

**Florida
Power**
CORPORATION

June 18, 1979

Mr. J. P. O'Reilly
Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Suite 3100
101 North Marietta Street
Atlanta, GA 30303

Subject: Docket No. 50-302
Operating License No. DPR-72
IE Bulletin 79-01

Dear Mr. O'Reilly:

In response to the subject NRC Bulletin concerning Environmental Qualification of Class IE Equipment the following information is being provided:

1. The re-review program for Crystal River Unit 3 has been completed. The review consisted of examining safety related electrical equipment installed inside containment to ensure appropriate documentation of its qualification to function under postulated accident conditions (LOCA). For all equipment identified, adequate and appropriate documentation is available. See attached list.
2. The types of limit switches described in the subject bulletin are neither being used nor planned for use for a safety related function on safety related valves located inside containment.
3. For the written evidence of the qualification of electrical equipment required to function under accident conditions, see the attached list. No items were found not having qualification data available for review.
4. No items were identified as not meeting qualification requirements for the service intended.

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ACT. INT. REG.

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Mr. J. P. O'Reilly

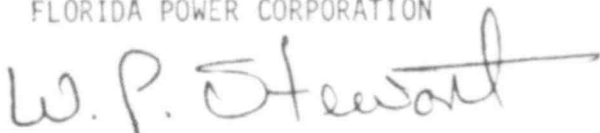
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Should you have any questions concerning our response, please contact this office.

Very truly yours,

FLORIDA POWER CORPORATION

A handwritten signature in dark ink, appearing to read "W. P. Stewart". The signature is fluid and cursive, with a long horizontal stroke extending from the end.

W. P. Stewart
Manager
Nuclear Operations

ETekcM03(D70)

Attachments

cc: U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, DC 20555

NRC Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, DC 20555

File Code: 3-0-3-a-3

PLANT NAME: Crystal River #1

| ITEM | EQUIPMENT DESCRIPTION | TIME REQ'D. | ENVIRONMENT (LOCATION) | | QUAL. | QUAL. METHOD* | DOC. RLF** | REMARKS |
|------|--|-------------|------------------------|-------|-------------------|---------------|------------|---------|
| | | | PARAMETER | SPEC. | | | | |
| 1 | Power and Control Cable (Kerite) | Long Term | Temp. (°F) | | 325 | Seq. | 1 | |
| | | | Press. (psig) | | 82 | | | |
| | | | Rel. Hum. | | 100% | | | |
| | | | Radiation (Rads) | | 1.2×10^8 | | | |
| | | | Chem. | | Boric Acid Sol. | | | |
| 2 | Instrumentation Cable (Continental Wire and Cable Corp.) | Long Term | Temp. (°F) | | 340 | Seq. | 2 | |
| | | | Press. (psig) | | 100 | | | |
| | | | Rel. Hum. | | 100% | | | |
| | | | Radiation (Rads) | | 1×10^8 | | | |
| | | | Chem. | | | | | |
| 3 | Control and Instrumentation Cable (Rockbestos) | Long Term | Temp. (°F) | | 346 | Seq. | 3 | |
| | | | Press. (psig) | | 111 | | | |
| | | | Rel. Hum. | | 100% | | | |
| | | | Radiation (Rads) | | 2×10^8 | | | |
| | | | Chem. | | Boric Acid Sol. | | | |
| 4 | Instrumentation Cable (Boston Insulated Wire And Cable Co.) | Long Term | Temp. (°F) | | 340 | Seq. | 4 | |
| | | | Press. (psig) | | 105 | | | |
| | | | Rel. Hum. | | 100% | | | |
| | | | Radiation (Rads) | | 2×10^8 | | | |
| | | | Chem. | | Boric Acid Sol. | | | |

This list is a compilation of items by component. Do not list the same type of component more than once. Use limiting environment where more than one applies.

*ie. separate effects, sequential, etc.

