



GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
AREA CODE 504 635-6094 346-8651

July 8, 1985
RBG- 21,511
File No. G9.5, G9.20.8

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 - Unit 1
Docket No. 50-458

Enclosed are Gulf States Utilities Company's (GSU) responses addressing comments received from the Equipment Qualification Branch (EQB) on GSU's June 14, 1985 letter (RBG-21,300) to Harold R. Denton, from J. E. Booker.

Sincerely,

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

for JEP
JEB/JGP/LS/PDK/je

Attachments

8507240001 850708
PDR ADDCK 05000458
A PDR

A048
1/1

ATTACHMENT 1

1. Confirmation of seismic qualification for the following specification numbers, which were referenced in GSU's June 14, 1985 letter as being scheduled to be seismically qualified prior to fuel load, is provided below.

A) 211.161 - Heat Tracing System Hydrogen Analyzer Panels
(1HTS*PNL2M, 2N)

1. Testing of the panels is complete.
2. The qualification report was reviewed for the RBS-specific qualification and was found acceptable.
3. The qualification documentation is available for review.
4. The panel was mounted on a hydraulically actuated biaxial shaker. Random multifrequency testing was performed in which the developed TRS enveloped the RRS in the frequency range of interest. The functionality of the equipment was monitored before, during, and after each test.

B) *215.252 - DG Supply Air Blower (Formerly 215.400) 1HVP*FN6A, 6B

1. Analysis of fan and motor is complete.
2. Vendor seismic qualification reports were reviewed for RBS-specific application and were found acceptable.
3. The qualification documents are available for review.
4. A static analysis was used to qualify the motor and to demonstrate compliance with IEEE 344-1975. This analysis is justified since the equipment (assembly) is rigid (i.e. critical frequency above 33 Hz). A static stress analysis was performed on the blower cabinet section and centrifugal fan. The analysis indicated that the equipment will continue to operate and perform its intended function during and after the postulated earthquake.

* In GSU's letter dated June 14, 1985 (RBG-21300) to Mr. Harold R. Denton from Mr. J. E. Booker, these air blowers were identified as 1HVP*FN7A and 7B, which would have been procured to replace existing 1HVP*FN6A and 6B, in order to meet the cooling requirements. The new air blowers would have been procured under Specification No. 215.400. However, the procurement of these new air blowers would not have supported the River Bend schedule. Existing spare fan units have been dedicated for service and have been modified to replace the existing 1HVP*FN6A and 6B. This was accomplished under Specification No. 215.252. The modification has been reviewed and does not compromise seismic qualification.

ATTACHMENT 1 (Cont'd.)

C) 237.160 - Sump Pump Motors (1DFR*P5A, 5B, 5D, and 5E)

1. Analysis of pump and motor is complete.
2. Vendor seismic qualification reports were reviewed for RBS-specific application and were found acceptable.
3. The qualification documents are available for review.
4. A dynamic analysis (treating equipment as rigid) in accordance with IEEE 344-1975 was used to qualify the motor based on the lowest natural frequency not being less than 33 Hz.

The pump was qualified by analysis to demonstrate that both the structural integrity and functional capability of the pump, under all applicable loads (such as operational, nozzle, seismic, etc), are achieved.

D) 247.521 - Crosby S/RV's (1HVK*RV45A, 45B)

1. Both the analysis and testing are complete.
 2. The qualification reports were reviewed for the RBS-specific application and were found acceptable.
 3. The qualification documentation is available for review.
 4. A static analysis was performed to demonstrate that the valve meets the seismic requirements of the design specification. A static deflection test was performed to demonstrate that the valve assembly will operate without malfunction when subjected to the prescribed seismic loading.
2. GSU will not be utilizing the in-vessel rack prior to the first refueling outage. The in-vessel rack is stored in the S&W Warehouse 1 under MPL No. F16-E006.
 3. A revised Seismic Qualification Status Report (SQSR) for Specification No. 242.421, Revision 2 is provided in Attachment 2. The revisions address 1) "g" values between qualified and unqualified equipment and 2) failure mode of knife type switch.
 4. A revised SQSR for Specification No. 247.497, Revision 2, is provided in Attachment 3. The revision addresses the similarity between the valves supplied for River Bend Station and the qualification test specimen.

ATTACHMENT 2

SQS No.	242.421
Rev.	2
Date	06/29/85
Page	1 of 3

RBS - SEISMIC QUALIFICATION PROGRAM

SEISMIC QUALIFICATION STATUS

TYPE/DESCRIPTION:

Panelboard - 125-dc standby dc control supply

EQUIPMENT IDENTIFICATION NO.(S):

1ENB*PNL04A

SAFETY FUNCTION:

To support equipment required for shutdown of the plant (Appendix R large control room fire condition modification)

QUALIFICATION STATUS:

| The panel is being qualified by testing. A qualification test plan has been reviewed and approved in accordance with the specification requirements.

| The summary of the test plan is as follows:

| The panelboard will be mounted on a test fixture in a manner that will closely approximate inservice mounting conditions. Multifrequency, random motion input for 5 OBE (2 percent) and 1 SSE (3 percent) over a frequency range of 1 to 40 Hz will be performed. The TRS developed will be shown to envelop the RRS as defined in the specification and in accordance with the requirements of IEEE 344-1975.

SQS No. 242.421
Rev. 2
Date 06/29/85
Page 2 of 3

TECHNICAL JUSTIFICATION:

The panel 1ENB*PNL04A is similar to panels previously supplied and qualified for the River Bend Project by Square D Company.

The box construction material is the same as that of the panels qualified previously.

