March 26, 1985

Docket No. 50-333

Mr. J. P. Bayne
First Executive Vice President,
Chief Operations Officer
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Bayne:

SUBJECT: RELOAD 6/CYCLE 7 - THERMAL HYDRAULIC INSTABILITY

Re: James A. FitzPatrick Nuclear Power Plant

We have completed our review of General Electric (GE) topical report NEDE-22277-P, "Compliance of the General Electric Boiling Water Reactor Fuel Designs to Stability Licensing Criteria," which was submitted as Amendment 8 to GESTAR. This review concludes that General Electric methods for calculation of core stability decay ratio have an uncertainty of 20% in predicting the onset of limit cycle oscillations (decay ratio = 1.0). Thus a core having a calculated decay ratio of 0.80 may in fact be on the verge of limit cycle oscillations within permissible operating space. The review further concludes that operating limitations which provide for the detection and suppression of flux oscillations in operating regions of potential instability, consistent with the recommendations of General Electric SIL-380, are acceptable to demonstrate compliance with GDC-10 and GDC-12 for cores loaded with approved GE fuel designs. The basis for acceptability is that the regions of potential instability have been conservatively defined based on extensive generic and plant specific calculations, test data, and operating experience.

Your reload submittal, dated January 16, 1985, relies on the GE cycle-specific analysis procedure to demonstrate that the reactor has sufficient margin to be free of thermal/hydraulic instabilities. The maximum decay ratio calculated in your submittal is 0.86. Since this value is based on a best estimate calculation, the true decay ratio for the FitzPatrick core could be as high as 1.06 (0.86 + 0.2). Since a decay ratio greater than 1.00 indicates an undamped oscillation, the FitzPatrick analysis does not show any margin from undamped oscillations.

An acceptable demonstration of compliance with the regulations related to thermal/hydraulic stability would be incorporation of the operating limitations specified in the General Electric SIL-380 into your operating procedures, in conjunction with the submittal of Technical Specifications which would enforce these limitations. Therefore, we request that, within 15 days of the date of this letter, you provide us with a written commitment to both modify your operating procedures prior to restart from the current refueling outage in accordance with the above, and to promptly submit the associated Technical Specifications.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Marshall Grotenhuis for

Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

cc: See next page

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Mr. J. P. Bayne
Power Authority of the State of New York
James A. FitzPatrick Nuclear Power Plant

cc:

Mr. Charles M. Pratt
Assistant General Counsel
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Resident Inspector's Office
U. S. Nuclear Regulatory Commission
Post Office Box 136
Lycoming, New York 13093

Mr. Harold Glovier
Resident Manager
James A. FitzPatrick Nuclear
Power Plant
Post Office Box 41
Lycoming, New York 13093

Mr. J. A. Gray, Jr.
Director - Nuclear Licensing - BWR
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. Robert P. Jones, Supervisor
Town of Scriba
R. D. #4
Oswego, New York 13126

Mr. Leroy W. Sinclair
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. Jay Dunkleberger
Division of Policy Analysis
and Planning
New York State Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223

Thomas A. Murley
Regional Administrator
Region I Office
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Mr. A. Klausman
Vice President - Quality Assurance
Power Authority of the State
of New York
10 Columbus Circle
New York, New York 10019

Mr. George Wilverding, Chairman
Safety Review Committee
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Mr. M. C. Cosgrove
Quality Assurance Superintendent
James A. FitzPatrick Nuclear
Power Plant
Post Office Box 41
Lycoming, New York 13093