**Please attach typed lists of reference documents

POOR ORIGINAL

PLANT NAME: Crystal River #1

500 215

| ITEM | EQUIPMENT DESCRIPTION | TIME REQ'D. | ENVIRONMENT (LOCATION) | | | QUAL. METHOD* | DOC. REF** | REMARKS |
|------|--|-------------|---------------------------------------|-----------------|-------------------|---------------|------------|---|
| | | | PARAMETER | SPEC. | QUAL. | | | |
| 2 | Neutron Detector (Westinghouse Type WL 23636 B) | 15 sec. | Temp. (⁰ F) Sur. Temp. | 212 | 212 | Seq. | 5 | Not required for LOCA, only SSLE & REA |
| | | | Press. (psig) | 150 | 150 | | | |
| | | | Rel. Hum. | 90% | 100% | | | |
| | | | Radiation Rads | 3×10^9 | 3×10^9 | | | |
| | | | Chem. | --- | --- | | | |
| 6 | Differential Pressure Transmitters (Bailey Meter Model BY) | 24 hrs. | Temp. (⁰ F) | 286 | 296 | Seq. | 5 | |
| | | | Press. (psig) | 60 | 60 | | | |
| | | | Rel. Hum. | 100% | 100% | | | |
| | | | Radiation Rads | 2×10^4 | 5×10^4 | | | |
| | | | Chem. | --- | --- | | | |
| 7 | Pressure Transmitter (Foxboro Model ELGH) | 24 hrs. | Temp. (⁰ F) | 286 | 318 | Seq. | 5 | |
| | | | Press. (psig) | 60 | 90 | | | |
| | | | Rel. Hum. | 100% | 100% | | | |
| | | | Radiation Rads | 2×10^4 | 2.4×10^4 | | | |
| | | | Chem. | --- | --- | | | |
| 8 | Temperature Element Rosemount Model 177 HW | 24 hrs. | Temp. (⁰ F) | 600 | 600 | Seq. | 5 | |
| | | | Press. (psig) | 3125 | 3125 | | | |
| | | | Rel. Hum. | 100% | 100% | | | |
| | | | Radiation Rads | 2×10^4 | 1×10^8 | | | |
| | | | Chem. | --- | --- | | | |

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**Please attach typed lists of reference documents

POOR ORIGINAL

PLANT NAME: Crystal River #3

| ITEM | EQUIPMENT DESCRIPTION | TIME REQ'D. | ENVIRONMENT (LOCATION) | | | QUAL. METHOD* | DOC. REF.** | REMARKS |
|------|---|-------------|---|---|---|---------------|-------------|---|
| | | | PARAMETER | SPEC. | QUAL. | | | |
| 9 | Pressure Transmitter (Rosemount Model 1152) | 24 hrs. | Temp. (°F) Press. (psig) Rel. Hum. Radiation Rads Chem. | 286 59 100% 7×10^4 --- | 286 59 100% 7×10^4 Boric Acid Sol. | Seq. | 6 | |
| 10 | Electrical Penetrations (Conax) | Long Term | Temp. (°F) Press. (psig) Rel. Hum. Radiation Rads Chem. | 281/325 55/825 100% 1.5×10^8 --- | 325 85 100% 1.5×10^8 --- | Seq. | 7, 8 | Testing did not include radiation. |
| 11 | Terminal Blocks (Kulka Type 5TB and 7TB - used on Elect. Penet.) | Long Term | Temp. (°F) Press. (psig) Rel. Hum. Radiation Chem. | / | 300 75 100% -- Boric Acid Sol. | Seq. | 9 | Terminal blocks are physically mounted in a "vented enclosure." Separate thermal test was performed to a temp. of 400° F for 20 secs. |
| 12 | Terminal Blocks (States Co. type ZWM - used in sealed, Nema 4 equiv., terminal boxes.) | Long Term | Temp. (°F) Press. (psig) Rel. Hum. Radiation Chem. | / | 340 103 100% -- --- | Seq. | 10 | Type ZWM is similar to Type NT and is qualified by comparison. |

