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January 15, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: B.J. Youngblood, Director
PWR Project Directorate #4

Subject: McGuire Nuclear Station
Docket Nos. 50-369 and 50-370

Dear Mr. Denton:

Pursuant to 10CFR50, §50.61 (b)(1), please find attached the projected valves of RT_{PTS} for McGuire Nuclear Station.

Please feel free to contact us if you require any additional information.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

RLG/jgm

Attachments

xc: Dr. J. Nelson Grace, Reg. Admin.
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. Darl Hood, Project Manager
Division of Licensing
Office of Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. W.T. Orders
NRC Resident Inspector
McGuire Nuclear Station

Add: NRR Sellers, C.
NRR Randall,

AD - J. KNIGHT (ltr only)
EB (BALLARD)
EICSB (ROSA)
PSB (GAMMILL)
RSB (BERLINGER)
FOB (BENAROYA)

A049
1/1

REFERENCE TEMPERATURE DETERMINATION FOR THE MCGUIRE NUCLEAR STATION

In response to the requirements of 10CFR20.61, Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock, the reference temperatures for the McGuire Nuclear Station reactor vessel beltline materials have been calculated for the expected service life of the station.

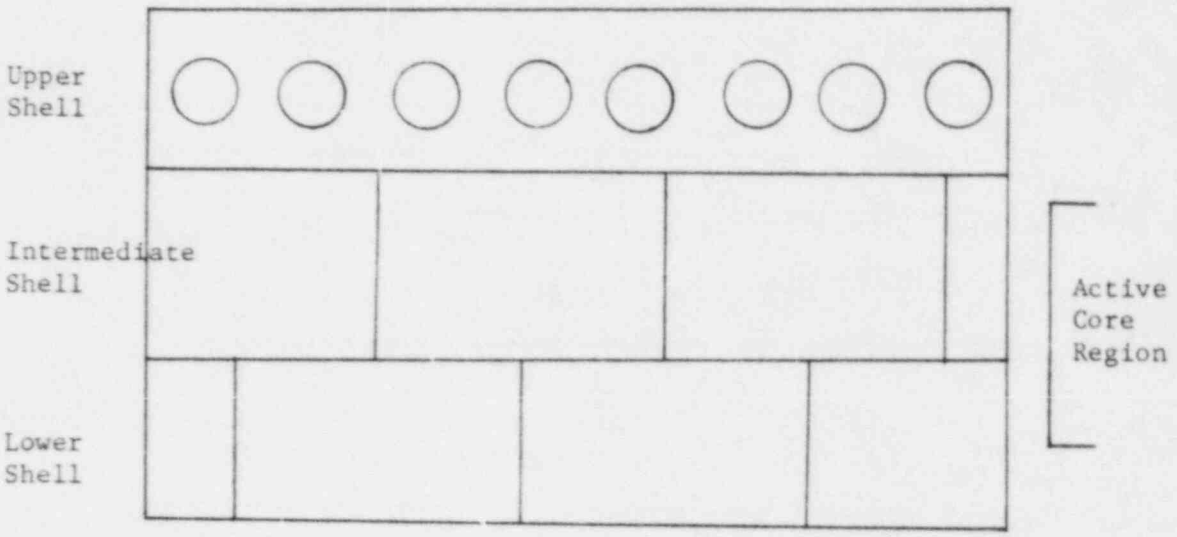
The materials were evaluated based upon the expected maximum fluence at 32 EFPY as determined by the analyses associated with McGuire Unit 1 radiation surveillance program's first capsule withdrawal and examination. This introduces significant conservatism due to the following points:

- Expected spacial variations in fluence upon the vessel results in the use of the maximum vessel fluence overestimating the radiation damage for most of the beltline materials

- Low neutron leakage core loading patterns have been implemented at McGuire (after removal of first capsule) and thus the fluence at 32 EPPY based upon the capsule overestimates the expected fluence at the expiration date of the operating license

