIT-3

TABLE 3.2-2 (Sheet 1 of 2) Revision 11-B (06/02)

EQUIPMENT CODE EXCEPTIONS TO REGULATORY GUIDE 1.26

<u>Equipment</u>	<u>ASME Code Edition/Addenda</u>
Containment Vessel	1971/Summer 1971
Reactor Pressure Vessel	1971/Summer 1971
Steam Generator Vessel	1971/Summer 1971
Reactor Coolant Pumps	1971/Winter 1971
Pressurizer Vessel	1971/Summer 1971
NSSS RCS Piping	1971/Winter 1971
NSSS Valves	1968/March 1970
	1971/Winter 1971
	1971/Summer 1971
Low Pressure Safety Injection Pumps	1968/March 1970
High Pressure Safety Injection Pumps	1968/March 1970
Shutdown Heat Exchangers	1968/Summer 1970
Charging Pumps	1968/March 1970
Boric Acid Makeup Tanks	1968/Summer 1970
Volume Control Tank	1968/Summer 1970
Boric Acid Pumps	1968/Summer 1972
WMS Waste Gas Compressor	1971/Winter 1971
BMS Holdup Tanks	1968/Summer 1970
BMS Equipment Drain Tank Pump	1971/Summer 1972
BMS Reactor Drain Tank Pump	1971/Summer 1972
→ (DRN 00-804) BMS Flash Tank ⁽¹⁾	1968/Summer 1970
← (DRN 00-804) BMS Flash Tank Pumps ⁽¹⁾	1971/Summer 1972
← (DRN 00-804) Fuel Pool Pumps	1971/Summer 1972
→ (DRN 00-804)	

⁽¹⁾ The BMS Flash Tank and Flash Tank pumps have been made inactive per ER-W/3-00-0225-00-00.

← (DRN 00-804)

EQUIPMENT CODE EXCEPTIONS TO REGULATORY GUIDE 1.26

<u>Equipment</u>	<u>ASME Code Edition/Addenda</u>
→(LBDCR 15-021, R309) Fuel Pool Heat Exchanger	1971
←(LBDCR 15-021, R309) Pressurizer Safety Valves	1971/Winter 1971 (1)
Regenerative Heat Exchanger	1971
Letdown Heat Exchanger	1971
Purification Ion Exchangers	1968/Summer 1970
→(DRN 99-1003, R11)	
←(DRN 99-1003, R11)	
CVCS Purification Filter	1968/Summer 1970
Fuel Pool Purification Pump	1971/Summer 1972
→(LBDCR 15-021, R309) (1) The original Pressurizer Safety Valves were supplied to the Winter 1971 edition. These were replaced with valves meeting the requirements of the 1974/Summer 1975 edition which do not require this exception.	
←(LBDCR 15-021, R309)	