

ENCLOSURE

COMMONWEALTH EDISON COMPANY
BYRON STATION UNIT NUMBER 1
DOCKET NUMBER 50-454

SAFETY EVALUATION REPORT
PRESERVICE INSPECTION RELIEF REQUEST EVALUATION

I. INTRODUCTION

For nuclear power facilities whose construction permit was issued on or after July 1, 1974, 10 CFR 50.55a(g)(3) specifies that components shall meet the preservice examination requirements set forth in Editions of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda applied to the construction of the particular component. The provisions of 10 CFR 50.55a(g)(3) also state that components (including supports) may meet the requirements set forth in subsequent Editions and Addenda of this Code which are incorporated by reference in 10 CFR 50.55a(b) subject to the limitations and modifications listed therein. The Preservice Inspection (PSI) Program is based on compliance with the 1977 Edition of the Code, including Addenda through Summer 1978 except where specific relief is granted.

In NUREG-0876, Supplement No. 5, Sections 5.2.4 and 6.6 and Appendix I, the staff evaluated the licensee's Preservice Inspection Program and written requests for relief from impractical Code requirements. In a letter dated August 31, 1985, the licensee requested relief to defer the preservice inspection of two (2) ASME Code Class 2 piping system welds that were inadvertently missed. The relief request contained supporting technical information.

II. EVALUATION OF RELIEF REQUEST

The licensee has requested written relief from an examination requirement that he has determined to be impractical in accordance with paragraph 10 CFR 50.55a(a)(3)(ii). The staff has evaluated the information in the referenced letter and has determined that the licensee has demonstrated that compliance with the specified requirement, from which relief is requested, would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety, as discussed in the following paragraphs.

III. CODE REQUIREMENT

The subject two (2) welds are identified as the valve-to-pipe welds for valves 1SI8811A and 1SI8811B in the safety injection system. The welds are classified as ASME Code Class 2, Examination Category C-F, Item C 5.21.

The Code requires a preservice volumetric and surface examination of these welds in accordance with Table IWC-2500-1 for piping welds over 1/2 inch nominal wall thickness.

IV. CODE RELIEF REQUEST

Relief is requested from performing the required volumetric and surface examination on the inaccessible welds during the preservice inspection.

As an alternative, the licensee has committed to perform the requirements of the preservice examination during the first refueling outage or the next outage that is anticipated to last at least 10 days, whichever occurs first. The inservice inspection requirements for these welds are not affected by the licensee's proposed alternative.

V. REASON FOR REQUEST

The subject welds were scheduled to be examined as part of the PSI Program. However, examinations were inadvertently performed on the nonpressure-retaining weld between the closure plate of the containment assembly and the pipe.

The required preservice examinations are currently impractical to perform because the pressure retaining welds are covered by the valve containment assemblies. Removal of the obstructions to examination will require plant shutdown and several days activity, based on 24-hour per day, for the removal and replacement of the valve containment assemblies. This involves erecting temporary rigging apparatus to remove the valve containment assemblies and their hangers and supports. Temporary supports must be installed in alternate locations so that the piping does not become overstressed from removal of the hangers and supports which are normally in place. This work is further complicated by the piping being heated from operation of the residual heat removal (RHR) system to maintain the plant in a required cold shutdown condition while the valve containment assemblies are not assembled. The licensee estimates replacement fuel costs to perform the required inspections over a five day period of about \$4,350,000.

Leakage from the valve containment assemblies is continually monitored by a leak detection device measuring water level inside the assemblies. High water level is annunciated in the main control room assuring prompt operator action in the event of an abnormal condition. Leakage from the assemblies is piped to the Auxiliary Building floor drain sump to avoid leakage to the plant environment.

During normal plant operation the subject safety injection lines are not required to operate or perform a safety function but remain flooded under static conditions.

VI. STAFF EVALUATION AND CONCLUSION

The preservice and inservice inspections for ASME Code Class 2 components, including piping, are based on the examination of a designated sample of welds to detect generic service-induced degradation.

The staff has determined that existing design configuration of the valve containment assemblies prevents access to the welds subject to preservice examination. Removal of the obstructions to perform the examinations would require plant shutdown and several days for removal, inspection, and replacement of the valve containment assemblies. The staff has determined that the ASME Section III radiography of the subject welds, performed during construction, provides an acceptable level of preservice structural integrity. The staff also concludes that the continuous monitoring by the leakage detection system will provide a reasonable assurance of the continuing structural integrity of the welds. Therefore, the staff concludes that the licensee's commitment to perform the required preservice examination before or during the first refueling outage represents an acceptable alternative to the Code requirements.

Requiring a plant shutdown to perform a preservice volumetric and surface examination of welds that have just passed an acceptable Section III radiography would result in hardship or unusual difficulties without a compensating increase in the level of quality and safety. The staff therefore concludes that relief to defer the preservice volumetric and surface examination of the subject two welds may be granted as requested by the licensee.