

October 2, 2000

Mr. James Knubel
Chief Nuclear Officer
Power Authority of the State of
New York
123 Main Street
White Plains, NY 10601

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - RELIEF REQUEST TO ALLOW THE USE OF AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE (ASME CODE) CASE N-546 (RELIEF REQUEST NUMBER 21) AT THE FITZPATRICK NUCLEAR POWER PLANT DURING THE THIRD 10-YEAR INSERVICE INSPECTION INTERVAL (TAC NO. MA8617)

Dear Mr. Knubel:

By letter dated March 27, 2000, as supplemented by September 12, 2000, you submitted Relief Request No. 21 from certain ASME Code Section XI nondestructive examination requirements for the James A. FitzPatrick Nuclear Power Plant (FitzPatrick).

Relief Request 21, requests permission to use an alternative to the ASME Code, Section XI, 1989 Edition, pursuant to the provisions of 10 CFR 50.55a(a)(3)(i). Specifically, you requested to utilize Code Case N-546, "Alternative Requirements for Qualification of VT-2 Examination Personnel" as an alternative to the requirements of ASME IWA-2300 for VT-2 visual examination personnel. The staff has reviewed the proposed alternative and determined that the requirements of Code Case N-546, as supplemented by the licensee's alternative, would provide an acceptable level of quality and safety as compared to that of the 1989 Edition of the ASME Code, Section XI, Subsections IWA-2300.

Therefore, pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative contained in Relief Request 21 is authorized for the third 10-year inservice inspection interval at FitzPatrick until such time as the Code Case N-546 is approved by reference in 10 CFR 50.55a. At that time, if you intend to continue to implement this Code Case, you must follow all provisions in Code Case N-546 with the limitations, if any, issued in 10 CFR 50.55a. The staff's evaluations and conclusions are contained in the enclosed safety evaluation.

Sincerely,

/RA/

Marsha Gamberoni, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosure: Safety Evaluation

cc w/encl: As stated

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Power Authority of the State of
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NAME	RSchaaf for GVissing	SLittle	MGamberoni	ESullivan	RHoefling
DATE	9/21/00	9/21/00	10/2/00	9/21/00	9/26/00

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James A. FitzPatrick Nuclear Power Plant

Mr. Gerald C. Goldstein
Assistant General Counsel
Power Authority of the State
of New York
1633 Broadway
New York, NY 10019

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

Mr. Harry P. Salmon, Jr.
Vice President - Engineering
Power Authority of the State
of New York
123 Main Street
White Plains, NY 10601

Ms. Charlene D. Faison
Director Nuclear Licensing
Power Authority of the State
of New York
123 Main Street
White Plains, NY 10601

Supervisor
Town of Scriba
Route 8, Box 382
Oswego, NY 13126

Mr. Eugene W. Zeltmann
President and Chief Operating
Officer
Power Authority of the State
of New York
30 South Pearl Street
Albany, NY 12207-3425

Charles Donaldson, Esquire
Assistant Attorney General
New York Department of Law
120 Broadway
New York, NY 10271

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

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

Mr. Richard L. Patch, Director
Quality Assurance
Power Authority of the State
of New York
123 Main Street
White Plains, NY 10601

Mr. Gerard Goering
28112 Bayview Drive
Red Wing, MN 55066

Mr. James Gagliardo
Safety Review Committee
708 Castlewood Avenue
Arlington, TX 76012

Mr. Arthur Zaremba, Licensing Manager
James A. FitzPatrick Nuclear
Power Plant
P.O. Box 41
Lycoming, NY 13093

Mr. Paul Eddy
New York State Dept. of
Public Service
3 Empire State Plaza, 10th Floor
Albany, NY 12223

Michael J. Colomb
Site Executive Officer
James A. FitzPatrick Nuclear Power Plant
P.O. Box 41
Lycoming, NY 13093

Oswego County Administrator Jack Tierney
46 East Bridge Street
Oswego, New York 13126

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

FOR RELIEF REQUEST 21

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

THE POWER AUTHORITY OF THE STATE OF NEW YORK

DOCKET NUMBER 50-333

1.0 INTRODUCTION

By letter dated March 27, 2000, as supplemented September 12, 2000, the Power Authority of the State of New York (the Authority or the licensee) submitted requests for relief (Relief Request No. 21) from certain American Society of Mechanical Engineers Boiler and Pressure Vessel (ASME) Code Section XI nondestructive examination requirements for the James A. FitzPatrick Nuclear Power Plant (JAF or FitzPatrick). Specifically, the relief is requested to allow the use of ASME Code Case N-546 instead of the qualification and certification requirements for VT-2 visual examination personnel found in the 1989 Edition of the ASME Code, Section XI, Subsection IWA-2300.

2.0 BACKGROUND

Inservice inspection of the ASME Code Class 1, 2, and 3 components shall be performed in accordance with Section XI of the ASME Code and applicable addenda as required by 10 CFR 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50.55a(6)(g)(i). 10 CFR 50.55a(a)(3) states that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if (i) the proposed alternatives would provide an acceptable level of quality and safety or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. The regulations require that inservice examination of components and system pressure tests conducted during the first 10-year interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) twelve months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein. The Code of Record for the third inservice inspection (ISI) interval at FitzPatrick is the 1989 Edition of Section XI of the ASME Code.

