



Commonwealth Edison

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December 20, 1985

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

Subject: Zion Nuclear Power Station Units 1 and 2
Reactor Pressure Vessel Upper Shelf
Energy - 10 CFR 50, Appendix G
NRC Docket Nos. 50-295 and 50-304

Reference: May 6, 1980 letter from D. L. Peoples to
H. R. Denton.

Dear Mr. Denton:

Section V.E of 10 CFR 50, Appendix G requires that a licensee notify the Office of Nuclear Reactor Regulation at least three years prior to the date when the reactor vessel beltline materials are predicted to have a charpy upper-shelf energy of less than 50 ft-lbs. The referenced letter provided an estimate of this date based upon preliminary data. The letter also stated that the initial estimate of 1983 appeared to be conservative and that this date would be reviewed when additional surveillance capsule data became available. This letter provides the current status of this issue and based upon a revised estimate of 1994, withdraws the notification made by the reference.

There have been a total of five surveillance capsules withdrawn from the Zion units. This has provided substantially more data than was available in May of 1980. Utilizing this data, it is estimated that an upper-shelf energy of 50 ft-lbs will be reached at a fluence of approximately 5×10^{18} neutrons/cm².

Low leakage loading patterns were implemented in Unit 1, Cycle 7 and Unit 2, Cycle 6. Unit 1, Cycle 9 is currently in operation and Unit 2, Cycle 9 will start operation in January of 1986. These changes have resulted in reduced reactor vessel fluence projections, which has been provided to the NRC Staff in WCAP 10902. The revised projections predict that the Zion reactor pressure vessels will reach a fluence of 5×10^{18} neutrons/cm² at the 1/4 T location after approximately 14 effective full power years (EFPY) of operation.

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As of September, 1985 Unit 1 had 7.11 EFPY of operation and Unit 2 had 7.21 EFPY. Utilizing a conservative overall capacity factor of 0.8 EFPY per calendar year, the earliest date that the upper-shelf energy could fall below 50 ft-lbs would be in 1994.

Based upon the above discussion, Commonwealth Edison Company withdraws the notification made by the reference. This issue will continue to be evaluated as additional surveillance capsule data becomes available. If that evaluation confirms the validity of the 1994 estimate, then the required notification per Appendix G will be made in accordance with the three-year lead time.

If any further questions arise concerning this matter, please contact this office.

Very truly yours,



Peter C. LeBlond
Nuclear Licensing Administrator

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cc: Resident Inspector - Zion
J. A. Norris - NRR

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