

October 12, 2000

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

SUBJECT: REQUESTS FOR RELIEF NOS. RR-22, RR-23, RR-24, AND RR-25 FROM THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE (ASME CODE) REQUIREMENTS FOR THE JAMES A. FITZPATRICK NUCLEAR POWER PLANT (TAC NO. MA9112)

Dear Mr. Knubel:

By letter dated June 1, 2000, as supplemented August 2, 2000, and September 12, 2000, pursuant to 10 CFR 50.55a(g)(5)(iii) and 10 CFR 50.55a(a)(3)(i) you requested Relief Requests RR-22, RR-23, RR-24, and RR-25 from the requirements of Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code). By letter dated August 2, 2000, you withdrew the request for RR-22 and RR-24. Relief Request RR-21, which was discussed in the September 12, 2000, supplement, was authorized by letter dated October 2, 2000. By letter dated September 12, 2000, you resubmitted RR-23 and RR-25 to reflect guidance provided in the Electric Power Research Institute's "Guideline for the Implementation of Appendix VIII and 10 CFR 50.55a," dated July 11, 2000.

10 CFR 50.55a(g)(6)(ii)(C) imposes implementation of Appendix VIII to the 1995 Edition with 1996 Addenda of Section XI of the Code. For RR-23, you have requested to continue initial certification and re-certification of ultrasonic testing personnel in accordance with the requirements contained in the 1989 Edition of ASME, Section XI. The staff has concluded that the proposed alternative RR-23 will provide an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative RR-23 is authorized until June 30, 2001.

The 1995 Edition and 1996 Addenda of ASME Section XI Subsubarticle VII-4240 requires a minimum of 10 hours of annual training. You have stated that you believe 8 hours of hands-on training with flawed specimens completed no earlier than 6 months prior to performing ultrasonic examinations is an acceptable alternative and, thus, you have requested relief. For RR-25, the staff has concluded that the proposed alternative annual training requirements of

J. Knubel

- 2 -

ultrasonic testing personnel will provide an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative RR-25 is authorized during the third 10-year interval.

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

J. Knubel

- 2 -

October 12, 2000

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The staff's evaluations and conclusions are contained in the enclosed safety evaluation.

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Marsha Gamberoni, Chief, Section 1
Project Directorate I
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Enclosure: Safety Evaluation

cc w/encl: As stated

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN

REQUEST FOR RELIEF NOS. RR-23 AND RR-25

THE POWER AUTHORITY OF THE STATE OF NEW YORK (PASNY)

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

The inservice inspection of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code) Class 1, Class 2, and Class 3 components will 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(g)(6)(i). 10 CFR 50.55a(a)(3) states, in part, that alternatives to the requirements of paragraph (g) may be used, when authorized by the NRC, if the licensee demonstrates that: (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) will 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 initial 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 inservice inspection Code of Record for James A. FitzPatrick Nuclear Power Plant, third 10-year interval is the 1989 Edition of the ASME Code. The components (including supports) may meet the requirements set forth in subsequent editions and addenda of the ASME Code incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein and subject to Commission approval.

By letter dated September 12, 2000, PASNY, the licensee, requested relief from certain ultrasonic testing (UT) requirements pertaining to UT training during the third 10-year inservice inspection interval at James A. FitzPatrick Nuclear Power Plant. Relief Request (RR)-23

Enclosure

proposed using the American Society for Nondestructive Testing (ASNT) SNT-TC-1A, "Personnel Qualification and Certification in Nondestructive Testing," 1984 Edition as the qualification requirements for nondestructive examination of UT personnel until they can implement CP-189 "Standard for Qualification and Certification of Nondestructive Testing Personnel," 1991 Edition, and RR-25, proposed using the annual training requirements specified in 10 CFR 50.55a(b)(2)(xiv) in lieu of the annual training requirements specified in Subsubarticle VII-4240 to Appendix VII of Section XI of the Code.

2.0 RR-23, DELAYED IMPLEMENTATION OF CP-189

This relief request affects all components subject to the UT examination requirements of Appendix VIII to the 1995 Edition with 1996 Addenda of Section XI of the Code.

2.1 Code Requirements for which Relief is Requested

10 CFR 50.55a(g)(6)(ii)(C) imposes implementation of Appendix VIII to the 1995 Edition with 1996 Addenda of Section XI of the Code. The implementation schedule for the supplements to Appendix VIII are May 22, 2000, for Supplements 1, 2, 3, and 8; November 22, 2000, for Supplements 4 and 6; November 22, 2001 for Supplement 11; and November 22, 2002, for Supplement 5, 7, 10, 12, and 13. Appendix VIII references Appendix VII which references Subarticle IWA-2300 of Section XI of the 1995 Edition with 1996 Addenda of the Code. Subsubarticle IWA-2310 requires qualification of nondestructive (NDE) examiners according to CP-189, 1991 Edition as amended by the requirements of Division 1 of the Code.

Subarticle IWA-2300 to Section XI of the 1989 Edition of the Code requires qualification of NDE examiners outside the scope of Appendix VIII be conducted according to ASNT SNT-TC-1A, 1984 Edition and the additional requirements of Division 1, including Appendix I to Section XI of the Code.

2.2 Licensee's Proposed Alternative to Code

The proposed alternative is to continue initial certification and re-certification of UT personnel in accordance with the requirements contained in the 1989 Edition of ASME Section XI, through June 30, 2001. Personnel performing UT examinations shall meet the requirements specified in 10 CFR 50.55a as amended by 64 *FR* 51370 for the qualification of personnel by demonstration. The combination of a written practice based on SNT-TC-1A and a performance-based demonstration for personnel performing UT examination of welds or components will ensure the structural integrity of the system/components.