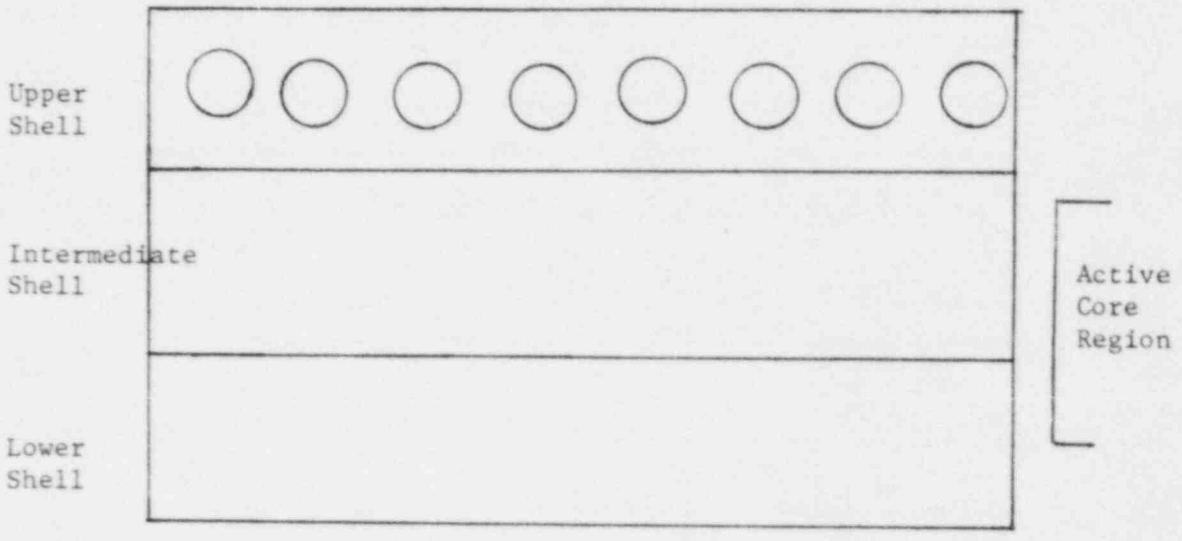
Although the above conservatisms were applied to the calculation of the McGuire values of RT_{PTS}, no material in the beltline region of the vessels is expected to exceed the screening criteria. Upon evaluation of future capsule reports and revised estimates of end-of-life fluence values, the RT_{PTS} values provided on the attached pages shall be updated.

McGuire Unit One



Region (Code #)	I(F)	M(F)	Cu(%)	Ni(%)	F(E-19)	RT_{PTS}(F)
Inter. Shell (B5012-1)	34	48	0.13	0.60	2.90	187
Inter. Shell (B5012-2)	0	48	0.13	0.62	2.90	154
Inter. Shell (B5012-3)	-13	48	0.10	0.66	2.90	116
Lower Shell (B5013-1)	0	48	0.14	0.56	2.90	159
Lower Shell (B5013-2)	30	48	0.10	0.52	2.90	152
Lower Shell (B5013-3)	15	48	0.10	0.55	2.90	138
Inter./Lower Weld (G1.39)	-70	48	0.05	-	2.90	-
Inter. Long. Welds (M1.22)	-50	48	0.21	0.88	2.90	203
Lower Long. Weld (M1.32)	-56	59	0.20	-	2.90	-
Lower Long. Weld (M1.33)	-56	59	0.21	0.68	2.90	188
Lower Long. Weld (M1.34)	-56	59	0.30	0.64	2.90	268

McGuire Unit Two



Region	I(F)	M(F)	Cu(%)	Ni(%)	F(E-19)	RT_{PTS}(F)
Inter. Shell	- 4	48	0.16	0.85	2.90	195
Lower Shell	-30	48	0.15	0.88	2.90	161
Inter./Lower Weld	-68	48	0.05	0.70	2.90	15