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NewYorkPower Authority

James Knubel
Senior Vice President and
Chief Nuclear Officer

July 27, 2000
JPN-00-023

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
Proposed Change to the Technical Specifications Regarding Minimum Critical Power Ratio Safety Limit (JPTS-00-002)

Reference: General Electric Letter, A. Alzaben to P. Lemberg, SLMCPR Submittal for FitzPatrick Reload 14/Cycle 15

Dear Sir:

This application for an amendment to the James A. FitzPatrick Technical Specifications (TS) proposes deletion of a note to TS Section 1.1.A, regarding the Safety Limit Minimum Critical Power Ratio (SLMCPR), to be applicable beyond Cycle 14. TS Section 1.1.A is currently only applicable for Cycle 14. Additionally, the reference to the GESTAR document in section 6.9.A.4 has been revised to incorporate the latest approved revision. A change was made to the Bases section 2.1.A.1.c by a 10CFR50.59 Safety Evaluation and that change is provided herein.

The signed original of the Application for Amendment to the Operating License is enclosed for filing. Attachment I contains the proposed new TS page and Attachment II is the Safety Evaluation for the proposed change. A markup of the affected TS page is included as Attachment III.

A General Electric letter (Reference) specifies that the SLMCPR limits for FitzPatrick, Cycle 15 remain unchanged compared to that approved by the NRC under Amendment 246. This letter is included in this submittal as Attachment IV. Information in Attachment IV is considered General Electric (GE) proprietary information and should be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.790(a)(4). An Affidavit, prepared in accordance with 10 CFR 2.790(b)(1), supporting this request is provided with Attachment IV. Attachment V contains the non-proprietary version of Attachment IV.

A copy of this application and associated attachments is being provided to the designated New York State official in accordance with 10 CFR 50.91.

APO1

There are no commitments made by the Authority in this letter. If you have any questions, please contact Ms. C. D. Faison.

Very truly yours,

J. Knubel
Senior Vice President and
Chief Nuclear Officer

att: as stated

cc: Regional Administrator
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Office of the Resident Inspector
U. S. Nuclear Regulatory Commission
P.O. Box 136
Lycoming, NY 13093

Mr. G. Vissing, Project Manager
Project Directorate I
Division of Licensing Project Management
U. S. Nuclear Regulatory Commission
Mail Stop OWFN 8C2
Washington, DC 20555

Mr. F. William Valentino, President
New York State Energy, Research and Development Authority
Corporate Plaza West
286 Washington Avenue Extension
Albany, NY 12203-6399

BEFORE THE UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
NEW YORK POWER AUTHORITY	)	Docket No. 50-333
James A. FitzPatrick Nuclear Power Plant	)	

APPLICATION FOR AMENDMENT TO OPERATING LICENSE

The New York Power Authority requests an amendment to the Technical Specifications (TS) contained in Appendix A to Facility Operating License DPR-59 for the James A. FitzPatrick Nuclear Power Plant. This application is filed in accordance with Section 10 CFR 50.90 of the Nuclear Regulatory Commission's regulations.

This application for an amendment to the James A. FitzPatrick TS proposes deletion of note to allow TS Section 1.1.A, regarding the Safety Limit Minimum Critical Power Ratio (SLMCPR), to be applicable beyond Cycle 15. TS Section 1.1.A is currently only applicable for Cycle 14.

The signed original of the Application for Amendment to the Operating License is enclosed for filing. Attachment I contains the proposed new TS page and Attachment II is the Safety Evaluation for the proposed change. A markup of the affected TS page is included as Attachment III.

A General Electric letter (Reference) specifies that the SLMCPR limits for FitzPatrick, Cycle 15 remain unchanged. This letter is included in this submittal as Attachment IV. Information in Attachment IV is considered General Electric (GE) proprietary information and should be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.790(a)(4). An Affidavit, prepared in accordance with 10 CFR 2.790(b)(1), supporting this request is provided with Attachment IV. Attachment V contains the non-proprietary version of Attachment IV.