2.3 Evaluation

The staff performed a detailed comparison of SNT-TC-1A and CP-189. CP-189 contains essentially everything that is in SNT-TC-1A and some additional requirements. CP-189 has a larger definition of terms that are applicable to performance demonstrations than SNT-TC-1A. CP-189 requires written procedures detailing the program for qualifying and certifying UT personnel. CP-189 requires Level III personnel to answer more questions in the method specific examination (question on specifications, equipment, techniques, and procedures) and to pass a performance demonstration.

Except for Level III examiners, the changes from SNT-TC-1A to CP-189 are mostly programmatic and do not affect UT personnel skills. The CP-189 requirement that Level III examiners demonstrate proficiency in UT is addressed by the licensee in the submittal. The licensee committed UT Level III personnel performing Appendix VIII examinations to demonstrate their proficiency with a UT performance demonstration, thereby, satisfying the demonstration criterion in CP-189.

The Code has provided for an orderly transition from SNT-TC-1A to CP-189 with the continued recognition of certifications until re-certification is required. For Level I and II examinations, re-certification is every 3 years, and for Level III examiners, re-certification is every 5 years. The orderly transition by Code does not consider licensee specific difficulties. The licensee is requesting a 10-month delay in implementing CP-189 to accommodate a scheduled refueling outage. The delay would provide the licensee with an opportunity to perform an orderly transition to CP-189 after the refueling outage. The programmatic differences between SNT-TC-1A and CP-189 should not affect the proficiency of UT personnel over the short time that this relief is being requested. Therefore, the staff concludes that the proposed alternative would provide an acceptable level of quality and safety.

2.4 Conclusion

Based on the discussion above, the staff has concluded that the proposed alternative RR-23 will provide an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative RR-23 is authorized until June 30, 2001.

3.0 RR-25 ANNUAL UT RETRAINING

All components subject to UT examination in accordance with the 1995 Edition through 1996 Addenda of Section XI of the Code.

3.1 Code Requirements for which Relief is Requested

Pursuant to 10 CFR 50.55a(a)(3)(i), the licensee is requesting relief from the 1995 Edition with 1996 Addenda, Appendix VII to Section XI of the Code, Subsubarticle VII-4240 for Appendix VIII qualified UT personnel and the 1989 Edition of Appendix VII to Section XI, Subsubarticle VII-4240 for non-Appendix VIII qualified UT personnel. Subsubarticle VII-4240 requires a minimum of 10 hours of annual UT training. The request for relief RR-25 is for the third 10-year inservice inspection interval.

3.2 Licensee's Proposed Alternative to Code

The licensee's proposed alternative is to conduct annual UT training in accordance with 10 CFR 50.55a(b)(2)(xiv) requirements in lieu of Subsubarticle VII-4240 to Appendix VII of Section XI of the 1989 Edition and the 1995 Edition with 1996 Addenda of the Code.

3.4 Evaluation

Subsubarticle VII-4240, Appendix VII of Section XI of the Code requires 10 hours of annual training to impart knowledge of new developments, material failure modes, and any pertinent technical topics as determined by the licensee. No hands-on training or practice is required to be included in the 10 hours of training. This training is required of all UT personnel qualified to

perform examinations of ASME Code Class 1, 2, and 3 systems. Independent of the ASME Code, 10 CFR 50.55a(b)(2)(xiv) imposes the requirement that 8 hours of hands-on training with flawed specimens containing cracks be performed no earlier than 6 months prior to performing examinations at a licensee's facility. The licensee contends that maintaining two separate UT annual training programs provides for confusion, redundancies, and extra paper work.

As part of the staff's rulemaking effort to revise 10 CFR 50.55a(b)(2), the issue of UT annual training requirements was reviewed. The review was included in the statement of consideration to the rule 64 *Federal Register* 51370. In the review, the staff determined that the 10 hours of annual training requirement specified in the ASME Code was inadequate for two reasons. The first reason was that the training does not require practice with flawed specimens. Practice with flaws is necessary to maintain familiarity with signals that can be difficult to interpret. The second reason is related to the length of training and its frequency. Studies have shown that an examiner's capability begins to diminish within 6 months if skills are not maintained. Therefore, examiners must practice on a frequent basis to maintain their capability for proper interpretation of flaws.

Based on resolution of public comments for the above rulemaking, the staff accepted an industry initiative advanced by the Electric Power Research Institute, which proposed 8 hours of hands-on practice with flawed specimens containing cracks. The practice would occur no earlier than 6 months prior to performing examinations at a licensee's facility. The initiative was adopted in 10 CFR 50.55a(b)(2)(xiv) for personnel maintaining their Appendix VIII qualifications. The staff believes that the proposed alternative to using 10 CFR 50.55a(b)(2)(xiv) in lieu of Subsubarticle VII-4240 will maintain the skill and proficiency of UT personnel at or above the level provided in the Code for annual UT training, thereby, providing an acceptable level of quality and safety.

3.4 Conclusion

Based on the discussion above, the staff has concluded that the proposed alternative annual training requirements of UT personnel will provide an acceptable level of quality and safety. Pursuant to 10 CFR 50.55a(a)(3)(i), the proposed alternative RR-25 is authorized during the third 10-year interval.

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Date: October 12, 2000

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