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STEINHARDT,C.R. Wisconsin Public Service Corp.
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SUBJECT: Forwards results of chemical analysis & discussion of actions util taking to complete PTS evaluation.

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April 18, 1989

10 CFR 50.61

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Pressurized Thermal Shock

References:
1) Letter from D. C. Hintz (WPSC) to G. E. Lear (NRC) dated January 23, 1986

2) Letter from D. C. Hintz (WPSC) to G. E. Lear (NRC) dated July 14, 1986

3) Letter from D. L. Wiggington (NRC) to D. C. Hintz (WPSC) dated July 21, 1987

4) Letter from C. R. Steinhardt (WPSC) to Document Control Desk (NRC) dated February 13, 1989

5) U. S. Nuclear Regulatory Commission Regulatory Guide 1.99 Revision 2 dated May 1988

6) Letter from C. W. Giesler (WPSC) to H. R. Denton (NRC) dated May 23, 1986

By letter dated February 13, 1989 (reference 4), Wisconsin Public Service Corporation (WPSC) provided a summary of our current status in addressing the pressurized thermal shock rule, 10 CFR 50.61. WPSC stated that we would have a chemical analysis performed on the reactor vessel material specimen removed during the 1988 refueling outage at the Kewaunee Nuclear Power Plant (KNPP). This letter provides the results of the chemical analysis and a short discussion of the actions WPSC is currently taking to complete our PTS evaluation prior to May 15, 1989.

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A chemical analysis using the Inductively Coupled Plasma Spectrometry (ICPS) method was performed on four specimens from the KNPP reactor vessel surveillance capsule P. The results of the analysis are presented in Table 1. The method identified in section C-1.1 of Revision 2 to Regulatory Guide 1.99 (reference 5) was used in determining the best estimate values for copper and nickel content of the KNPP critical weld. Twelve chemical analysis measurements are currently available for weldments using weld wire heat number IP 3571 as shown in table 2. From this information, the mean as-deposited chemistry values for copper and nickel content are 0.28 wt. % and 0.74 wt. % respectively, and will be used in WPSC's PTS evaluation.

WPSC's PTS evaluation, to be submitted to the NRC by May 15, 1989, will explain the further flux reduction programs that WPSC has developed for the present and future at KNPP. The future flux reduction program, presently in the development stage, will provide the technical basis for life extension of the reactor vessel beyond 40 years. In addition, the submittal will contain fluence projections congruent with WPSC's flux reduction programs. WPSC fully expects that the KNPP reactor vessel will meet the screening criteria of 10 CFR 50.61 for the expected end of life provided in Proposed Technical Specification Amendment #75 (reference 6). This end of life corresponds to 40 years from the date of issuance of the operating license for KNPP which is December 21, 2013.

Sincerely,

Mark L. Marchi for

C. R. Steinhardt
Manager - Nuclear Power

PMF/jms

cc - Mr. Robert Nelson, US NRC
US NRC, Region III

TABLE 1

Chemical Analysis Measurements from KNPP Surveillance Capsule P

Sample	Cu (wt. %)	Ni (wt. %)
1	0.17	0.72
2	0.18	0.73
3	0.19	0.74
4	0.35	0.74

TABLE 2

Chemical Analysis Measurements from Westinghouse Data Base

For Kewaunee Beltline Region Circumferential Weld

Wire Heat	Wire Type	Flux Type	Flux Lot	Source	Cu (wt. %)	Ni (wt. %)
IP3571	B-4 MOD	LINDE 1092	3958	CE,WQ	0.40	0.82
IP3571	B-4 MOD	LINDE 1092	3958	WPS,SC	0.20	0.77
IP3571	B-4 MOD	LINDE 1092	3958	MY,SC	0.25	0.66
IP3571	B-4 MOD	LINDE 1092	3958	MY,SC	0.25	0.70
IP3571	B-4 MOD	LINDE 1092	3958	MY,SC	0.33	0.71
IP3571	B-4 MOD	LINDE 1092	3958	MY,SC	0.33	0.70
IP3571	B-4 MOD	LINDE 1092	3958	MY,SC	0.36	0.78
IP3571	B-4 MOD	LINDE 1092	3958	CE,WQ	0.37	0.75
IP3571	B-4 MOD	LINDE 1092	3958	WPS,SC	0.17	0.72
IP3571	B-4 MOD	LINDE 1092	3958	WPS,SC	0.18	0.73
IP3571	B-4 MOD	LINDE 1092	3958	WPS,SC	0.19	0.74
IP3571	B-4 MOD	LINDE 1092	3958	WPS,SC	0.35	0.74
Mean					0.28	0.74

Notes: CE,WQ = Combustion Engineering, Weld Qualification

WPS,SC = Kewaunee Surveillance Capsule

MY,SC = Maine Yankee Surveillance Capsule