Enclosure

3.0 LICENSEE'S RELIEF REQUEST NUMBER 21

The components for which relief is requested:

Code Class 1, 2, and 3 components subject to VT-2 visual examinations

Applicable Code requirement from which relief is requested (as stated by the licensee):

ASME Section XI, 1989 Edition, Subsection IWA-2300 requirements for the qualification and certification of VT-2 visual examination personnel.

Licensee's Proposed Alternative Examination:

The Authority proposes the following alternative qualification requirements for VT-2 visual examination personnel:

- (a) At least 40 hours of plant walk down experience, such as that gained by licensed and non-licensed operators, local leak rate personnel, system engineers and inspection and nondestructive examination personnel;
- (b) At least four hours of training on Section XI requirements and plant specific procedures for VT-2 visual examination, which shall be conducted every 3 years:
and
- (c) Vision test requirements of IWA-2321, 1989 Edition, which is the Code of Record for the JAF ISI Program.
- (d) Qualify VT-2 examination personnel by examination to demonstrate knowledge of Section XI and plant specific procedures for VT-2 visual examination.
- (e) Re-qualify examination personnel in accordance with the frequency in IWA-2314 of the ASME Code, Section XI, up to and including the 1005 Edition, 1996 Addenda.

Note: Documentation of the walk down experience is a one time effort and will be maintained in the personnel qualification records.

Licensee's Basis For Relief:

ASME Section XI, 1989 Edition, Subsection IWA-2300 requires that VT-2 visual examination personnel be qualified to and certified in accordance with ASNT SNT-TC-1A. The Code also requires that the examination personnel be qualified for near and far distance vision acuity. This relief request proposes to use ASME Code Case N-546 which contains alternate requirements for the certification and qualification of VT-2 visual examination personnel. The Authority believes that this alternative is acceptable pursuant to 10 CFR 50.55a(a)(3)(i) as it will provide and acceptable level of quality and safety.

As stated in Code Case N-546, plant personnel (e.g., licensed and non-licensed operators, system engineers, and testing technicians) with the specified training and plant walkdown experience need not be qualified nor certified to ASNT SNT-TC-1A or ASNT CP-189 requirements. Experience in identifying equipment problems and knowledge of operating conditions will enhance the ability of plant personnel to locate leakage during VT-2 examinations. With the specified four hours of training on Section XI requirements and plant specific procedures for VT-2 examinations, the designated plant personnel will understand how leaks should be identified and documented and be fully capable of performing VT-2 examinations. This 4 hours of training will be conducted every 3 years to maintain personnel qualification.

Qualifying personnel for VT-2 examinations under Code Case N-546 is less burdensome than qualifying and maintaining the present VT-2 certification. Adopting this Code Case makes it feasible to train more people to perform these tasks. Furthermore, using personnel who are already required to perform functions in the plant will reduce the number of people required to enter into those areas that have radiological restrictions, resulting in fewer plant workers being exposed to potential radiation dose and keeping radiation exposure as low as reasonably achievable.

Additionally, use of on-shift personnel will improve the process of returning systems to service. Prompt return of safety systems to service will improve the safety of the plant and the public.

Staff Evaluation

The Code requires that VT-2 visual examination personnel be qualified to comparable levels of competency as defined in ANSI N45.2.6. The Code also requires that the examination personnel be qualified for near and far distance vision acuity.

The NRC staff considers the qualification requirements in Code Case N-546 to be comparable to those of the ASME Code, Section XI, paragraph IWA-2300, for VT-2 visual examination personnel. With regard to the selection of personnel to conduct the test, the Code Case states that licensed and non-licensed operators, local leak rate personnel, system engineers, and inspection and nondestructive examination personnel are eligible due to their plant experience. Those personnel typically have a sound working knowledge of plant components and piping layouts, making them acceptable candidates for performing VT-2 visual examinations. Furthermore, the licensee follows plant-specific procedures to obtain consistent VT-2 visual examination results. The Code Case also requires a vision test for examination personnel similar to that of the Code. The NRC also finds it necessary for the VT-2 visual examination personnel to demonstrate knowledge of Section XI and plant-specific procedures for VT-2 visual examinations and to demonstrate continued proficiency through periodic re-qualification in accordance with the frequency specified in IWA-2314 of the ASME Code (every 3 years). In its September 12, 2000, supplement, the licensee included both of these provisions in its proposed alternative. Therefore, the staff finds the licensee's proposed alternative provides an acceptable level of quality and safety.

4.0 CONCLUSION

On the basis of its review of Code Case N-546, and the additional provisions included in the licensee's proposed alternative, the NRC staff has concluded that the alternatives to the Code qualification requirements for examination personnel will provide an acceptable level of quality and safety in that it will provide adequate leakage detection. Therefore, the licensee's proposed alternative is authorized pursuant to 10 CFR 50.55a(a)(3)(i), until such time as the Code Case N-546 is approved by reference in 10 CFR 50.55a. At that time, if the licensee intends to continue to implement this Code Case, the licensee must follow all provisions in Code Case N-546 with the limitations, if any, issued in 10 CFR 50.55a.

Principal Contributor: A. Keim

Date: October 2, 2000