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AUTH. NAME AUTHOR AFFILIATION
WOODY, C. O. Florida Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Responds to NRC 870609 request for addl info re use of Boraflex in spent fuel storage racks. Results of blackness testing of Boraflex panels did not indicate existence of gaps, voids or other spatial distribution anomalies.

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FPL

AUGUST 2 5 1987

L-87-355
10 CFR 50.73

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 amd 50-251
Request for Additional Information
Boraflex Usage at Turkey Point

On June 9, 1987, NRC requested additonal information from Florida Power & Light Company (FPL) regarding the use of Boraflex in the spent fuel storage racks at Turkey Point, including justification for the continued use of Boraflex in light of the experience at Quad Cities. FPL responded to this request on July 10, 1987, explaining that there are differences between the storage racks of Quad Cities and Turkey Point and that the experience of Quad Cities may not be relevant to Turkey Point.

The purpose of this letter is to provide additional information regarding the fabrication of the Quad Cities storage racks based upon the enclosed information recently provided to FPL by letter dated August 12, 1987 from Joseph Oat Corporation, the manufacturer of the storage racks for Quad Cities.

In our letter dated July 10, 1987, FPL stated that the Boraflex panels at Quad Cities were not constructed from a single sheet of Boraflex, resulting in pre-existing breaks in the Boraflex panels. This statement was based upon information provided to FPL. It is our understanding that the Boraflex in the Quad Cities racks is sandwiched between two rack cell walls, and that the Boraflex was installed by (1) applying Dow Silicone No. 999 in a strip approximately 2 to 3 inches wide along the full length of one cell wall, (2) placing the Boraflex on the cell wall and allowing the Dow Silicone No. 999 to dry without using clamps, and (3) placing this element in a fixture with the other cell wall for subsequent welding of the assembly. Dow has informed FPL that Dow Silicone No. 999 can be used as either a sealant or an adhesive. Joseph Oat has informed FPL that Dow Silicone No. 999 was used for the Quad Cities racks as a sealant to hold the Boraflex in place during the subsequent assembly operations, and that Dow Silicone No. 999 was not intended to be used as a permanent attachment or glue. Joseph Oat has informed FPL that the Quad Cities racks contain only one full length sheet of Boraflex per wall per cell and that splicing of the Boraflex was not used in any of the cells.

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FPL is not in a position to resolve this apparent inconsistency. Nevertheless, FPL continues to believe that there are significant differences in the fabrication and design of the Quad Cities and Turkey Point racks, and that the experiences of the racks at Quad Cities is not applicable to Turkey Point. These differences include: (1) the Boraflex at Quad Cities was placed between two cell walls, whereas the Boraflex at Turkey Point was placed in a wrapper with a several mil clearance between the Boraflex and the cell wall; (2) the adhesive or sealant was applied to the length of the cell wall at Quad Cities, whereas at Turkey Point the adhesive was applied to a Boraflex panel in short lengths (up to 2-1/2 inches long) at a maximum of 16 places (8 per side). Furthermore, unlike the Boraflex at Quad Cities, the results of Blackness Testing of Boraflex panels at Turkey Point did not indicate the existence of gaps, voids, or other spatial distribution anomolies.

Should there be further questions, please contact us.

Very truly yours,

C. O. Woody
Group Vice President
Nuclear Energy

COW/RG/gp

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

ESTABLISHED 1788
JOSEPH OAT CORPORATION
CHEMICAL ENGINEERS & FABRICATORS

August 12, 1987

Florida Power & Light Co.
P.O. Box 14000
700 Universe Blvd.
Juno Beach, FL 33408

Attention: Mr. J.A. DeMastry

Reference: Letter dated 8/3/87
FPL #JNL-87-372
J.O.C. #J-2483

Dear Mr. DeMastry:

In response to your letter referenced above and its attachment we are submitting the following:

There are several areas in the NRC letter dated 7/8/87 and the FP&L letter L-87-279 dated 7/10/87 which are not correct.

All racks that were ever fabricated contained only one full length sheet of Boraflex per wall per cell. There has never been splicing used in any cells at any time. Joseph Oat procures the Boraflex from Bisco to the Joseph Oat drawings and Bills of Material requirements. These documents specify the full length of each piece. Each piece supplied to Oat by Bisco is cut to its required length by Bisco. Joseph Oat QC verifies the poison length as being correct as ordered.

At the onset of initial fabrication of the very first racks fabricated by Joseph Oat, it was recognized that torn or damaged Boraflex was not acceptable for use and therefore never was. Each piece was treated as unacceptable if it was not of its required size or it was damaged in any manner.

During the application of the Boraflex to the subassemblies the installer uses one roll of full length per location. Quality Control monitors this activity to assure that the Boraflex is installed properly and that no torn or damaged Boraflex is used.

2500 Broadway / Drawer 10 / Camden, New Jersey 08104 / (609) 541-2900

JOSEPH OAT CORPORATION
CHEMICAL ENGINEERS & FABRICATORS
NUCLEAR POWER COMPONENTS
ESTABLISHED 1788

In the event that damaged or torn Boraflex is detected by the installer or QC, it is placed on hold, removed from the assembly area and stored in Quality Control. When Quality Control detects possible damage to Boraflex, a Deviation Notice is generated, the item affected placed on hold and the evaluation and disposition is performed by Oat Engineering. There has never been one occasion where the use of torn or spliced Boraflex has been permitted.

During the installation of the Boraflex to the individual cell walls or subassemblies, Joseph Oat employed the practice of applying several small dabs of silicone sealant to the subassembly. This sealant was then smeared with a putty knife type tool to a thin tacky film and the Boraflex was then applied. The use of clamping was never employed. The purpose of this practice was not to permanently attach or "glue" the Boraflex to the assembly, but rather a method of holding it in place during subsequent assembly operations.

Joseph Oat design racks contained a self enclosure for the Boraflex. In all design racks the cell walls acted as the enclosure. On the outer boundary of the rack there were doubler plates over the poison. In no areas is poison exposed on assembled racks.

Attached is a summary of the instructions given to the shop personnel that were employed on assembly of the racks.

If there are any further questions, please contact either Jay Murphy or the undersigned.

Very truly yours,

John Benckert
QC Manager

JB:cd