

official

January 11, 1991

Docket No. 50-302
License No. DPR-72

Florida Power Corporation
Mr. Percy M. Beard, Jr.
Senior Vice President, Nuclear
Operations
ATTN: Manager, Nuclear Operations
Licensing
P. O. Box 219-NA-21
Crystal River, FL 32629

Gentlemen:

SUBJECT: ELECTRICAL PENETRATIONS LEAK RATE TESTING - NRC INSPECTION REPORT
NO. 50-302/89-18

Thank you for your response of November 9, 1990 to our Notice of Violation issued on August 21, 1989, concerning activities conducted at your Crystal River 3 facility.

In your response, you denied Violation B regarding Type B leak rate testing of electrical penetrations pursuant to 10 CFR Part 50, Appendix J. You contended that this area had been previously reviewed and accepted by the NRC as part of the basis for licensing of Crystal River 3 and that the violation was based on a changed position or new interpretation of 10 CFR Part 50, Appendix J, requirements and should therefore be subject to the backfitting requirement of 10 CFR Section 50.109. As stated in our letter of December 14, 1990, we reevaluated the basis of your denial of the violation and determined that your past practice of not periodically leak rate testing electrical penetrations at a frequency not greater than two years was not in compliance with the requirements of 10 CFR Part 50, Appendix J, for Type B testing.

The backfit implications of this issue have been reviewed by a panel of NRC Region II managers in accordance with NRC procedures. The review panel confirmed that your practice was not in accordance with the requirements of 10 CFR Part 50, Appendix J, and that the imposition of these requirements does not constitute a backfit. The basis for these conclusions is provided in the Enclosure.

After careful review of the Technical Specifications, FSAR, and SER, we conclude that these documents do not grant, nor were they intended to grant, an exemption from 10 CFR Part 50, Appendix J, requirements to test electrical penetrations. However, we acknowledge that these documents could lead to a misunderstanding regarding components required to be tested pursuant to Appendix J based upon the lack of clear written communication between the parties during the licensing process on the issue of testing electrical penetrations. On this basis, we withdraw the violation issued on August 21, 1989, for failure to test electrical penetrations in accordance with

11
1E01

January 11, 1991

the requirements of 10 CFR Part 50, Appendix J. However, it continues to be our position that your electrical penetrations must be leak rate tested in accordance with 10 CFR Part 50, Appendix J, requirements. The basis for this conclusion is also provided in the Enclosure.

If you desire to further appeal our findings, you may submit a response to our evaluation and conclusions, described in the enclosure to this letter, to the Director, Office of Nuclear Reactor Regulation, Washington, DC 20555.

Sincerely,

Original signed by
James L. Milhoan

Stewart D. Ebnetter
Regional Administrator

Enclosure:
Evaluation and Conclusions

cc w/encl:
Gary L. Boldt
Vice President, Nuclear Production
Florida Power Corporation
P. O. Box 219-SA-2C
Crystal River, FL 32629

P. F. McKee, Director
Nuclear Plant Operations
Florida Power Corporation
P. O. Box 219-NA-2C
Crystal River, FL 32629

R. C. Widell, Director
Nuclear Operations Site Support
Florida Power Corporation
P. O. Box 219-NA-2I
Crystal River, FL 32629

A. H. Stephens
General Counsel
Florida Power Corporation
MAC - A5D
P. O. Box 14042
St. Petersburg, FL 33733

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, FL 32304

(cc w/encl cont'd - See page 3)

January 11, 1991

(cc w/encl cont'd)
Jacob Daniel Nash
Office of Radiation Control
Department of Health and
Rehabilitative Services
1317 Winewood Boulevard
Tallahassee, FL 32399-0700

Administrator
Department of Environmental
Regulation
Power Plant Siting Section
State of Florida
2600 Blair Stone Road
Tallahassee, FL 32301

State Planning and Development
Clearinghouse
Office of Planning and Budgeting
Executive Office of the Governor
The Capitol Building
Tallahassee, FL 32301

Chairman
Board of County Commissioners
Citrus County
110 N. Apopka Avenue
Inverness, FL 36250

