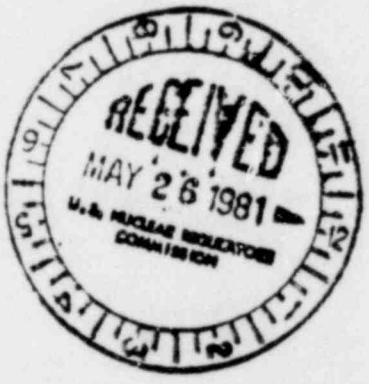
May 19, 1981

Docket No. 50-155
LS05-81-05-032



Mr. David B. Hoffman
Nuclear Licensing Administrator
Consumers Power Company
1945 W Parnall Road
Jackson, Michigan 49201

Dear Mr. Hoffman:

SUBJECT: CLASSIFICATION OF STRUCTURES, SYSTEMS AND COMPONENTS
SEP TOPIC III-1 (BIG ROCK POINT)

Enclosed is a table of structures, systems and components for which classification with respect to quality group and construction code standards is required. Seismic classification is being addressed as part of the overall seismic design reevaluation. Electrical power distribution systems and instrumentation such as sensors and actuation devices are not addressed here for quality group, but will be considered for seismic adequacy.

You are requested to complete the following table and verify whether the data already entered is correct. Furthermore, we request the following information:

1) For all systems and components supply the classification being used for Section XI testing.

2) Provide any supplemental quality assurance which was performed during construction such as testing, non-destructive examination, material traceability, etc. which would assist us in our review.

Your response is requested in 30 days.

Sincerely,

Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

*See previous yellow for concurrences.

				AD:EP:DL	
				GLainas	
				5/18/81	
	SEPB:DL	SEPB:DL	SEPB:DL	ORB#5:DL:PM	ORB#5:DL:C
	AWang:dk*	CBerlinger*	WRussell*	WPaulson	DCrutchfield
8105270145	5/14/81	5/14/81	5/14/81	5/ /81	5/15/81

Docket No. 50-155

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Nuclear Licensing Administrator
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SEP TOPIC III-1 (BIG ROCK POINT)

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The plant seismic design was reported to be a seismic loading of 0.05g for the reactor enclosure and equipment therein while a loading of 0.025g was applied to the remainder of the plant (the Reactor Depressurization System, RDS, was designed to more recent criteria, as noted). The licensee will have to specify how interfaces were treated in the application of seismic loadings of 0.025 and 0.05g if such differences are found to be important.

You are requested to complete the following table and verify whether the data already entered is correct. Furthermore, we request the following information:

1) For all systems and components supply the classification being used for Section XI testing.

2) Provide any supplemental quality assurance which was performed during construction such as testing, non-destructive examination, material traceability, etc. which would assist us in our review.

Your response is requested in 30 days.

delete 2nd Paragraph (reanalysis was left to the discretion of the facility. RS 5/14

Sincerely,

Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing

AD:SA:DL
GLainas
5/ /81

cc: See next page

	SEPB:DL	SEPB:DL	SEPB:DL	ORB#5:DL:PM	ORB#5:DL:C
	AWang:dk	CBerlinger	WRussell	WPaulson	DCrutchfield
	5-14-81	5/14/81	5/ /81	5/ /81	5/ /81

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 19, 1981

Docket No. 50-155
LSOS-81-05-032

Mr. David P. Hoffman
Nuclear Licensing Administrator
Consumers Power Company
1945 W Parnall Road
Jackson, Michigan 49201

Dear Mr. Hoffman:

SUBJECT: CLASSIFICATION OF STRUCTURES, SYSTEMS AND COMPONENTS
SEP TOPIC III-1 (BIG ROCK POINT)

Enclosed is a table of structures, systems and components for which classification with respect to quality group and construction code standards is required. Seismic classification is being addressed as part of the overall seismic design reevaluation. Electrical power distribution systems and instrumentation such as sensors and actuation devices are not addressed here for quality group, but will be considered for seismic adequacy.