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**please attach typed lists of reference documents

917 809

PLANT NAME: Crystal River #1

POOR ORIGINAL

805

| ITEM | EQUIPMENT DESCRIPTION | TIME REQ'D. | ENVIRONMENT (LOCATION) | | | QUAL. METHOD* | DOC. REF** | REMARKS |
|------|--|-------------|------------------------|-----------------|--------------------|---------------|------------|--|
| | | | PARAMETER | SPEC. | QUAL. | | | |
| 13 | Reactor Building Fan Assemblies (Westinghouse) | 24 hrs. | Temp. (°F) | 281 | 320 | Seq. | 11,12 | |
| | | | Press. (psig) | 70 | 80 | | | |
| | | | Rel. Hum. | 100% | 100% | | | |
| | | | Radiation Rads | 1×10^7 | 1.4×10^8 | | | |
| | | | Chem. | --- | --- | | | |
| 14 | Electric Motor Operators (Limitorque) | Long Term | Temp. (°F) | / | 329 | Seq. | 13 | |
| | | | Press. (psig) | | 90 | | | |
| | | | Rel. Hum. | | 100% | | | |
| | | | Radiation | | --- | | | |
| | | | Chem. | | Boric Acid Sol. | | | |
| 15 | Triax Connectors (Amphenol 53175/52975) | 15 sec. | Temp. (°F) | / | / | / | / | Not required for LOCA, only SSLB & REA. Connectors are installed inside Elect. Penet. enclosure. |
| | | | Press. (psig) | | | | | |
| | | | Rel. Hum. | | | | | |
| | | | Radiation | | | | | |
| | | | Chem. | | | | | |
| 16 | Electric Motor Operators (Limitorque) | Long Term | Temp. (°F) | / | 300 | Seq. | #14 | |
| | | | Press. (psig) | | 70 | | | |
| | | | Rel. Hum. | | 100% | | | |
| | | | Radiation Rads | | 2.04×10^8 | | | |
| | | | Chem. | | Boric Acid Sol. | | | |

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**Please attach typed lists of reference documents

DOCUMENTATION REFERENCES

1. Kerite Co. "Report on the Effects of Gamma Radiation and Autoclaving on Kerite Power and Control Cables" dated 4/30/70.
2. FIRC Report F-C2935 "Test of Electrical Cables Under Simulated Post-Accident Reactor Containment Service" dated Oct. 1970 and addendum dated Nov. 1970.
3. FIRC Report F-C3798 "Qualification Tests of Electrical Cables Under Simulated Reactor Containment Service Conditions Including Loss-of-Coolant Accident While Electrically Energized" dated March 1974.
4. BIW Report No. B910 "BIW Bostrad^{7e} Cables - Flame and Radiation Resistant Cables for Nuclear Power Plants" dated May 1975.
5. B&W Topical Report BAW-10003A, Rev. 4 dated January 1976.
6. B&W Report 58-0261-00.
7. Conax Test Report TR-17, "Prototype Test Report of Penetration Assemblies"
8. Conax Specification IP3-16, "Specification for Type Qualification of Electrical Penetration Sub-Assemblies"
9. FIRC Report F-C4927, "Steam and Chemical Spray Exposure Test of Electrical Terminal Blocks" dated February 1978.
10. GE letter dated 10/10/78; Electrical Terminal Block Testing.
11. Westinghouse Report WCAP-9003.
12. Westinghouse Report WCAP-7343-L
13. Philadelphia Gear Test Report #600168. "Test of Limitorque Valve Operator to Meet General Requirements of An Electric Valve Actuator in Nuclear Reactor Containment Environment: dated Jan. 2, 1969 and Addendum Number I dated April 29, 1969.
14. Philadelphia Gear Test Report #600456. "Nuclear Power Station Qualification Type Test Report on Limitorque Valve Actuator for PWR Service.", dated Sept., 1976.