



**New York Power  
Authority**

June 3, 1986  
JPN-86-25

John C. Brons  
Senior Vice President  
Nuclear Generation

Director of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attention: Mr. Daniel R. Muller, Director  
BWR Project Directorate No. 2  
Division of BWR Licensing

Subject: James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
Westinghouse Demonstration Assemblies

Dear Sir:

This letter is to inform the NRC of the Power Authority's intention to include four demonstration assemblies in the Reload 7/ Cycle 8 core of the FitzPatrick plant. These demonstration assemblies are part of a program to qualify Westinghouse as a fuel supplier for the FitzPatrick plant. The Authority intends to reference WCAP-10507, the generic QUAD+ demonstration report, in the Reload 7 license application. The design and planned operation of the FitzPatrick plant demonstration assemblies will be bounded by the safety evaluations included in WCAP-10507.

Differences between the QUAD+ demonstration assembly design described and evaluated in WCAP-10507 and the FitzPatrick QUAD+ assembly design are outlined in Attachment 1. The evaluation documented in WCAP-10507 was performed for a BWR/4 plant similar in design and operating parameters to the FitzPatrick plant. The resident fuel considered in the report is also similar in design and operating characteristics to the FitzPatrick plant resident fuel.

The design approach for the FitzPatrick QUAD+ demonstration assemblies is the same as that used in WCAP-10507. That is, demonstration assemblies have been designed to match as closely as practical, the four GE7 assemblies they are to replace. They will be placed in low power core locations and will be operated as though they were GE7 assemblies. This approach validates the evaluation and conclusions reached in WCAP-10507 regarding normal operating, transient, and accident behavior.

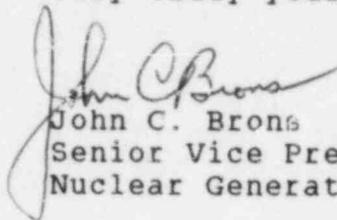
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The NRC has previously reviewed WCAP-10507 as part of the Browns Ferry Unit 2 Cycle 6 licensing application. In view of this review and the applicability of WCAP-10507 to the FitzPatrick QUAD+ demonstration assemblies, the Authority considers that WCAP-10507 provides sufficient justification for including the demonstration assemblies in the next FitzPatrick reload.

Should you or your staff have any questions regarding this matter, please contact Mr. J. A. Gray, Jr. of my staff.

Very truly yours,



John C. Brons  
Senior Vice President  
Nuclear Generation

cc: Office of the Resident Inspector  
U.S. Nuclear Regulatory Commission  
P. O. Box 136  
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## ATTACHMENT 1 TO JPN-86-25

## COMPARISON OF QUAD+ DEMONSTRATION DESIGNS

## I. Major Differences

FEATURE	WCAP-10507 DESIGN	FITZPATRICK DESIGN	COMMENTS
Bottom Nozzle	Lower tie plates supported by fingers from bottom nozzle, flow to watercross provided by 16 holes	Lower tie plates supported by a plate with square cutouts, flow to watercross provided by short pipe	New designs eliminate leakage between lower tie plate and channel
Fuel Tube	Stress-relieved annealed w/o liner	Recrystallized annealed with liner	Liner improves PCI performance and market acceptance
Helium Pressure	3 atmospheres	6 atmospheres	Reduces fission gas release
Mini-Bundle Orientation & Location Features	Administrative control	Mechanical orientation and location features	Positive means to preclude mis-location and mis-orientation

## II. Minor Differences

FEATURE	WCAP-10507 DESIGN	FITZPATRICK DESIGN	COMMENTS
Positioning (Channel) Spring	Not removable from top nozzle attachment	Removable from top nozzle	Facilitate repair in case of damage
Watercross Material Thickness	0.028 inch	0.0315 inch	Provides increased structural margin at welds in watercross
Spacer Capture Rod Tabs	One pair above & one pair below each spacer	One pair above each spacer	Lower pair not necessary for spacer capture
Top Nozzle Attachment Nut	Without compliant feature	With compliant feature	Relieve differential thermal stresses