New York Power Authority

J. Knubel
Senior Vice President and
Chief Nuclear Officer

STATE OF NEW YORK
COUNTY OF WESTCHESTER
Subscribed and sworn to before me
this 27th day of July 2000.

Eileen E. O'Connor
Notary Public

EILEEN E. O'CONNOR
Notary Public, State of New York
No. 4991063
Qualified in Westchester County
Commission Expires January 31, 2002

Attachment I to JPN-00-023

REVISED TECHNICAL SPECIFICATION PAGES

SAFETY LIMIT MINIMUM CRITICAL POWER RATIO

(JPTS-00-002)

New York Power Authority
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

1.1 FUEL CLADDING INTEGRITY

Applicability:

The Safety Limits established to preserve the fuel cladding integrity apply to those variables which monitor the fuel thermal behavior.

Objective:

The objective of the Safety Limits is to establish limits below which the integrity of the fuel cladding is preserved.

Specifications:

A. Reactor Pressure >785 psig and Core Flow>10% of Rated

The existence of a minimum critical power ratio (MCPR) less than 1.09 shall constitute violation of the fuel cladding integrity safety limit, hereafter called the Safety Limit. An MCPR Safety Limit of 1.10 shall apply during single-loop operation.

2.1 FUEL CLADDING INTEGRITY

Applicability:

The Limiting Safety System Settings apply to trip settings of the instruments and devices which are provided to prevent the fuel cladding integrity Safety Limits from being exceeded.

Objective:

The objective of the Limiting Safety System Settings is to define the level of the process variables at which automatic protective action is initiated to prevent the fuel cladding integrity Safety Limits from being exceeded.

Specifications:

A. Trip Settings

The limiting safety system trip settings shall be as specified below:

1. Neutron Flux Trip Settings

a. IRM - The IRM flux scram setting shall be set at ≤120/125 of full scale.

(A) ROUTINE REPORTS (Continued)

4. CORE OPERATING LIMITS REPORT

a. Core operating limits shall be established prior to startup from each reload cycle, or prior to any remaining portion of a reload cycle for the following:

- The Average Planar Linear Heat Generation Rates (APLHGR) of Specification 3.5.H;
- The Minimum Critical Power Ratio (MCPR) and MCPR low flow adjustment factor, K_f, of Specifications 3.1.B and 4.1.E;
- The Linear Heat Generation Rate (LHGR) of Specification 3.5.I;
- The Reactor Protection System (RPS) APRM flow biased trip settings of Table 3.1-1;
- The flow biased APRM and Rod Block Monitor (RBM) rod block settings of Table 3.2-3; and
- The Power/Flow Exclusion Region of Specification 3.5.J.

and shall be documented in the Core Operating Limits Report (COLR).

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC as described in:

1. "General Electric Standard Application for Reactor Fuel," NEDE-24011-P-A-14, June 2000.
2. "James A. FitzPatrick Nuclear Power Plant SAFER/GESTR - LOCA Loss-of-Coolant Accident Analysis," NEDC-31317P, Revision 2, April 1993.
3. "BWR Owners' Group Long-term Stability Solutions Licensing Methodology," NEDO-31960-A, June 1991.
4. "BWR Owners' Group Long-term Stability Solutions Licensing Methodology," NEDO-31960-A, Supplement 1, March 1992.

Attachment II to JPN-00-023

SAFETY EVALUATION

SAFETY LIMIT MINIMUM CRITICAL POWER RATIO

(JPTS-00-002)

New York Power Authority
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

I. DESCRIPTION

The following change deletes a note which will allow TS Section 1.1.A, regarding the Safety Limit Minimum Critical Power Ratio (SLMCPR), to be applicable beyond Cycle 14. TS Section 1.1.A is currently only applicable for Cycle 14.

Page 7

Delete the note at the bottom of the page. It currently reads:

"NOTE: TS 1.1.A is applicable for Cycle 14 only."

The following change updates the applicable revision to the GESTAR document, Reference 7.

1. "General Electric Standard Application for Reload Fuel," NEED-24011-P-A-14, June 2000.

II. PURPOSE OF THE PROPOSED CHANGE

A cycle specific evaluation has been performed by General Electric (GE). The results of this evaluation show that the current SLMCPR is conservative and remains applicable through Cycle 14.

