

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8608040275 DDC DATE: 86/07/28 NOTARIZED: NO DOCKET #
 FACIL: 50-261 H. B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
 AUTH. NAME AUTHOR AFFILIATION
 CUTTER, A. B. Carolina Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 RUBENSTEIN, L. S. PWR Project Directorate 2

SUBJECT: Forwards addl info re open items contained in @ Requa
 860424 ltr & interim rept on Reg Guide 1.97, per NUREG-0737,
 Suppl 1. Existing sensors evaluated as nonqualified & will
 be replaced by qualified sensors.

DISTRIBUTION CODE: A003D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 9
 TITLE: OR/Licensing Submittal: Suppl 1 to NUREG-0737(Generic Ltr 82-33)

NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PWR-A ADTS	1 1	PWR-A EB	1 1
PWR-A EICSB	2 2	PWR-A FOB	1 1
PWR-A PD2 LA	1 1	PWR-A PD2 PD	7 7
REQUA, G	1 1	PWR-A PSB	1 1
PWR-A RSB	1 1		
INTERNAL: ADM/LFMB	1 0	IE/DEPER/EPB	3 3
NRR BWR ADTS	1 1	NRR PAULSON, W	1 1
NRR PWR-B ADTS	1 1	NRR/DSRO EMRIT	1 1
NRR/DSRO/EIB	1 1	NRR/DSRO/RSIB	1 1
<u>REG FILES</u>	1 1	RGN2	1 1
EXTERNAL: LPDR	1 1	NRC PDR	1 1
NSIC	1 1		



Carolina Power & Light Company

JUL 28 1986

SERIAL: NLS-86-257

Director of Nuclear Reactor Regulation
Attention: Mr. Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing - A
United States Nuclear Regulatory Commission
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
RESPONSE TO INTERIM REPORT REGARDING REGULATORY GUIDE 1.97

Dear Mr. Rubenstein:

Mr. Glode Requa's letter dated April 24, 1986 transmitted an interim report regarding Carolina Power & Light Company's response to the NUREG-0737, Supplement 1 concerning Regulatory Guide 1.97. The attachment to this letter provides additional information regarding open items contained in the interim report. The discussion of certain items refers to Revision 2 to our Regulatory Guide 1.97 submittal which is being transmitted separately.

Questions regarding this matter may be referred to Mr. Jan Kozyra at (919) 836-7924.

Yours very truly,

A. B. Cutter - Vice President
Nuclear Engineering & Licensing

ABC/JSK/pgp (4007JSK)

Attachment

cc: Dr. J. Nelson Grace (NRC-RII)
Mr. G. Requa (NRC)
Mr. H. Krug (NRC Resident Inspector - RNP)

8608040275 860728
PDR ADOCK 05000261
P PDR

A003
1/1

3.3.3 Containment Isolation Valve Position

Comment:

From the information provided, we find that the licensee deviates from a strict interpretation of the Category 1 redundancy recommendation. Only the active valves have position indication (i.e., check valves have no position indication). Since redundant isolation valves are provided, we find that redundant indication per valve is not intended by the regulatory guide. Position indication of check valves is specifically excluded by Table 2 of Regulatory Guide 1.97. Therefore, we find this deviation acceptable.

However, a single power source for the indication of the position of both valves is unacceptable and does not satisfy the single failure criteria. We assume that of the two valves identified in Table B of the response that are powered by the same power source, one valve is located inside containment and the other valve is located outside containment. If this is the case, there is no redundancy and failure of the single power source fails the indication for both valves. The licensee should provide specific information on the valve functions and clarification of the power supply configuration. The lack of independent power sources is unacceptable.

Response:

CP&L is currently evaluating this situation and will provide a response by October 15, 1986.

3.3.6 Flow in Low Pressure Coolant Injection System

Comment:

NRC states that Category 2 Flow instrumentation should be installed in accordance with the recommendations of Regulatory Guide 1.97.

Response:

The H. B. Robinson plant does not have a Low Pressure Coolant Injection System. CP&L has identified in their December 31, 1984 submittal variable RHR Flow (FT 605) as Category 2 and by interpolation of the range (0-8500) meets the 0-110% design flow requirement. CP&L believes this should resolve the comment as submitted.

3.3.8 Primary Power Operated Relief Valve (PORV) Position

Comment:

The licensee deviates from Regulatory Guide 1.97 with respect to environmental qualification for this instrumentation. The licensee has not provided a justification for this deviation.