Robert B. Borsum
Babcock and Wilcox Company
Nuclear Power Generation Division
1700 Rockville Pike, Suite 525
Rockville, MD 20852-1631

State of Florida

bcc w/encl: See page 4

bcc w/encl:
Document Control Desk
R. Crlenjak, RII
H. Silver, NRR

NRC Resident Inspector
U. S. Nuclear Regulatory Commission
6745 N. Tallahassee Rd.
Crystal River, FL 32629

H. Berkow, NRR
J. Wechselberger, NRR

for
RII:DRS
* HWhitener
01/9/91
OGG
for
RKHoefling
01/9/91
by telephone

RII:DRS
* F...
01/9/91
AFOD
for
KDPAllison
01/9/91
by telephone

RII:DRS
* CAJ...
01/9/91
RII:DRP
* LAReyes
01/9/91
for

RII:DRS
AFG...
01/9/91
RII:EX...
BRJenkins
01/9/91

NRR
for
HBerkow
01/8/91
by telephone

bcc w/encl:
 Document Control Desk
 R. Crlenjak, RII
 H. Silver, NRR
 R. K. Hoefling, OGO
 D. P. Allison, AEOD
 H. N. Berkow, NRR

NRC Resident Inspector
 U. S. Nuclear Regulatory Commission
 6745 N. Tallahassee Rd.
 Crystal River, FL 32629

*FOR RII:DRS	PREVIOUS	CONCURRENCE RII:DRS	-	SEE ATTACHED RII:DRS	COPY RII:DRS	
*HWhitener 01/ /91		*FJape 01/ /91		*CAJulian 01/ /91	*AFGibson 01/ /91	
OGC		AEOD		RII:DRP	RII:EICS	*NRR
*RKHoefling 01/ /91		*DPAAllison 01/ /91		*LAReyes 01/ /91	*GRJenkins 01/ /91	HBerkow 01/ /91

ENCLOSURE

EVALUATION AND CONCLUSIONS

On August 21, 1989, a Notice of Violation was issued regarding failure to perform local leak rate tests at the Crystal River facility on Conax electrical penetrations in accordance with 10 CFR Part 50, Appendix J, requirements. In the September 20, 1989, response to the Notice of Violation, the licensee denied the violation contending that (1) Appendix J does not require testing of the type of seals incorporated in the Conax electrical penetration design, and (2) the Crystal River licensing basis excludes leak rate testing of electrical penetrations. In a submittal of November 9, 1990, from the Senior Vice President, Nuclear Operations, to the U. S. Nuclear Regulatory Commission, the licensee reiterated its denial and requested that the NRC review this matter for backfit implications pursuant to 10 CFR Section 50.109.

A letter from the Director, Division of Reactor Safety, NRC Region II, to the Senior Vice President, Nuclear Operations, Florida Power Corporation, dated December 14, 1990, confirmed the NRC's previous position that the practice of not leak rate testing electrical penetrations was not in compliance with 10 CFR Part 50, Appendix J, requirements. Additionally, as requested by the licensee's November 9, 1990, submittal, a panel of Region II managers has reviewed the potential backfit implication of this issue pursuant to 10 CFR Section 50.109 in accordance with NRC procedures. The panel determined that the licensee's failure to conduct leak rate testing of Conax electrical penetrations was a violation of 10 CFR Part 50, Appendix J, and differed from the staff's understanding which formed the basis for the Crystal River 3 operating license. Further, the panel determined that the NRC's position on this matter had not changed since licensing of the facility. Therefore, the panel concluded that the requirement to conduct the leak rate tests does not constitute a backfit. The panel noted that the penetrations were not clearly described in the license application and acknowledged that the staff may not have understood the applicant's intention at the time of licensing. Because of this potential misunderstanding, the Notice of Violation will be withdrawn. However, Type B tests of Conax penetrations must be conducted in the future pursuant to 10 CFR Part 50, Appendix J, unless a specific written exemption is requested by the licensee and granted by the NRC Office of Nuclear Reactor Regulation.