III. SAFETY IMPLICATIONS OF THE PROPOSED CHANGE

In 1996, GE informed utilities that under some conditions the generically calculated SLMCPR can be non-conservative. Based upon a discussion with the NRC on this issue, the Authority added a note to TS Section 1.1.A (JAFP-96-0449, Reference 1) to support the issuance of Amendment 238 (Reference 2). As a result of this note being added, a validation or re-calculation of the SLMCPR is required each cycle. Reference 3 is a 10 CFR 21 notification made by GE identifying the problem with the generic method of the SLMCPR calculation.

In Reference 4, GE reports a generic calculation of the SLMCPR for GE 12 fuel. This value was found to be applicable for Cycles 13 and 14 (Reference 5 and 6). The Cycle 15 SLMCPR was determined using the analysis basis documented in GESTAR (Reference 7), and as explicitly approved by NRC in Reference . The results of that analysis, Reference 8, show that the generic value of 1.09 bounds the cycle-specific value calculated for Cycle 15. The current SLMCPR value is retained for use in Cycle 15 and in future cycles as will be determined using the approved methodology.

Since the NRC approved General Electric methodology for calculating the SLMCPR, Reference 9, it is appropriate to delete the note as discussed above on the basis that the SLMCPR for future cycles will be assessed and Technical Specifications amended as appropriate per that methodology.

The reference change in section 6.9.A.4 incorporates the applicable revision to GESTAR that, in turn, incorporates Amendment 25 as approved by the NRC, and used as the basis for the SLMCPR calculation.

Based on the above, this proposed change has no effect on nuclear safety.

IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the FitzPatrick plant in accordance with the proposed amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated.

   Deletion of to a note stating that the SLMCPR remains applicable through Cycle 14 does not affect the initiation of any accident. Operation in accordance with the current SLMCPR ensures the consequences of previously analyzed accidents are not changed. Therefore, this proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. create the possibility of a new or different kind of accident from any accident previously evaluated.

   The SLMCPR establishes a performance limit for the fuel. This limit remains unchanged. Deleting a note to reflect this is an administrative change and will not initiate any accident. Therefore, this proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. involve a significant reduction in a margin of safety.

   GE has performed an evaluation of the SLMCPR for Cycle 15 and found that the cycle specific value, based on current reload plans, is bounded by the generic value calculated for GE 12 fuel. The existing SLMCPR remains unchanged for Cycle 15 and the margin of safety for the prevention of onset of transition boiling is unchanged. Therefore, this proposed change does not involve a significant reduction in a margin of safety.

V. IMPLEMENTATION OF THE PROPOSED CHANGE

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) as follows:

(i) the amendment involves no significant hazards consideration.

As described in Section IV of this evaluation, the proposed change involves no significant hazards consideration.

(ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed change does not alter the margin of safety which is presently assumed for fuel cladding integrity with respect to onset of transition boiling. Therefore, there is no change in the amounts of effluents which may be released offsite.

(iii) there is no significant increase in individual or cumulative occupational radiation exposure.

The proposed change does not alter the margin of safety which is presently assumed for fuel cladding integrity with respect to onset of transition boiling. The current SLMCPR remains applicable beyond Cycle 14. Therefore, there will be no change in individual or cumulative radiation exposure.

Based on the above, the Authority concludes that the proposed changes meet the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.21 relative to requiring a specific environmental assessment by the Commission.

VI. CONCLUSION

Based on the discussions above, changing a note to allow the current SLMCPR to be applicable beyond Cycle 14 does not involve a significant hazards consideration, or an unreviewed safety question, and will not endanger the health and safety of the public. The Plant Operating Review Committee (PORC) and Safety Review Committee (SRC) have reviewed this proposed change to the TS and agree with this conclusion.