You are requested to complete the following table and verify whether the data already entered is correct. Furthermore, we request the following information:

1) For all systems and components supply the classification being used for Section XI testing.

2) Provide any supplemental quality assurance which was performed during construction such as testing, non-destructive examination, material traceability, etc. which would assist us in our review.

Your response is requested in 30 days.

Sincerely,

Dennis M. Crutchfield

Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

Mr. David P. Hoffman

cc
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Charlevoix, Michigan

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County Board of Supervisors
Charlevoix County
Charlevoix, Michigan 49720

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Room 1 - Capitol Building
Lansing, Michigan 48913

Director, Criteria and Standards
Division
Office of Radiation Programs
(ANR-460)
U. S. Environmental Protection
Agency
Washington, D. C. 20460

U. S. Environmental Protection
Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
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Chicago, Illinois 60604

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Mr. Frederick J. Shon
Atomic Safety and Licensing Board
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Big Rock Point Nuclear Power Plant
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Charlevoix, Michigan 49720

Thomas S. Moore
Atomic Safety & Licensing Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

BIG ROCK POINT

TABLE OF CONTENTS

Components/Subsystems	Quality Group			Seismic Classification		Notes
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	
I. Structures						
Spherical containment	ASME III MC	ASME Sec. II, VIII & IX as modified by applicable code cases	?	Seismic Category I	.05g	(5)
Support for Reactor Enclosure Plenum	-	-	-	Seismic Category I	.05g	(5)
Stack	-	-	-	II	UBC Zone 1 1958	
Supports for Exhaust Stack Plenum	-	-	-	II	UBC Zone 1 1958	
Water Intake Structure	-	-	-	Seismic Category I	UBC Zone 1 1958	
Turbine Building	-	-	-	II	UBC Zone 1 1958	
Control Room	-	-	-	Seismic Category I	UBC Zone 1 1958	
Waste Storage Vaults	-	-	-	Seismic Category I	UBC Zone 1 1958	

Components/Subsystems	Quality Group			Seismic Classification		
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	Notes
Spent Fuel Storage Racks	-	-	-	Seismic Category I	.05g	(5)
Fuel Pit	ASME Sec. III Class 3	?	?	Seismic Category I	.05g	(5)
Structures Housing Liquid Radwaste	-	-	-	Seismic Category I	UBC Zone 1 1958	
2. Reactor Coolant System						
Reactor Vessel	ASME Sec. III Class 1	ASME Sec. I, VIII & Code Cases 1270N, 1271N, 1273N	?	Seismic Category I	.05g	(5), (6)
Reactor Vessel Supports	-	-	-	Seismic Category I	.05g	(5)
Reactor Vessel Internals	ASME Sec. III Class 1	ASME Sec. VIII & Applicable Code Cases	?	Seismic Category I	.05g	(5), (7)
3. Recirculation System						
Steam Drum	ASME Sec. III Class 1	ASME Sec. VIII & Applicable Code Cases		Seismic Category I	.05g	(5)
Pumps	ASME Sec. III Class 1	ASME Sec. VIII & Applicable Code Cases		Seismic Category I	.05g	(5), (7)
Valves (24", 20", 5" Gates, 20" Butterfly on Each Recirc. Line)	ASME Sec. III Class 1	ASA B.31.1 1955		Seismic Category I	.05g	(5), (8)

Components/Subsystems	Quality Group			Seismic Classification		
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	Notes
Primary Piping (Up to Drum)	ASME Sec. III Class 1	ASA B.31.1 1955 & Code Cases N1, N7, N9 and N10		Seismic Category I	.05g	(5)
4. Emergency Systems						
Liquid Poison System						
Piping and Valves Beyond Isolation Valves	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Poison Tank	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Nitrogen Bottles	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Core Spray System[9]						
Pumps	ASME Sec. III Class 2	?	?	Seismic Category I	UBC Zone 1 1955	
Piping, Fittings, and Valves Inside Containment	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)

