



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

SAFETY EVALUATION OF REQUESTS FOR RELIEF FROM

INSERVICE INSPECTION REQUIREMENTS

NEW YORK POWER AUTHORITY

INDIAN POINT UNIT 3

DOCKET NO. 50-286

INTRODUCTION

By letter dated September 11, 1986, New York Power Authority (the licensee) requested relief from certain inservice examination requirements of the 1974 Edition through Summer 1975 Addenda of Section XI of the ASME Boiler and Pressure Vessel Code at Indian Point Unit 3. This evaluation provides an evaluation of the licensee's requests, supporting information, and alternative examinations or tests, as well as the staff's bases for granting the requests pursuant to 10 CFR 50.55a(g). The relief granted is applicable to the first ten-year inspection interval. The relief requests are evaluated below.

DESCRIPTION AND EVALUATION OF RELIEF REQUESTS

A. Category B-B: Lower Head Disc to Peel Segment
Circumferential Weld
Item Number B1.2- RPV

The areas shall include the circumferential welds in the vessel head and base metal for one plate thickness beyond the edge of weld. The volumetric examinations performed during each inspection interval shall cover at least 5% of the length of each circumferential head weld. In lieu of the volumetric examination required for the first 10-year interval, the licensee proposed to perform visual examination of the areas for evidence of leakage during the system hydrostatic tests.

The examination of this weld as required by IWB-2600 from inside the vessel is restricted by the location of the adjacent incore instrumentation penetrations. Examination surfaces for these areas that may possibly be accessible on the O.D. between the penetrations and conduits are completely covered by riveted insulation. This insulation was designed, constructed and installed as permanent and would require 100% replacement. The removal and replacement of this insulation can only be performed while all fuel is removed from the vessel. This is due to very high radiation levels in the area during the refueling activity, which is not accessible as mandated by ALARA and safety guidelines.

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The dose rates that personnel would be exposed to from working in this location under the Reactor Vessel ranges 30 to 120 mr/hr with some isolated "hot spots" of 300 mr/hr.

Based on the manpower estimates (2000 man hours) for preparation, removal of existing insulation, performing the examination requirements of the Code, installation of the replacement insulation, and restoration of the area back to normal operating conditions, a significant man-rem exposure of 120 man-rem expenditure is anticipated.

The estimated cost to remove the existing insulation, meet the examination requirements of the Code, purchase and install the replacement insulation is approximately \$150,000.00. This estimate does not include dollar estimates for a significant increase in plant down time caused by a delay in scheduling or for radiation exposure.

Based on the preceding factors, the licensee requested relief from performing a volumetric examination during the first ten-year inservice inspection interval.

The areas subject to examination are inaccessible due to the reactor vessel lower head design and permanently installed insulation, thereby making the required volumetric examination impractical to perform. Welds in the vessel shell and upper head are subjected to volumetric examination and an ongoing materials surveillance program is required. To impose the volumetric examination requirement for the inaccessible lower head weld would subject the licensee to an undue hardship without a compensating increase in the overall assurance of the continued structural integrity of the reactor vessel. The staff finds the combination of volumetric examination of other welds in the vessel shell and upper head, the material surveillance program, and the hydrostatic tests of the vessel adequate in assuring its structural integrity. We therefore conclude that relief from the volumetric examination requirement for the lower head weld may be granted as requested.

- B. All Class 2 and Class 3 Components
Categories C-A, C-B, C-C, C-D, C-E-1, C-E-2, C-F, and
C-G and all associated item numbers, including IWD-2000.

The licensee updated the IP3 1st 10-year ISI program based on the 1974 Edition, Summer 1975 Addenda of Section XI of the ASME Boiler Pressure Vessel Code, during the refueling outage commencing in the Spring of 1982. Prior to this, inservice inspections at IP3 were performed in accordance with the 1970 Edition of Section XI.

This mid-interval code update resulted in a significant expansion of the requirements for ISI. The 1970 edition required inspection of only those components which are now considered Class 1, while the newer code expanded the scope of inspection to include Class 2 and Class 3 components. Therefore, while IP3 initial ten-year interval for Class 1 components will be completed during 1987, the actual interval for the Class 2 and Class 3 components will be at its midpoint.

In order to eliminate the inefficiencies inherent in maintaining what are effectively two separate inspection intervals and programs, and potentially requiring separate updates to different code editions, the Authority proposes to combine the Class 1, Class 2 and Class 3 components into one inspection program with a common inspection interval commencing after the 1987 refueling outage. In addition, the following shall be performed in lieu of completion of the existing Class 2 and Class 3 interval.

Completion of 50% of the required inspections of the Class 2 and Class 3 components as determined by the current IP3 ISI program during the 1987 refueling outage. This will result in a minimum of 50% of the inspections performed in two-thirds of a 10-year interval, which meets or exceeds the requirements of IWC-2410 and IWD-2410.

The change in 10 CFR 50.55a which required updating the inservice inspection program to the 1974 Edition through Summer 1975 Addenda of Section XI at the next forty-month period of the ten-year interval after September 1, 1976, did not intend for the licensee to perform all of the required examinations of the interval in the remaining time following the program update. The alternate schedule proposed by the licensee meets the intent of the regulation and the Code. Therefore, the relief requested is not necessary.

CONCLUSION

Based on the review summarized herein, we conclude that the relief granted and alternative examinations 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.

Date:

PRINCIPAL CONTRIBUTOR:

George Johnson