VII. REFERENCES

1. NYPA Letter, M. J. Colomb to the NRC, "Proposed Changes to the Technical Specifications Regarding Minimum Critical Power Ratio Safety Limit," (JAFP-96-0449), dated November 8, 1996

2. NRC Letter to W. J. Cahill, Jr., "Issuance of Amendment for James A. FitzPatrick Nuclear Power Plant (TAC NO. M95522)," dated November 14, 1996

3. General Electric Letter, M. A. Smith to the NRC, 10 CFR Part 21, Reportable condition, Safety Limit MCPR Evaluation, dated May 24, 1996

4. GE12 Compliance with Amendment 22 of NEDE-24011-P-A (GESTAR II), NEDE-32417P, December 1994

5. General Electric Report, Supplemental Reload Licensing Report for James A. FitzPatrick Reload 12 Cycle 13, J11-02914SRL, Rev. 0, dated August, 1996

6. NRC Letter to J. Knubel, Issuance of Amendment for JAFNPP (TAC MA2418), dated 112/25/98

7. General Electric Standard Application for Reactor Fuel, NEDE-24011-P-A-14, dated June 2000

8. General Electric Letter A. Alzaben to P. Lemberg, "SLMCPR Submittal for FitzPatrick Reload 14/Cycle 15," dated June 30, 2000

9. NRC Letter F. Astulewicz to G. Watford (GE), "Acceptance for Referencing of Licensing Topical Reports...and Amendment 25 to NEDE-24011-P-A on Cycle-Specific Safety Limit MCPR," dated March 11, 1999

Attachment III to JPN-00-023

MARKED-UP TECHNICAL SPECIFICATION PAGES

SAFETY LIMIT MINIMUM CRITICAL POWER RATIO

(JPTS-00-002)

New York Power Authority
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

1.1 FUEL CLADDING INTEGRITY

Applicability:

The Safety Limits established to preserve the fuel cladding integrity apply to those variables which monitor the fuel thermal behavior.

Objective:

The objective of the Safety Limits is to establish limits below which the integrity of the fuel cladding is preserved.

Specifications:

A. Reactor Pressure >785 psig and Core Flow>10% of Rated

The existence of a minimum critical power ratio (MCPR) less than 1.09 shall constitute violation of the fuel cladding integrity safety limit, hereafter called the Safety Limit. An MCPR Safety Limit of 1.10 shall apply during single-loop operation.

~~Note: TS 1.1.A is applicable for Cycle 14 only.~~

2.1 FUEL CLADDING INTEGRITY

Applicability:

The Limiting Safety System Settings apply to trip settings of the instruments and devices which are provided to prevent the fuel cladding integrity Safety Limits from being exceeded.

Objective:

The objective of the Limiting Safety System Settings is to define the level of the process variables at which automatic protective action is initiated to prevent the fuel cladding integrity Safety Limits from being exceeded.

Specifications:

A. Trip Settings

The limiting safety system trip settings shall be as specified below:

1. Neutron Flux Trip Settings

a. IRM - The IRM flux scram setting shall be set at ≤120/125 of full scale.

JUL-06-2000 18:44 NYPA REGULTOR ENG

(A) ROUTINE REPORTS (Continued)

4. CORE OPERATING LIMITS REPORT

a. Core operating limits shall be established prior to startup from each reload cycle, or prior to any remaining portion of a reload cycle for the following:

- The Average Planar Linear Heat Generation Rates (APLHGR) of Specification 3.5.H;
- The Minimum Critical Power Ratio (MCPR) and MCPR low flow adjustment factor, K_f, of Specifications 3.1.B and 4.1.E;
- The Linear Heat Generation Rate (LHGR) of Specification 3.5.I;
- The Reactor Protection System (RPS) APRM flow biased trip settings of Table 3.1-1;
- The flow biased APRM and Rod Block Monitor (RBM) rod block settings of Table 3.2-3; and
- The Power/Flow Exclusion Region of Specification 3.5.J.

and shall be documented in the Core Operating Limits Report (COLR).

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC as described in:

1. "General Electric Standard Application for Reactor Fuel," NEDE-24011-P-A-~~13, August 1996~~ 14 June 2000.
2. "James A. FitzPatrick Nuclear Power Plant SAFER/GESTR - LOCA Loss-of-Coolant Accident Analysis," NEDC-31317P, Revision 2, April 1993.
3. "BWR Owners' Group Long-term Stability Solutions Licensing Methodology," NEDO-31960-A, June 1991.
4. "BWR Owners' Group Long-term Stability Solutions Licensing Methodology," NEDO-31960-A, Supplement 1, March 1992.