Components/Subsystems	Quality Group			Seismic Classification		Notes
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	
Emergency Systems Cont.						
Piping, Fittings and Valves Outside Containment	ASME Sec. III Class 2	?	?	Seismic Category I	UBC Zone 1 1955	
Core Spray Nozzle	ASME Sec. III	USAS B.31.1, USAS B.31.7, Draft ASME Code for Pumps & Valves for Nuclear Service	?	Seismic Category I	.05g	(5)
Suction Strainers	-	-	-	Seismic Category I	.05g	(5)
Heat Exchanger Primary Side	ASME Sec. III Class 2	?	?	Seismic Category I	UBC Zone 1 1955	
Secondary Side	ASME Sec. III Class 3	?	?	Seismic Category I	UBC Zone 1 1955	
Backup Core Spray System						
Piping, Fittings and Valves Inside Containment	ASME Sec. III	USAS B.31.1, USAS B.31.8 ASME Draft Code	?	Seismic Category I	.05g	(5)
Piping, Fittings and Valves Outside Containment	ASME Sec. III	USAS B.31.1, USAS B.31.7 ASME Draft Code	?	Seismic Category I	UBC Zone 1 1955	

Components/Subsystems	Quality Group			Seismic Classification		Notes
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	
Emergency Systems Cont.						
Core Spray Nozzle	ASME Sec. III Class 2	USAS B.31.1, USAS B.31.7 ASME Draft Code	?	Seismic Category I	.05g	(5)
Enclosure Spray and Backup System						
Piping, Fittings and Valves	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Spray Rings	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Emergency Cooling System						
Emergency Condenser						
Shell Side	ASME Sec. III Class 3	ASME with Code Cases 1270N, 1272N	?	Seismic Category I	.05g	(5)
Tube Side	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Piping, Fittings and Valves (Tube Side)	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)

Components/Subsystems	Quality Group			Seismic Classification		
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	Notes
Emergency Systems Cont.						
Pipings, Fittings and Valves (Shell Side)	ASME Sec. III Class 3	?	?	Seismic Category I	.05g	(5)
Reactor Depressurization System						
Relief Valves	ASME Sec. III Class 1	?	?	Seismic Category I	Seismic Category I	
Pipings, Fittings and Valves to Relief Valves	ASME Sec. III Class 1	?	?	Seismic Category I	Seismic Category I	
Discharge Lines to Steam Drum Enclosure	ASME Sec. III Class II	?	?	Seismic Category I	Seismic Category I	
Fire Protection System						
Pumps (Diesel, Electric and Jockey)	ASME Sec. III Class 2	?	?	Seismic Category I	UBC Zone 1 1955	
Pipings, Fittings and Valves	ASME Sec. III Class 2	?	?	Seismic Category I	UBC Zone 1 1955	

Components/Subsystems	Quality Group			Seismic Classification		Notes
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	
5. Safety Relief Valves	ASME Sec. III Class 1	?	?	Seismic Category I	.05g	(5)
6. Reactor Coolant Pressure Boundary						
Piping From Reactor Vessel Up to and Including First Isolation Valve External to Containment	ASME Sec. III	ASA B.31.1 - 1955 Code Cases N-1, N-7, N-9, N-10	?	Seismic Category I	.05g	(5)
7. Isolation Valves (Others than valves identified under Item 8)	ASME Sec. III Class 1	ASA B.31.1 - 1955 Code Cases N-1, N-7, N-9, N-10	?	Seismic Category I	.05g	(5)
8. Containment Penetrations Valves and Piping	ASME Sec. III Class 2	?		Seismic Category I	.05g	(5)
9. Control Rods	-	-	-	Seismic Category I	?	
10. Control Rod Drive Housing	ASME Sec. III Class 1	?	?	Seismic Category I	.05g	(5)
11 Control Rod Drive Housing Supports	-	-	-	Seismic Category I	.05g	(5)
12. Control Rod Drive System	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)