The minimum overall dimensions and weight of panel 1ENB*PNL04A is slightly greater than the reference panelboard as shown for comparison:

Dimension:	1ENB*PNL04A = 81 in. x 70 in. x 11 1/2 in., W = 975 lb
	1ENB*PNL02 = 68 in. x 62 in. x 10 7/8 in., W = 875 lb

The reference panelboard was qualified by test to ZPA requirements of:

OBE (horizontal) -0.22	SSE (horizontal) -0.44
OBE (vertical) -0.16	SSE (vertical) -0.32

The unqualified panelboard ZPA requirements are:

OBE (horizontal) -0.19	SSE (horizontal) -0.38
OBE (vertical) -0.16	SSE (vertical) -0.31

A new type E1 switch replaces the D2 style qualified earlier. The new type is slightly larger; however, the plug-on arrangement and construction remain the same.

The other difference is that the snap-on hand-held operator differs for a more modern appearance and does not affect the operation of the switch.

SQS No.	242.421
Rev.	2
Date	06/29/85
Page	3 of 3

The switch is a mechanical switch with knife-type contacts which are manually placed in the open or closed position. The switch is a disconnect switch which is used for isolation purposes. There are no electro-mechanical parts which will be subjected to chattering during a seismic event.

The predicted failure mode of the switch is an interruption of contact between the knife-type parts. Knife switches are quick-make/quick-break designs. The primary change between the new switch and the phased-out unit is in the stab assembly to the bus and secondary in its enclosure. Therefore, this mode is not a credible failure due to the inherent nature of the construction of the switch.

The other predicted mode of failure is the switch itself coming loose from its mounting support. The weight of the switch is approximately 16 lb, and taking the peak response accelerations into consideration will produce negligible loads on mounting hardware.

The differences indicated herein are such that sufficient confidence exists that the panel will perform its function during a seismic event.

SCHEDULED COMPLETION:

July 25, 1985

ATTACHMENT 3

SQS No. 247.497
Rev. 2
Date 06/25/85
Page 1 of 3

RBS - SEISMIC QUALIFICATION PROGRAM

SEISMIC QUALIFICATION STATUS

TYPE/DESCRIPTION:

1-, 1 1/2-, and 3-in. modulating control globe valves

EQUIPMENT IDENTIFICATION NO(S).:

1E33*PVF002	1SWP*PVX32A
1E33*PVF022	1SWP*PVX32B
1HVK*TV16A	1SWP*PVX32C
1HVK*TV16B	1SWP*PVX32D
1HVK*TV17A	1SWP*PVY32A
1HVK*TV17B	1SWP*PVY32B
1HVK*TV18A	1SWP*PVY32C
1HVK*PV18B	1SWP*PVY32D
1LSV*PV10A	
1LSV*PV10B	

SAFETY FUNCTION:

1E33*PVF002	These valves control containment penetration process line seal air pressure.
1E33*PVF022	
1LSV*PV10A, 10B	

1HVK*TV16A, 16B	These valves modulate chilled water flow to air-conditioning units in the control building in order to maintain design temperature in the control, switchgear, and chiller equipment rooms.
17A, 17B, 18A,	
18B	

SQS No.	247.497
Rev.	2
Date	06/25/85
Page	2 of 3

1SWP*PVX32A, B, C, D These valves control service water temperature and pressure to the control building
1SWP*PVY32A, B, C, D chiller condensers.

QUALIFICATION STATUS:

These valves are qualified by static analysis (to ensure structural integrity), static deflection tests (to demonstrate operability of the valve assembly), and similarity analysis of the actuators to prototype testing.

All qualification requirements have been satisfactorily completed, except for the actuator qualification.

TECHNICAL JUSTIFICATION:

The following actuator models are used in River Bend Station - Unit 1:

Model Nos. 85550, 85560, 85570, and 85820

An actuator, Model No. 85280, which has components similar to those on models being supplied for River Bend, has been qualified to seismic acceleration levels in excess of 4.5 g. The vendor, Borg-Warner Fluid Controls, is planning to utilize the qualification data for this model to qualify all River Bend operators. This exceeds the 3.0-g specification requirements and the maximum as-built acceleration of 1.4 g derived from the applicable piping analysis.

The electronic modules for the River Bend actuators will be qualified through similarity to the electronics of Model No. 85970.

With the exception of accumulator, pump, and motor, all other components are identical. The accumulators, pumps, and motors on the River Bend operators are smaller but similar to those on prototype operator Model No. 85280. The prototype electronics module of operator Model No. 85970 has components identical to those in the River Bend electronics modules. The only difference is that the prototype electronics module enclosure is slightly larger

SQS No.	247.497
Rev.	2
Date	06/25/85
Page	3 of 3

than those of the River Bend operators to accommodate an emergency battery pack and a relay. River Bend electronics modules do not contain the battery pack and the relay.

SWEC has made a detailed review of the following vendor documents and drawings of the test prototypes and River Bend Model Nos. 85550, 85560, 85570, and 85820 and concurs with the vendor's similarity approach.

1. "Generic Qualification Test Procedure for Modulating Actuators P/N 85280," BWFC Report No. 1964 dated 12/03/82
2. "Test Report for a Seismic Test Performed on an Electro-Hydraulic Operator, BWFC P/N 85280," BWFC Report No. 2080 dated 04/25/84
3. "Qualification Test Report for a Self-Contained Servo Actuation Rotary Operator for Use in HVAC System in Nuclear Power Plants," BWFC Report No. 2069, Rev. D, dated 10/22/84
4. "Qualification Test Report of a Self-Contained Servo Actuation Rotary Operator, BWFC P/N 85970, by Similarity to BWFC P/N 85280," BWFC Report No. 2100, Rev. B, dated 11/27/84.

SCHEDULED COMPLETION DATE:

September 30, 1985