Affidavit

I, Glen A. Watford, being duly sworn, depose and state as follows:

(1) I am Manager, Nuclear Fuel Engineering, Global Nuclear Fuel – Americas, L.L.C. ("GNF-A") and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) The information sought to be withheld is contained in Attachment, "Additional Information Regarding the Cycle Specific SLMCPR for Fitzpatrick Cycle 15," dated June 30, 2000.

(3) In making this application for withholding of proprietary information of which it is the owner or licensee, GNF-A relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4) and 2.790(a)(4) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information," and some portions also qualify under the narrower definition of "trade secret," within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

(4) Some examples of categories of information which fit into the definition of proprietary information are:

a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by GNF-A's competitors without license from GNF-A constitutes a competitive economic advantage over other companies;

b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of GNF-A, its customers, or its suppliers;

d. Information which reveals aspects of past, present, or future GNF-A customer–funded development plans and programs, of potential commercial value to GNF-A;

e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in paragraphs (4)a. and (4)b., above.

(5) The information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GNF-A, and is in fact so held. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in (6) and (7) following. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GNF-A, no public disclosure has been

made, and it is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.

(6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge, or subject to the terms under which it was licensed to GNF-A. Access to such documents within GNF-A is limited on a "need to know" basis.

(7) The procedure for approval of external release of such a document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GNF-A are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.

(8) The information identified in paragraph (2) is classified as proprietary because it contains details of GNF-A's fuel design and licensing methodology.

The development of the methods used in these analyses, along with the testing, development and approval of the supporting methodology was achieved at a significant cost, on the order of several million dollars, to GNF-A or its licensor.

(9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GNF-A's competitive position and foreclose or reduce the availability of profit–making opportunities. The fuel design and licensing methodology is part of GNF-A's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC–approved methods.

The research, development, engineering, analytical, and NRC review costs comprise a substantial investment of time and money by GNF-A or its licensor.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GNF-A's competitive advantage will be lost if its competitors are able to use the results of the GNF-A experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GNF-A would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GNF-A of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing and obtaining these very valuable analytical tools.

Affidavit

State of North Carolina)
County of New Hanover) SS:

Glen A. Watford, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at Wilmington, North Carolina, this 30th day of June, 2000

Glen A. Watford
Global Nuclear Fuel – Americas, LLC

Subscribed and sworn before me this 30 day of June, 2000

Notary Public, State of North Carolina

JAMES E. McGINNESS
Notary Public, State of North Carolina
New Hanover County
My Commision Expires 1/23/2001

My Commission Expires _____

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Attachment V to JPN-00-023

EVALUATION REGARDING SAFETY LIMIT MCPR

NON-PROPRIETARY

(JPTS-00-002)

New York Power Authority
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

GNF
Global Nuclear Fuel
A Joint Venture of GE, Toshiba, & Hitachi

Ala F. Alzaben
Fuel Project Manager

Global Nuclear Fuel – Americas, LLC
Castle Hayne Road, Wilmington, NC 28401
(910) 675-6232, Fax (910) 675-5684
ala.alzaben@gnf.com

AFA-00-N028
June 30, 2000

Mr. Paul Lemberg
Manager of Nuclear Fuel Supply
New York Power Authority
123 Main Street, 11-F
White Plains, NY 10601

cc: G. S. Grochowski
M. Karasulu
G. L. Rorke
F. Rodriguez-Vera
R. D. Nourse

Subject: **SLMCPR Submittal for FitzPatrick Reload 14 / Cycle 15**

Dear Mr. Lemberg:

Enclosed for your use and information is the Safety Limit MCPR submittal package for FitzPatrick Reload 14 / Cycle 15. This package consists of the standard attachment for SLMCPR expected by the NRC and our proprietary information Affidavit. You may prepare a non-proprietary version of the attachment by removing the data enclosed in double brackets. An electronic copy of this attachment was sent to Mr. G. Rorke separately.