Components/Subsystems	Quality Group			Seismic Classification		
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	Notes
13. Spent Fuel Pit Cooling System	ASME Sec. III Class 3	?	?	Seismic Category I	.05g	(5)
14. Turbine Stop Valve Housing	-	-	-	Seismic Category I	UBC Zone 1 1955	
15. Condensate/Feedwater System						
Piping from Outermost Containment Isolation Valve up to and Including the Shut-off Valve and Connected Piping up to and Including the First Shutoff Valve[10]	ASME Sec. III Class 2	ASA B.31.1	?	Seismic Category I	UBC Zone 1 1955	
Balance of Feedwater System from Shutoff Valve to the Condenser	Quality Group D	-	-	Non-Seismic	UBC Zone 1 1955	
16. Main Steam System						
Steam Line, Drum to MOV 7050	ASME Sec. III Class 1	ASA B.31.1	?	Seismic Category I	.05g	(5)
Drain Line, From Steam-Line to MOV 7065	ASME Sec. III Class 1	ASA B.31.1	?	Seismic Category I	.05g	(5)
Steam Line, MOV 7050 to Stop Valve and Connected Piping to First Shutoff Valve	ASME Sec. III	ASA B.31.1	?	Seismic Category I	.025/.05g	(11)

Components/Subsystems	Quality Group			Seismic Classification		
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	Notes
Drain Line From Valve MOV 7065 to CV 4107	ASME Sec. III Class 1	ASA B.31.1	?	Seismic Category I	.025/.05g	(11)
17. Reactor Water Cleanup System	ASME Sec. III Class 1	ASA B.31.1	?	Seismic Category I	.05g	(5)
Non-Regenerative Heat Exchanger						
Tube Side	ASME Sec. III Class 1	?	?	Seismic Category I	.05g	(5)
Shell Side	ASME Sec. III Class 3	?	?	Seismic Category I	.05g	(5)
18. Reactor Shutdown Cooling System						
Pumps	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Heat Exchangers						
Tube Side	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Shell Side	ASME Sec. III Class 3	?	?	Seismic Category I	.05g	(5)

Components/Subsystems	Quality Group			Seismic Classification		Notes
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	
Gland Coolers						
Tube Side	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
Shell Side	ASME Sec. III	?	?	Seismic Category I	.05g	(5)
Pipings, Fittings and Valves	ASME Sec. III Class 2	?	?	Seismic Category I	.05g	(5)
19. Reactor Cooling Water System						
Pumps	ASME Sec. III Class 3	?	?	Non-Seismic Category I	UBC Zone 1 1955	
Reactor Cooling Water Tank	ASME Sec. III Class 3	?	?	Non-Seismic Category I	.05g	(5)
Pipings, Fittings and Valves	ASME Sec. III Class 3	?	?	Non-Seismic Category I	.05g	(5)
20. Makeup and Condensate Demineralizer System						
Condensate Storage Tank	Quality Group D	-	-	Non-Seismic Category	UBC Zone 1 1955	
Piping and Valves From Hotwell to Condensate Storage Tank	ASME Sec. III Class 3	?	?	Non-Seismic Category	UBC Zone 1 1955	

Components/Subsystems	Quality Group			Seismic Classification		
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	Notes
21. Service and Instrument Air System	See Note 12	?	?	See Note 12	UBC Zone 1 1955	
22. Standby Diesel Generator System	ASME Sec. III Class 3	?	?	Seismic Category I	UBC Zone 1 1955	
23. Service Water System	ASME Sec. III Class 3	?	?	Seismic Category I	UBC Zone 1 1955	
24. Ventilation System						
Control Room Air Conditioning Lines	-	-	-	Seismic Category I	UBC Zone 1 1955	
Instrument Room Ventilation	-	-	-	Seismic Category I	.05g	(5)
25. Reactor Recirculation Pump Seal Water System						
Piping and Valves	ASME Sec. III Class 1	?	?	Seismic Category I	.05g	(5)
Pump	ASME Sec. III	?	?	Seismic Category I	.05g	(5)
Heat Exchanger						
Tube Side	ASME Sec. III Class 1	?	?	Seismic Category I	.05g	(5)
Shell Side	ASME Sec. III Class 3	?	?	Seismic Category I	.05g	(5)

