



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO REQUESTED RELIEF FROM INSERVICE INSPECTION REQUIREMENTS

DUQUESNE LIGHT COMPANY

OHIO EDISON COMPANY

PENNSYLVANIA POWER COMPANY

BEAVER VALLEY POWER STATION, UNIT 1

DOCKET NO. 50-334

1.0 INTRODUCTION

The Beaver Valley Station, Unit 1, Inservice Inspection (ISI) of ASME Code Class 1, 2 and 3 components shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda, as required by 10 CFR 50.55a(g). However 10 CFR 50.55(g)(6)(i) authorizes the Commission to grant relief from ASME Code requirements upon making the necessary findings.

By letter of November 10, 1987, Duquesne Light Company (the licensee) requested for three items relief from the requirements of Section XI of the ASME Boiler and Pressure Vessel Code 1974 Edition with Addenda through Summer 1975 which the licensee considers to be impractical. One of the items regarding the steam generator nozzle examinations was subsequently withdrawn by the licensee. One of the items involving the non-regenerative heat exchanger CH-E-2 is being handled separately. This safety evaluation is for the pressurizer surge line nozzle radius. The licensee's proposal and staff evaluation are presented below.

2.0 PROPOSED CHANGES

The licensee proposed an alternative examination in lieu of that considered to be impractical in order to provide for the assurance of structural reliability of the associated component. The alternate examination is to visually examine for leakage during the performance of the system leakage examinations.

3.0 REVIEW CRITERIA

10 CFR 50, 50.55a, Codes and Standards
ASME Boiler and Pressure Vessel Code, Section XI
NUREG 0800, Standard Review Plan, 5.2.4.

4.0 EVALUATION

4.1 Relief Request for Nozzle-to-Vessel Radiused Section (RC-TK-1, Radius 6) on the Pressurizer Surge Line

ASME Boiler and Pressure Vessel Code, Article IWB-2000, Table IWB-2600, Item B.2.2, Category B-D, "Nozzle-to-Vessel Welds and Nozzle-to-Vessel Radiused Section" requires that volumetric examinations of each nozzle shall cover 100% of the volume to be inspected as shown in Figure IWB-2500D. The office of Nuclear Reactor Regulation Safety Evaluation supporting Amendment No. 22 to the facility Operating License No. DPR-66 imposes a visual examination of the radiused sections in lieu of the Code-required volumetric examination.

The licensee has requested relief from the visual examination previously imposed by Amendment No. 22. As an alternative examination, the licensee proposes that the subject pressurizer surge line nozzle-to-vessel inside radius section will be visually examined for leakage during the performance of the system leakage examinations.

A thermal sleeve is installed in the nozzle to minimize stresses in the surge line nozzle. A screen at the surge line nozzle and baffles in the lower section of the pressurizer prevent a cold insurge of water from flowing directly to the steam/water interface and assist mixing. The presence of the thermal sleeve and the screen preclude performing a visual examination of this area.

Because of the presence of the thermal sleeve and the diffuser screen the licensee considers the performance of the required examination to be impractical.

We have reviewed the licensee's relief request and the licensee's proposed alternative examination and based on our review, we conclude that the required examination is impractical, that the proposed alternative examination represents the state-of-the-art examination for the area, and will provide adequate assurance of the structural integrity of the subject vessel nozzle. If the relief is not granted, the licensee would have to dismantle and remove components in order to gain access to the nozzle. This would be an unnecessary burden both in terms of manpower expenditure and radiological exposure. The relief alleviates such problems while an alternate, state-of-the-art examination will be performed.

The staff verified that this relief request is consistent with the requirements 10 CFR 50, 50.55a and NUREG-0800 (Standard Review Plan) Chapter 5, Section 5.2.4 for Reactor Coolant Pressure Boundary Inservice Inspection and Testing. The staff grants the relief as requested and imposes the alternative examination as proposed by the licensee.

5.0 Conclusion

Based on the review summarized herein, we conclude that the relief granted and the alternative examination imposed through this document provide reasonable assurance that the acceptable level of quality and safety intended by the ASME Code will be satisfied. Additionally, the staff has concluded that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this relief will not be inimical to the common defense and security or to the health and safety of the public.

Furthermore, we have determined that the inspection requirements are impractical for the item for which relief is being granted and, pursuant to 10 CFR 50.55a(g)(6)(i), that the granting of relief is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest. In making this determination, we have given due consideration to the burden that could result if those requirements are imposed on the licensee's facility.

DATED : September 6, 1988

PRINCIPAL CONTRIBUTOR: R. A. McBrearty