Environmental qualification has been clarified by the Environmental Qualification Rule, 10 CFR 50.49. The licensee should, therefore, provide the required justification for this deviation from Regulatory Guide 1.97 or provide

instrumentation that is environmentally qualified in accordance with the provisions of 10 CFR 50.49 and Regulatory Guide 1.97.

Response:

CP&L agrees to provide qualified position switches.

CP&L is currently investigating the possibility of repairing or replacing the PORVs (PCV-455C, PCV-456) due to mechanical concerns. If CP&L decides to replace the PORVs, qualified limit switches will be provided for position indication. If CP&L decides to repair existing PORVs, qualified limit switches will also be provided. An appropriate schedule will be determined based on CP&L's decision. In any case, action will be taken in order to meet the Regulatory Guide 1.97 commitment date.

3.3.9 Primary Safety Relief Valve Position

Comment:

The licensee deviates from Regulatory Guide 1.97 with respect to the environmental qualification for this instrumentation. The licensee has not provided a justification for this deviation.

Environmental qualification has been clarified by the Environmental Qualification Rule, 10 CFR 50.49. The licensee should, therefore, provide the required justification for this deviation from Regulatory Guide 1.97 or provide instrumentation that is environmentally qualified in accordance with the provisions of 10 CFR 50.49 and Regulatory Guide 1.97.

Response:

CP&L will establish environmental qualification by review of provided vendor equipment documentation and through remounting of SRV-VPI preamplifiers within environmentally qualified junction boxes within containment or relocating preamplifiers outside of containment. The remounting will be performed during refueling outage #11 and the complete qualification documentation package will be available three (3) months after the end of refueling outage #11.

3.3.10 Pressurizer Heater Status

Comment:

Regulatory Guide 1.97 recommends monitoring the pressurizer heater electric current with Category 2 instrumentation. The licensee monitors the heater circuit breaker position. The licensee states that this instrumentation is adequate.

Section II.E.3.1 of NUREG-0737 requires a number of the pressurizer heaters to have the capability of being powered by the emergency power sources. Instrumentation is to be provided to prevent overloading a diesel generator. Also, technical specifications are to be changed accordingly.

The Standard Technical Specifications for Westinghouse reactors, Section 4.4.3.2, require that the emergency pressurizer heater current be measured quarterly. These emergency power supplied heaters should have the current instrumentation recommended by Regulatory Guide 1.97.

Response:

At present, H. B. Robinson Plant Unit 2 has at least 125 KW of pressurizer heaters capable of being powered from an emergency power source. HBR2 is not committed to Westinghouse Standard Technical Specifications, but through its own Technical Specifications provides for testing of emergency power sources during each refueling outage. Appropriate Category 2 instrumentation provides indication that there is 125 KW load increase when each group of heaters is energized. No dedicated heater current instrumentation is provided, but diesel generator load and emergency bus voltage and current are monitored to prevent EDG overload and to indicate proper pressurizer heater operation.

A control switch automatically trips pressure breakers in the event a Safety Injection signal is generated, further preventing an EDG overload.

3.3.11 Quench Tank Temperature

Comment:

The licensee does not provide instrumentation for this variable. The justification provided by the licensee is that the quench tank level and pressure are the only indications needed to act as backup to the pressurizer power operated relief valves (PORV) and pressurizer safety relief valve position. Additionally, the quench tank design pressure is 100 psig. A rupture disc limits pressure to approximately 100 psig; therefore, the quench tank temperature would not go above approximately 300°F. Since the quench tank is under saturated conditions, the licensee states that the quench tank pressure will provide the means for determining temperatures.

We find the licensee's justification for not providing the instrumentation for the quench tank temperature unacceptable. The temperature of the contents of the quench tank is needed to verify the capability of quenching additional releases from the pressurizer. A direct measure of this variable is needed. Therefore, the licensee should provide the instrumentation recommended by Regulatory Guide 1.97.

Response:

Quench Tank Temperature measurement is provided by TE-471. This parameter is currently available to the operator from the installed Emergency Response Facility Information System (ERFIS) via CRT or computer printout. This meets the requirements for a Regulatory Guide 1.97 Type D Category 3. (Temperature range is from 50°F to 350°F.)

Quench Tank Temperature will be added to Category D listing by Revision 2 to our December 31, 1984, Regulatory Guide 1.97 submittal, page 6 of 24.