Components/Subsystems	Quality Group			Seismic Classification		Notes
	R.G. 1.26[1] SRP 3.2.2	Plant[2] Design	Section XI Classification	R.G. 1.29[3] SRP 3.2.1	Plant[4] Design	
26. Standby Electric Power Systems						
Station Batteries	-	-	-	Seismic Category I	UBC Zone 1 1955	
Emergency Buses and Other Electrical Gear and Power to Critical Equipment	-	-	-	Seismic Category I	UBC Zone 1 1955	
27. Instrumentation and Controls						
Reactor Safety System				Seismic Category I	UBC Zone 1 1955	
Neutron Monitor System				"	"	
Control Rod Instrumentation				"	"	
Liquid Poison System Control				"	"	
Reactor Level Instrumentation				"	"	
Steam Supply System Instrumentation				"	"	
Process Radiation Monitoring				"	"	
Area & Personnel Monitoring				"	"	

NOTES, SPECIFIC

(1) Quality Standards are specified as Class 1, 2, 3 and quality group. Those for the Reactor Coolant Pressure Boundary fall into Class 1 and are defined in 10 CFR 50.55a. All others are defined in Regulatory Guide 1.26 and Section 3.2.2 of the Standard Review Plan.

(2) ASME - Indicates that ASME Boiler and Pressure Vessel Code was employed in design. Code sections, code cases and dates are identified when references so indicate; omitted when absent from references. For systems other than the following, information regarding application of ASME code criteria to design obtained from drawings:

a. Primary (Recirculation System)
b. Backup Core Spray System
c. Core spray system (only the piping and valves added at the time of Backup Core Spray System installation).
d. Reactor Depressurization System

ASA - Indicates that ASA Power Piping Code B.31.1 was employed in design Code sections, cases and dates are identified when references so indicare; omitted when absent from references.

All other code criteria are identified within the table.

Question marks appearing in the table indicate plant design information has not been obtained for these particular areas. The licensee will have to provide information necessary to complete the table. Completion will also require information regarding the extent of the application of the ASME and ASA cases to valves in systems not mentioned in this note but which coverage is noted in Table I (and in Bechtel Specification 3159 M-113).

(3) Seismic requirements fall into two categories, I and II.

I means that the component is required to comply with the requirements of Regulatory Guide 1.29 and Section 3.2.1 of the Standard Review Plan;

II means that seismic requirements do not apply.

I(OBE) means that seismic requirements apply but that the seismic acceleration of the Operating Basis Earthquake, rather than that of the greater Safe Shutdown Earthquake, applies.

(4) The Final Hazards Summary Report (Ref. 1) for the Big Rock Point Nuclear Power Plant reports that the reactor enclosure and equipment within is designed to withstand ground acceleration equivalent to 0.05g; equipment and structures outside are designed withstand a ground acceleration of 0.025g.

The licensee will have to supply information regarding the interface, i.e., where the system is designed for 0.05 or 0.025g, when the system penetrates containment but only if such differences are deemed critical to the evaluation.

(5) Since the Uniform Building Code (UBC) does not clearly cover the reactor containment or concrete structures and equipment within, a seismic factor equal to the maximum expected ground acceleration at the site was used. The ground acceleration factor used was 0.05 gravity. This is twice the factor required by UBC Zone 1 forces used at the plant for all other structures.

(6) Used Department of Commerce PB-15 1987 February, 1959 for areas not defined in ASME Code.

(7) Codes used for pump casing design.

(8) Wall thickness of valves exceeds code requirements.

(9) Core spray system has no containment isolation valves.

(10) Shutoff valve is the first valve that is either normally closed or capable of automatic closure during all modes of normal reactor operation.

(11) Class break occurs at first valve of main steam line since there is only one main steam isolation valve.

(12) Portions of air systems required to perform safety function (i.e., gas or air supply to ADS and MSI valves) should be Seismic Category I and Class 3.