



**Wisconsin
Electric**
POWER COMPANY

Point Beach Nuclear Plant
6610 Nuclear Rd., Two Rivers, WI 54241

(414) 755-2321

PBL 95-0017

January 11, 1995

Document Control Desk
U. S. NUCLEAR REGULATORY COMMISSION
Main Station P1-137
Washington, DC 20555

Gentlemen:

DOCKET 50-301
ASME SECTION XI RELIEF REQUEST RR-2-19
POINT BEACH NUCLEAR PLANT UNIT 2

In accordance with 10 CFR 50.55a(g) (5) (iv), Wisconsin Electric Power Company requests relief from Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, "Rules for Inservice Examination of Nuclear Power Plant Components," 1986 edition, no addenda. The requirements for which relief is requested apply to the third inservice inspection interval for Point Beach Nuclear Plant, Unit 2. The third interval began in December 1992 for Unit 2.

The attached relief request, RR-2-19, provides the information needed for the NRC to complete a review and approval as required.

Sincerely,

Greg Maxfield
Plant Manager

srn

Attachment

cc: NRC Regional Administrator
NRC Resident Inspector

bcc: R. E. Link	T. G. Malanowski
S. A. Patulski	G. M. Krieser
R. A. Newton	M. F. Baumann
J. B. Brander	T. G. Staskal
File	C. T. Prothero

Reference(s): 10 CFR 50.55a(g) (5) (iv)
Section XI of the American Society of Mechanical Engineers
(ASME) Boiler and Pressure Vessel Code
Relief Request RR-2-19

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ASME SECTION XI RELIEF REQUEST RR-2-19
POINT BEACH NUCLEAR PLANT, UNIT 2

COMPONENT

RPV-02-686-A-IRS	OUTLET NOZZLE AT 28.5 DEG.
RPV-02-686-B-IRS	INLET NOZZLE AT 148.5 DEG.
RPV-02-686-C-IRS	OUTLET NOZZLE AT 208.5 DEG.
RPV-02-686-D-IRS	INLET NOZZLE AT 328.5 DEG.
RPV-687-01-A-IRS	SI NOZZLE AT 288.5 DEG.
RPV-687-01-B-IRS	SI NOZZLE AT 108.5 DEG.
PZR-RELNOZ-IRS	INSIDE RADIUS SECTION
PZR-SAFNOZ-1-IRS	INSIDE RADIUS SECTION
PZR-SAFNOZ-2-IRS	INSIDE RADIUS SECTION
PZR-SPRAYNOZ-IRS	INSIDE RADIUS SECTION
PZR-SURGENOZ-IRS	INSIDE RADIUS SECTION
SG-A-INLET NOZZLE-IRS	INSIDE RADIUS SECTION
SG-A-OUTLET NOZZLE-IRS	INSIDE RADIUS SECTION
SG-A-INLET NOZZLE-IRS	INSIDE RADIUS SECTION
SG-A-OUTLET NOZZLE-IRS	INSIDE RADIUS SECTION

EXAM AREA

Figure IWB-2500-7

ISOMETRICS

ISI-PRI-2101 ISI-PRI-2104 ISI-PRI-2105 ISI-PRI-2106

ASME SECTION XI CATEGORY

B-D

ASME SECTION XI ITEM NUMBER

B3.100 B3.120 B3.140

ASME SECTION XI REQUIREMENT

TABLE IWB-2500-1

Examination Method: Volumetric

Extent and Frequency: All nozzles each interval

Note 2: At least 25% but not more than 50% (credited) of the nozzles shall be examined by the end of the first inspection period, and the remainder by the end of the inspection interval.

ALTERNATE REQUIREMENT

PBNP proposes that the allocation requirement of Note 2 be waived and that all nozzles be inspected by the end of the interval.

REASON FOR PROPOSED ALTERNATE REQUIREMENT

The most effective and efficient manner to perform the inner radius examination would be to utilize automated examination techniques and examine all nozzles at or near the same time in the interval.

For the PBNP pressurizer safety nozzles, 3-D modelling has been performed on the inner radius examination area. This modelling has determined that manual examination would require 56 different scans utilizing several different transducers. The area in which the examiner would be required to be in, while performing the examinations, are high radiation areas. Dose rates range from .1 to 2.0 Manrem/hour, scan time would range from 20 to 30 hours per component utilizing one examiner. Conservatively, 2 Manrem would be expended per manual examination of a nozzle inner radius section assuming the lowest dose rate, least amount of time and one examiner.

Automated examination, utilizing the Phased Array technique, would result in 0.100 Manrem using the same dose rates. This is a dose reduction factor of 20 times. In addition, automated inspection techniques generally result in a more accurate inspection technique. Therefore, the automated Phased array technique is the preferred.

The estimated cost associated with performing automated Phased Array examination on four nozzles in one outage are as follows:

Mobilization	\$50,000				\$50,000
Equipment rental	\$3,000/day	X	8 days	=	\$24,000
Manpower	\$4,000/day	X	8 days	=	<u>\$32,000</u>
TOTAL					\$106,000

Depending on plant conditions and outage scope, an automated examination would have to be deployed during multiple outages, at the cost above, in order to meet the scheduling requirements of Table IWB-2500-1. Availability of equipment and contractors may make it impracticable to perform this examination using the automated techniques. In addition, multiple deployments of the equipment can make this examination technique not cost effective.

By waiving the requirements of Note 2 the nozzle inner radius examination can be performed using optimal scheduling techniques. This in turn will result in minimum radiation dose received (reduction estimated at a factor of 20), utilization of the most accurate examination technique and an overall cost reduction.

There is no history of any of the subject inner radius sections containing any indications, both fabrication and inservice related. This relief request does not reduce the number or change the method of examinations required by ASME Section XI. All nozzle Inner Radius Section's required to be inspected during the interval will be examined.