



Northern States Power Company
Prairie Island Nuclear Generating Plant
1717 Wakonade Dr. East
Weich, Minnesota 55089

November 17, 1995

10 CFR Part 50
Section 50.55(a)

U S Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Request for Authorization to Utilize ASME
Boiler & Pressure Vessel Code Case N-524

The purpose of this letter is to request NRC authorization to utilize ASME Boiler and Pressure Vessel Code Case N-524, dated August 9, 1993, "Alternative Examination Requirements for Longitudinal Welds in Class 1 and 2 Piping Section XI, Division 1" (attached), during the Prairie Island Third Ten Year Inservice Inspection Interval for both Units 1 and 2. This request is submitted pursuant to 10 CFR Part 50, Section 50.55a(a)(3) and Section 50.55a, Footnote 6.

The ASME Section XI Code (1989 Edition) requires one pipe diameter in length, but no more than 12 inches, be examined for Class 1 longitudinal piping welds. Class 2 longitudinal piping welds are required to be examined for a length of $2.5t$, where t is the thickness of the weld. These lengths of weld are measured from the intersection of the circumferential weld and longitudinal weld. Code Case N-524 significantly reduces the required examination volume or surface area. It does this by limiting the examination of the longitudinal weld to the volume or area contained within the examination requirements of the intersecting circumferential weld. This limitation can significantly reduce the time and radiation exposure associated with these examinations.

Code Case N-524 directs the examination effort at the high risk areas associated with the weld intersections. It eliminates low risk areas on the longitudinal weld from

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examination, significantly reducing examination time requirements and radiation exposure to examination personnel. We believe that the use of this Code Case would provide an acceptable level of quality and safety for the following reasons:

Longitudinal welds are not produced in the field or fabrication shops as is the case of a circumferential weld. Longitudinal piping welds for Class 1 and 2 applications were made by the piping manufacturer under controlled conditions which produced higher quality welds and more uniform residual stress patterns. These welds were examined in accordance with the appropriate ASTM or ASME specifications with additional nondestructive examination requirements imposed by the purchasing specifications. The manufacturing controls specified by the appropriate ASTM or ASME specifications along with the additional examinations imposed by the purchasing specification provides assurance of the structural integrity of the longitudinal weld at the time the piping is manufactured.

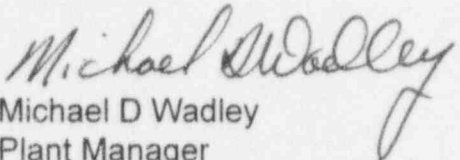
In-service inspections have provided assurance of the structural integrity of the longitudinal welds during the service life of the plant to date. Based on results of these in-service inspections, the Prairie Island plant has not experienced degradation that would warrant continued examination beyond the intersection area or volume bounded by this Code Case. If any degradation associated with a longitudinal weld were to occur, it is expected that it would be located at the intersection with a circumferential weld. The inspection of this intersection is within the scope of this Code Case.

From our review of the matter, we have concluded that compliance with the existing ASME Section XI requirements, results in unnecessary personnel radiation exposure to complete the required examinations without a compensating increase in the level of quality or safety. The personnel radiation exposure associated with the examination of longitudinal welds is dependent on the time it would take to remove and reinstall insulation and interferences, prepare the weld for examination, and perform the examinations. The Code Case provides for a more effective use of examination resources.

Code Case N-524 was approved by the ASME Code on August 9, 1993. However, because it was only recently approved by ASME, the Code Case has not yet been endorsed in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME Section XI Division 1". Until the Code Case is generically endorsed by the Regulatory Guide, specific NRC authorization is required before it can be used. Therefore, by this letter, we request that authorization.

In this letter we have made no new Nuclear Regulatory Commission commitments.

Please contact Jack Leveille (612-388-1121, Ext. 4662) if you have any questions related to this letter.


Michael D Wadley
Plant Manager
Prairie Island Nuclear Generating Plant

c: Regional Administrator - Region III, NRC
Senior Resident Inspector, NRC
NRR Project Manager, NRC
J E Silberg

Attachment: ASME Boiler and Pressure Vessel Code Case N-524

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: August 9, 1993

See Numerical Index for expiration
and any reaffirmation dates.

Case N-524

Alternative Examination Requirements for
Longitudinal Welds in Class 1 and 2 Piping
Section XI, Division 1

Inquiry: What alternative requirements may be applied to the surface and volumetric examination of longitudinal piping welds specified in Table IWB-2500-1, Examination Category B-J, Table IWC-2500-1, Examination Categories C-F-1 and C-F-2 (Examination Category C-F prior to Winter 1983 Addenda), and Table IWC-2520, Examination Category C-G (1974 Edition, Summer 1975 Addenda)?

Reply: It is the opinion of the Committee that the following shall apply:

(a) When only a surface examination is required, examination of longitudinal piping welds is not required beyond those portions of the welds within the examination boundaries of intersecting circumferential welds.

(b) When both surface and volumetric examinations are required, examination of longitudinal piping welds is not required beyond those portions of the welds within the examination boundaries of intersecting circumferential welds provided the following requirements are met.

(1) Where longitudinal welds are specified and locations are known, examination requirements shall be met for both transverse and parallel flaws at the intersection of the welds and for that length of longitudinal weld within the circumferential weld examination volume;

(2) Where longitudinal welds are specified but locations are unknown, or the existence of longitudinal welds is uncertain, the examination requirements shall be met for both transverse and parallel flaws within the entire examination volume of intersecting circumferential welds.