Please note that this information is GNF Proprietary.

If you have any questions, please call Robin Nourse at (910)-675-6039.

Very truly yours,

Ala F. Alzaben
Fuel Project Manager
(910) 675-6232

Enclosure

NEW YORK POWER AUTHORITY		
DOCUMENT REVIEW STATUS		
STATUS NO:		
1	☒	ACCEPTED
2	☐	ACCEPTED AS NOTED RESUBMITTAL NOT REQUIRED
3	☐	ACCEPTED AS NOTED RESUBMITTAL REQUIRED
4	☐	NOT ACCEPTED
Permission to proceed does not constitute acceptance or approval of design details, calculations, analysis, test methods or materials developed or selected by the supplier and does not relieve supplier from full compliance with contractual negotiations.		
REVIEWED BY: [illegible] TITLE: Supervisor Engr		
DATE: 7/17/00		

References

[1] Letter, Frank Akstulewicz (NRC) to Glen A. Watford (GE), "Acceptance for Referencing of Licensing Topical Reports NEDC-32601P, *Methodology and Uncertainties for Safety Limit MCPR Evaluations*; NEDC-32694P, *Power Distribution Uncertainties for Safety Limit MCPR Evaluation*; and Amendment 25 to NEDE-24011-P-A on Cycle Specific Safety Limit MCPR," (TAC Nos. M97490, M99069 and M97491), March 11, 1999.

[2] Letter, Thomas H. Essig (NRC) to Glen A. Watford (GE), "Acceptance for Referencing of Licensing Topical Report NEDC-32505P, Revision 1, *R-Factor Calculation Method for GE11, GE12 and GE13 Fuel*," (TAC No. M99070 and M95081), January 11, 1999.

[3] *General Electric BWR Thermal Analysis Basis (GETAB): Data, Correlation and Design Application*, NEDO-10958-A, January 1977.

Comparison of FITZPATRICK CYCLE 15 and 14 SLMCPR Values

Table 1 summarizes the relevant input parameters and results of the SLMCPR determination for the FitzPatrick Cycle 15 and 14 cores. The SLMCPR evaluations were performed using NRC approved methods and uncertainties[1]. These evaluations yield different calculated SLMCPR values because different inputs were used. The quantities that have been shown to have some impact on the determination of the safety limit MCPR (SLMCPR) are provided.

In comparing the FitzPatrick Cycle 15 and Cycle 14 SLMCPR values it is important to note the impact of the differences in the core and bundle designs. These differences are summarized in Table 1.

[[]].

[[]].

The uncontrolled bundle pin-by-pin power distributions were compared between the FitzPatrick Cycle 15 bundles and the Cycle 14 bundles. Pin-by-pin power distributions are characterized in terms of R-factors using the NRC approved methodology[2]. [[]]

Summary

[[]] have been used to compare quantities that impact the calculated SLMCPR value. Based on these comparisons, the conclusion is reached that the FitzPatrick Cycle 14 core/cycle has a flatter core MCPR distribution [[]] and flatter in-bundle power distributions [[]] than what was used to perform the Cycle 15 SLMCPR evaluation.

The calculated 1.06 SLMCPR for FitzPatrick Cycle 15 is consistent with what one would expect [[]] the 1.06 SLMCPR value is appropriate.

Based on all of the facts, observations and arguments presented above, it is concluded that the calculated SLMCPR value of 1.06 for the FitzPatrick Cycle 15 core is appropriate. It is reasonable that this value is smaller than the 1.09 value calculated for the previous cycle.

For single loop operations (SLO) the calculated safety limit MCPR for the limiting case is 1.07 [[]]

Additional Information Regarding the Cycle Specific SLMCPR for FitzPatrick Cycle 15 Non-Proprietary Version

Table 1

Comparison of the FitzPatrick Cycle 15 and Cycle 14 SLMCPR

[[]]

Prepared by:

D. P. Stier

Nuclear & Safety Analysis

Verified by:

D. D. Miller

Nuclear & Safety Analysis