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SUBJECT: Inservice insp summary rept for period of 920306-0418,
constituting first insp year of 3rd period of 2nd interval.
Code class 1, 2 & 3 visually examined & several indications
reported.

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WISCONSIN PUBLIC SERVICE CORPORATION

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July 17, 1992

10 CFR 50.55a

U. S. Nuclear Regulatory Commission
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Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
1992 Inservice Inspection (ISI) Summary Report

As required by Federal Regulation 10 CFR 50.55a and Wisconsin Administrative Code, Chapter ILHR 42, various ISI examinations were performed during the past refueling outage (March 6, 1992 to April 18, 1992). This refueling outage constituted the first inspection year of the 3rd period of the 2nd interval. The requirements for this inspection year are contained in the 1980 Edition through Winter 1981 Addenda of Section XI and US NRC Bulletin 88-08, Supplement 3, except that the examination method specified in Table IWF-2500-1 and corresponding definition of VT-3 examination are taken from the 1986 Edition of Section XI. These requirements were implemented in accordance with the "Kewaunee Nuclear Power Plant ISI Plan and Schedule - Second Ten Year Interval (1984-1994)", plant technical specifications, and nondestructive examination (NDE) procedures.

This past year, various code class 1, 2, and 3 component supports were visually examined including reactor coolant pump bolting, reactor vessel closure head studs, pressurizer vessel welds, and code class 2 pressure vessel welds. Code class 1 and 2 piping were examined by volumetric and/or surface methods; and code class 1 and 2 valve bolting were visually examined. Other components were visually inspected during the code class 1 system pressure test.

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In addition to the aforementioned components requiring inspection, the following inspections were performed which exceed the code requirements. Prior to the refueling outage, portions of the service water system were radiographed for detection of pits, sand and/or zebra mussel intrusion and corrosion; the reactor coolant pump flywheel was volumetrically examined; the reactor pressure vessel upper internals were visually examined; code class 1 and 2 valve bonnet-to-body bolting were visually examined for evidence for boric acid corrosion; pipe welds adjacent to the steam generator feedwater nozzles were radiographed for detection of cracks; and auxiliary pressurizer spray piping near valve CVC-16 was volumetrically examined for detection of fatigue cracks to meet the requirements of US NRC Bulletin 88-08. Also, small bore snubber testing and eddy current testing of steam generator tubes were performed in accordance with plant technical specifications.

The Code required inspections resulted in the following indications being reported on the bases of ISI procedure recording criteria, which is generally more restrictive than Section XI acceptance criteria:

1. Four (4) Recordable Indications were noted by Surface Examinations on code class 1 and 2 piping and/or integrally welded attachments;
2. Two (2) Recordable Indications were noted by ultrasonic examination on the seal water injection filter;
3. Forty seven (47) Recordable Indications were noted by Visual Examination on code class 1, 2, and 3 component supports and code class 2 valves and;
4. Six (6) Recordable Indications were noted by Visual Examination during the code class 1 Leakage Test.

All of these indications have been evaluated and dispositioned (accepted, repaired/replaced, or monitored). Two (2) of them were evaluated by Wisconsin Public Service Corporation as exceeding the Table IWX-2500-1 acceptance criteria of Section XI. The indications that exceeded the acceptance criteria of Section XI were observed on a code class 2 pipe weld and welded attachment. After minor buffing and filing to remove the linear indications, both of these conditions were re-evaluated by Wisconsin Public Service Corporation and found to be acceptable for continued service. In the future, as a precautionary measure, the code class 2 pipe weld, with the indications that exceed the acceptance criteria of Section XI, will be re-examined to ensure integrity.

The 1992 Refueling Outage Steam Generator Tube Eddy Current Inspection resulted in the installation of thirty (30) plugs in Steam Generator A and thirty five (35) plugs in Steam Generator B. Installation of these plugs resulted in a total of two hundred forty two (242) plugs in Steam Generator A and two hundred fifty four (254) plugs in Steam Generator B.