3.3.12 Containment Spray Flow

Comments:

The licensee deviates from Regulatory Guide 1.97 with respect to environmental qualification for this instrumentation. The licensee has not provided a justification for this deviation.

Environmental qualification has been clarified by the Environmental Qualification Rule, 10 CFR 50.49. The licensee should, therefore, provide the required justification for this deviation from Regulatory Guide 1.97 or provide instrumentation that is environmentally qualified in accordance with the provisions of 10 CFR 50.49 and Regulatory Guide 1.97.

Response:

Containment Spray Flow transmitters identified as FT-958A and FT-958B on page 11 of 24 in Table D of our December 31, 1984 Regulatory Guide 1.97 submittal has been reviewed in accordance with 10 CFR 50.49 using manufacturer's Qualification Test Reports against H. B. Robinson Unit 2 Environmental Parameters and has been evaluated as qualified for Regulatory Guide 1.97 application. Revision 2 to our submittal will reflect this evaluation and our central EQ file, Section b3, will be updated to indicate Regulatory Guide 1.97 compliance three (3) months after completion of refueling outage #11.

3.3.13 Heat Removal by the Containment Fan Heat Removal System

Comments:

The licensee deviates from Regulatory Guide 1.97 with respect to environmental qualification for this instrumentation. The licensee has not provided a justification for this deviation.

Environmental qualification has been clarified by the Environmental Qualification Rule, 10 CFR 50.49. The licensee should, therefore, provide the required justification for this deviation from Regulatory Guide 1.97 or provide instrumentation that is environmentally qualified in accordance with the provisions of 10 CFR 50.49 and Regulatory Guide 1.97.

Response:

CP&L had evaluated the existing sensors as non-qualified and stated they would be replaced by qualified sensors. A modification package has been written and qualified differential pressure switches have been procured to be installed as a non-outage modification. Completion of this modification is anticipated to be accomplished prior to the beginning of refueling outage #11. Revision 2 to our submittal will reflect this change. A complete package documenting qualification in accordance with 10 CFR 50.49 will be available three (3) months after the end of refueling outage #11.

3.3.15 Containment Sump Water Temperature

Comment:

The licensee does not provide instrumentation for this variable. The justification provided by the licensee is that containment sump water temperature is not required for residual heat removal (RHR) operation or assurance that net positive suction head (NPSH) requirements are met as NPSH calculations assume the presence of saturated water. Numerous parameters in the reactor coolant system, as well as containment temperature and pressure, determine the plant conditions. Containment sump level indicates the quantity of water present and the previously mentioned parameters indicate its source. Therefore, the licensee does not provide containment sump water temperature indication.

This is insufficient justification for this exception. The licensee should provide the recommended instrumentation for the functions outlined in Regulatory Guide 1.97 or identify other instruments that provide the same information (such as the residual heat removal heat exchanger inlet temperature) and satisfy the regulatory guide.

Response:

CP&L has stated in the RG 1.97 December 31, 1984 submittal (page iii) that saturation temperature may be conservatively assumed instead of including Containment Sump Water Temperature instrumentation in the Type D variables table. As stated in your comment above, other instruments that provide the same information can be identified. To satisfy this requirement, RHR heat exchanger inlet temperature provided by TE604A and TE604B will be utilized for this function. The temperature range is 50° to 400°F and is displayable on the ERFIS CRT within the Control Room. Based on the availability of containment temperature and pressure measurement plus reactor coolant systems parameters as stated in our submittal, this variable is provided as backup and classified a Category 3.

3.3.16 Charging Flow

Comments:

The licensee deviates from Regulatory Guide 1.97 with respect to environmental qualification for this instrumentation. The licensee has not provided a justification for this deviation.

Environmental qualification has been clarified by the Environmental Qualification Rule, 10 CFR 50.49. The licensee should, therefore, provide the required justification for this deviation from Regulatory Guide 1.97 or provide instrumentation that is environmentally qualified in accordance with the provisions of 10 CFR 50.49 and Regulatory Guide 1.97.

Response:

Charging Flow transmitters identified as FT-122 on page 13 and 14 in Table D of our December 31, 1984 Regulatory Guide 1.97 submittal have been reviewed using manufacturer's Qualification Test Reports in accordance with 10 CFR 50.49 against H. B. Robinson Unit 2 Environmental Parameters and have been evaluated as

qualified for Regulatory Guide 1.97 application. Revision 2 to our submittal reflects this evaluation and our central EQ file, Section b3, will be updated to indicate Regulatory Guide 1.97 compliance three (3) months after completion of refueling outage #11.