Restatement of the Violation

10 CFR 50, Appendix J, Paragraphs II.G and II.G.1, requires that Type B tests be performed on primary containment penetrations which are pressure-containing or leakage-limiting boundaries whose design incorporates sealant compounds or flexible metal seal assemblies. Technical Specification 4.6.1.2.d states that Type B tests shall be conducted with the gas at Pa, 49.6 psig at intervals no greater than 24 months.

Contrary to the above, Conax electrical penetrations which are pressure-containing, leakage-limiting boundaries whose design incorporates sealant compounds and flexible metal seals are not Type B local leak rate tested.

Summary of Licensee Response

In response to the Notice of Violation, the licensee contends that the polysulfone plugs, a hard setting thermoplastic compound, used to plug the feed-through tube and seal around the wires, are not resilient. Further, the metal-to-metal seal between the feed-through tube and header plate is a rigid, not flexible, assembly. On this basis, the licensee contends that the requirements of 10 CFR Part 50, Appendix J, do not apply. The licensee also contends that the Crystal River licensing basis excludes testing of electrical penetrations. This argument is based on omission of electrical penetrations in Table 3.6-1 of the Technical Specifications, omission of electrical penetrations in the discussion of Type B tests listed in the FSAR, and contention that the SER identifies testing of electrical penetrations in a manner which is generic and not specific to Crystal River.

NRC Evaluation

The requirements for performing Type B tests are stated in 10 CFR Part 50, Appendix J, Paragraph II.G. Subparagraph II.G.1 requires that Type B tests must be performed for any primary containment penetration whose design incorporates sealant compounds. Sealant compounds include any compound used to form a leakage limiting boundary and may be hard setting compounds.

We conclude that the polysulfone plugs in Conax electrical penetrations are sealant compounds and therefore are subject to local leak rate testing in accordance with 10 CFR Part 50, Appendix J, requirements. At the time of licensing of Crystal River, the NRC position was that electrical penetrations were a class of penetrations that were required to be Type B tested. It was the intent of the NRC staff at the time of licensing that the electrical penetrations at Crystal River be tested and this position has been uniformly applied at other plants. The NRC has taken no different position over the years. Testing of these types of seals is and has consistently been the NRC position. For these reasons, we conclude that imposition of 10 CFR Part 50, Appendix J, test requirements is not subject to the backfit requirements of 10 CFR Section 50.109.

In regard to the licensing basis, the Technical Specifications state that leak rate testing will be performed in accordance with 10 CFR Part 50, Appendix J, requirements. Omission of electrical penetrations from a Table in the Technical Specifications which relates principally to containment isolation valve stroke time does not constitute relief from the requirements of Appendix J.

The licensee states that the Final Safety Analysis Report (FSAR), Section 5.6.4.2, describes how it will comply with 10 CFR 50, Appendix J,

requirements for Type B testing. With the exception of the last sentence, the FSAR addresses only resilient seals and gaskets. The one sentence about electrical penetrations is ambiguous in that it can be read to imply that potential leakage paths through the penetrations are sealed with steel-to-steel welds. The cap and ferrule assembly is not described. Since the last sentence is vague regarding design details of the electrical penetrations, the licensee's commitment to perform testing in accordance with Appendix J was apparently misunderstood by the NRC staff reviewers. The SER states that the containment design provides for testing in accordance with Appendix J requirements. One of the types of components identified as testable is electrical penetrations. The SER concludes that compliance with Appendix J requirements is an acceptable basis for licensing. Nowhere in the SER does the staff indicate that electrical penetrations are exempted from compliance with Appendix J. The NRC concludes that the licensing documents do not grant nor were they intended to grant an exemption from required testing of electrical penetrations. We acknowledge that these documents could lead to a misunderstanding regarding components required to be tested pursuant to Appendix J requirements, based upon the lack of clear communication between the parties during the licensing process, which could have contributed to the licensee's misunderstanding of the test requirements. For this reason, we withdraw the violation but reemphasize that electrical penetrations must be leak rate tested according to the requirements of 10 CFR Part 50, Appendix J.