



William J. Cahill, Jr.  
Executive Vice President  
and Chief Nuclear Officer

November 16, 1994  
JPN-94-060

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

SUBJECT: James A. FitzPatrick Nuclear Power Plant  
Docket No. 50-333  
**Lead Fuel Assembly Installation during Reload 11 / Cycle 12**

Reference: 1. USNRC NUREG-0800, "Standard Review Plan," July 1981.

Dear Sir:

The Authority plans to insert four Siemens Power Corporation (SPC) Lead Fuel Assemblies (LFAs) into the FitzPatrick core during the upcoming Reload 11/Cycle 12 refueling outage. These LFAs, designated ATRIUM-10A, are part of a test program conducted in cooperation with SPC to verify the performance of these bundles. The ATRIUM-10A fuel assembly design is a 10x10 matrix containing a total of 91 fuel rods and a central, square water channel. The water channel occupies the space of a 3x3 array of fuel rods and provides the structural connection between the lower and upper tie plates. The mechanical design criteria for the LFAs follow the requirements given in the NRC's Standard Review Plan, Section 4.2 (Reference 1), or SPC's NRC approved alternate criteria, as appropriate.

The ATRIUM-10A fuel bundles were designed to closely match the reactivity characteristics of a General Electric GE11 fuel assembly with average enrichment of 3.56% that were used in Reload 10 and will be used for Reload 11. The LFAs will be monitored as GE11 bundles. They will be inserted in quarter symmetric core locations with one of the LFAs immediately adjacent to a Local Power Range Monitor (LPRM) instrumentation string. The specific core locations were selected to ensure that the LFAs will maintain significant margin to the thermally limiting assemblies in the core. These LFAs will not reside in the cell containing the strongest worth control rod.

Evaluations performed by Siemens provide assessments of the ATRIUM-10A LFA fuel relative to the GE11 fuel and justify application of the GE11 operating limits to the LFAs. The LFAs can be operated to the same Minimum Critical Power Ratio (MCPR) operating limits as the GE11 fuel assembly. All ATRIUM-10A lattice zones can be monitored to the corresponding GE11 Maximum Average Planar Heat

Generation Rate (MAPLHGR) limits to protect the steady state Linear Heat Generation Rate (LHGR) limit of the LFAs.

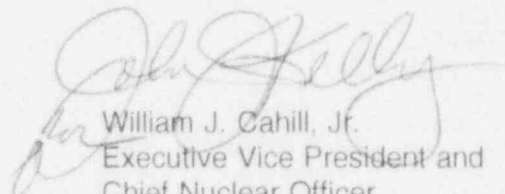
The insertion of four LFAs will have a negligible effect on core wide transient performance. Therefore, the transient analyses performed by General Electric in support of Cycle 12 are applicable with the replacement of four LFAs for the GE11 fuel assemblies.

Analyses performed by Siemens show that the LFAs have a superior MCPR performance, typically 3-4% better, relative to the GE11 fuel assembly for bundle exposures up to 37.9 GWd/MTU. In addition, the core loading constraint mentioned above will provide approximately 10-20% MCPR margin to the most limiting GE11 fuel assembly. This ensures that the LFAs have more margin to safety limits than the co-resident GE11 fuel for bundle exposures where MCPR is limiting.

Attachment I is a Siemens report which describes the safety analyses performed for the ATRIUM-10A LFAs. Attachment II is a design description of these Siemens Atrium-10A LFAs. The information contained in Attachments I and II are of the type which the Siemens Power Corporation maintains in confidence and withholds from public disclosure. It has been handled and classified as proprietary as indicated in the affidavit included as Attachment III. The Authority requests that Attachments I and II be withheld from public disclosure in accordance with the provisions of 10 CFR 2.790.

If you have any questions, please contact Ms. C. D. Faison.

Very truly yours,



William J. Cahill, Jr.  
Executive Vice President and  
Chief Nuclear Officer  
Nuclear Generation

cc: See next page

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## AFFIDAVIT

STATE OF WASHINGTON     )  
                                      ) ss.  
COUNTY OF BENTON       )

I, D. E. Hershberger being duly sworn, hereby say and depose:

1. I am Senior Engineer, Reload Licensing, for Siemens Power Corporation, Nuclear Division, ("SPC"), and as such I am authorized to execute this Affidavit.
2. I am familiar with SPC's detailed document control system and policies which govern the protection and control of information.
3. I am familiar with the documents provided by SPC to the New York Power Authority with the subject "James A. FitzPatrick Cycle 12 ATRIUM-10A Lead Fuel Assembly Licensing Evaluation ," and "James A. FitzPatrick ATRIUM-10A Design Description," referred to as "Document." Information contained in this Document has been classified by SPC as proprietary in accordance with the control system and policies established by SPC for the control and protection of information.
4. The Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by SPC and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in the Document as proprietary and confidential.
5. The Document has been made available to the U.S. Nuclear Regulatory Commission in confidence, with the request that the information contained in the Document will not be disclosed or divulged.

6. The Document contains information which is vital to a competitive advantage of SPC and would be helpful to competitors of SPC when competing with SPC.

7. The information contained in the Document is considered to be proprietary by SPC because it reveals certain distinguishing aspects of SPC product design and design methodology which secure competitive advantage to SPC for fuel design optimization and marketability, and includes information utilized by SPC in its business which affords SPC an opportunity to obtain a competitive advantage over its competitors who do not or may not know or use the information contained in the Document.

8. The disclosure of the proprietary information contained in the Document to a competitor would permit the competitor to reduce its expenditure of money and manpower and to improve its competitive position by giving it valuable insights into SPC product design and design methodology and would result in substantial harm to the competitive position of SPC.

9. The Document contains proprietary information which is held in confidence by SPC and is not available in public sources.

10. In accordance with SPC's policies governing the protection and control of information, proprietary information contained in the Document has been made available, on a limited basis, to others outside SPC only as required and under suitable agreement providing for nondisclosure and limited use of the information.

11. SPC policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

12. Information in this Document provides insight into SPC product design and design methodology developed by SPC. SPC has invested significant resources in developing the product and methodology as well as the strategy for this application. Assuming a competitor had available the same background data and incentives as SPC, the competitor might, at a minimum, develop the information for the same expenditure of manpower and money as SPC.

THAT the statements made hereinabove are, to the best of my knowledge, information,  
and belief, truthful and complete.

FURTHER AFFIANT SAYETH NOT.

DE Hult

SUBSCRIBED before me this 3<sup>rd</sup>

day of November, 1994.

Susan K. McCoy

Susan K. McCoy  
NOTARY PUBLIC, STATE OF WASHINGTON  
MY COMMISSION EXPIRES: 1/10/96