3.3.18 CCW Temperature to ESF System Components

Comment:

Regulatory Guide 1.97 recommends Category 2 instrumentation for this variable. The licensee deviates from Regulatory Guide 1.97 with respect to the category of this instrumentation. The licensee provides Category 3 instrumentation, but did not provide a justification for this deviation.

The licensee should provide the recommended Category 2 instrumentation for the functions outlined in Regulatory Guide 1.97 or identify other instruments that provide the same information and satisfy the recommendations of the regulatory guide.

Response:

The temperature measurement is provided by TE 610 and TE 607 RTDs, which are located in the Reactor Auxiliary Building in a low-radiation and non-harsh environment. As the discrepancy appears to be the choice of category for these RTDs (Category 2 vs. Category 3), CP&L will evaluate the current equipment to determine if their environmental qualification can be established to meet Category 2 requirements. If they cannot be qualified, we will either replace them with qualified equipment or identify other instruments that provide the same information in an acceptable category.

3.3.20 Containment Area Radiation - High Range

Comments:

Regulatory Guide 1.97 recommends Category 1 instrumentation for this variable. The licensee states that if the environmental qualification data is not acceptable, the detector will be replaced, bringing the instrumentation into compliance with Category 2 recommendations.

The licensee has not justified the deviation from Category 1 to Category 2. The licensee should upgrade this instrumentation to Category 1.

Response:

Radiation monitors R32A and R32B provide Containment Area Radiation - High Range monitoring. These monitors were installed to conform to NUREG-0737 requirements. They were purchased and installed as fully qualified equipment (Environmental and Seismic Qualified). To assure qualification, the detector connector has to be installed as stated within the Qualification Test Report. Verification will be performed and qualification documentation will be provided

three (3) months after the completion of refueling outage #11. Our Regulatory Guide 1.97 December 31, 1984 submittal, page B-5b is being revised to state the environmental qualification check needed for the detector connector.

Additionally, the Category 2 classification is felt to be in compliance with the Regulatory Guide 1.97 statement that for: "Type E the key variables are generally Category 2; backup variables are Category 3." These monitors were purchased and installed as EQ qualified; although they currently would meet the requirements for Category 1 classification, CP&L decided against using the higher categorization for the life of the plant, since this would needlessly over classify the instrumentation.

3.3.21 Radiation Exposure Rate

Comment:

The licensee has not provided instrumentation for this variable. The licensee should provide the recommended instrumentation for the functions outlined in Regulatory Guide 1.97 or identify other instruments that provide the same information and satisfy the recommendations of the regulatory guide.

Response:

CP&L has addressed the Radiation Exposure Rate item under Design Criteria, page iii of our Regulatory Guide 1.97 December 31, 1984 submittal. This position is re-stated as follows:

4. Radiation Exposure Rate - CP&L does not consider the function of this variable to be consistent with the purpose of a Type E variable (i.e., to determine the magnitude of an offsite release). Portable radiation monitoring equipment is provided for determining where access in the plant may or may not be allowed to service or operate equipment.

Further, initial radiation measurements are provided by Area Radiation Monitors of the appropriate category.

3.3.22 Vent From Steam Generator Safety Relief Valves or Atmospheric Dump Valves (SG Blowdown Radiation Level)

Comment:

Regulatory Guide 1.97 recommends instrumentation for this variable with a range of 10^{-1} to 10^3 $\mu\text{Ci/cc}$, the duration of the release in seconds and mass of steam per unit time. The licensee states that the current instrumentation has a range of 4×10^{-5} to 3.5×10^{-2} $\mu\text{Ci/cc}$. The licensee states that the current instrumentation will be replaced with Category 2 instrumentation; however, the replacement range is not stated to be in compliance with the regulatory guide.

The licensee should either provide the recommended range, or provide justification for the deviation.

Response:

Evaluation using the SG Blowdown Radiation Monitors for this parameter is not correct. CP&L proposed using the Main Steamline Radiation Level Monitors (R31A,B,C) to provide coverage and as noted (Table E, page 2 of 7) within our Regulatory Guide 1.97 December 31, 1984 submittal these monitors are Category 2 and provide acceptable range of 10^{-1} to 10^3 $\mu\text{Ci/cc}$. The range and category are adequate to meet the regulatory guide requirements and will not be modified/replaced.