In addition to the plugged tubes, the 1992 Eddy Current Inspection resulted in the installation of eleven (11) corrective sleeves and one (1) preventive sleeve in Steam Generator A, and with two (2) corrective sleeves and two (2) preventive sleeves installed in Steam Generator B. To date, a total of 2188 sleeves have been installed in Steam Generator A, with 2155 sleeves currently in service. A total of 2123 sleeves have been installed in Steam Generator B, with 2094 sleeves currently in service. The difference between the installed sleeves and sleeves left in service reflect the plugging of sleeved tubes for indications located above the installed sleeve. Based on the number of installed plugs and sleeves, the resulting equivalent plugging percentage is 9.9% in Steam Generator A and 10.2% in Steam Generator B. The plugs and sleeves were installed as a result of indications believed to have been caused by outside diameter intergranular attack and outside diameter intergranular stress corrosion cracking.

The Kewaunee Nuclear Power Plant committed to remove all mechanical plugs of Heat NX6323 due to the industry generic problem of primary water stress corrosion cracking of Inconel 600 material. The methodology referenced in US NRC Bulletin 89-01 for estimating lifetime for Steam Generator Tube Plugs from Heat NX6323 required a total of thirty six (36) plugs be removed. Thirteen (13) plugs were removed in Steam Generator A and twenty three (23) plugs were removed in Steam Generator B. All removed plugs were replaced with thermally treated Inconel 690 mechanical or welded plugs. As a result of the plug removal process, nine (9) total tube locations required welded plug installation. Four (4) tube plugs were welded to the Steam Generator B Hot Leg tube ends, three (3) were welded in Steam Generator A Hot Leg open tubesheet holes, and two (2) were welded in Steam Generator B Hot Leg open tubesheet holes.

In accordance with the requirements of Wisconsin Administrative Code, Chapter ILHR 42, welded repairs and alterations are approved/inspected by an authorized inspector and a record (Form SB-190) of each has been provided, as required, to the State of Wisconsin. Following is a summary, as required by ASME Boiler and Pressure Vessel Code Section XI 1980 Edition up to and including Winter 1981 Addenda, of repair and replacements performed during the 1992 refueling outage by grinding, buffing, filing, cutting or welding on the Class 1 and 2 pressure retaining boundary.

Component	Code Class	Reference	Repair/Replacement Method
1. 1" Valve PR-33A	1	XK-100-10	Cutting and Welding Valve Seal Weld
2. 1" Valve RC-46	1	XK-100-10	Cutting and Welding Replacement Valve
3. 3/4" Valve MS-24045-2	2	M203	Cutting and Welding Replacement Valve
4. 10" RHR Weld RHR-W50	2	XK-100-18	Grinding or Buffing
5. 6" SI Piping Base Metal by RSI-H64	2	XK-100-28	Grinding or Filing
6. 6" SI Piping Welded Attachment RSI-H60	2	XK-100-28	Buffing or Filing
7. 2" Valve CVC-10	2	XK-100-35	Cutting and Welding Replacement Valve
8. Steam Generator B Hot Leg Tube Ends	1	Work Request No. 53433	Four (4) plugs welded into tubes.
9. Steam Generator A/B Tube Sheet	1	Work Request No. 53432	Five (5) plugs welded into tubesheet.

Please find attached a copy of the following documentation, as sent to the enforcement authority, which summarizes the results of the Kewaunee Nuclear Power Plant 1992 refueling outage inservice inspection:

1. NIS-1 Form for 1st Outage; 3rd Period; 2nd Interval
2. Summary Report for 1st Outage; 3rd Period; 2nd Interval
3. Summary of Eddy Current of Steam Generator Tubes

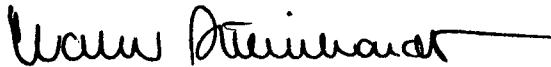
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July 17, 1992

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The complete reports of these examinations are on file and available for review in the QA-QC Records Vault at the Kewaunee Nuclear Power Plant. If you desire a copy of any of these reports, please contact the Plant Manager at 414-388-2560, Ext. 2222 and a copy will be forwarded to you upon request.

Sincerely,

A handwritten signature in black ink, appearing to read "C. R. Steinhardt", with a long horizontal flourish extending to the right.

C. R. Steinhardt
Senior Vice President-Nuclear Power

CAT/jac

cc - US NRC - Region III
Mr. Patrick Castleman, US NRC

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