Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

March 5, 1990

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: LaSalle County Station Units 1 and 2
Supplemental Response to Generic Letter 89-21
(Request for Information concerning status of implementation of Unresolved Safety Issue (USI) requirements)
NRC Dockets Nos. 50-373 and 50-374

Reference (a) W.E. Morgan letter to T.E. Murley dated October 20, 1989 (LaSalle County Station response to GL 89-21).

(b) W.E. Morgan letter to T.E. Murley dated November 29, 1989 (LaSalle County Station supplement request for amendment to revise Pressure-Temperature curves)

Dear Dr. Murley:

Reference (a) submitted Commonwealth Edison's LaSalle County Station response to Generic Letter 89-21 (Status of Unresolved Safety Issue Requirements). Contained in that submittal LaSalle Station indicated that Unresolved Safety Issue A-11 "Reactor Vessel Material Toughness" was currently under evaluation for applicability.

The following attachment provides the LaSalle County Station evaluation of Unresolved Safety Issue A-11. Note: Reference 2 of the attachment was transmitted in the above Reference (b).

Please direct any questions you may have regarding this matter to this office.

Very truly yours,

Wayne E Morgan

W. E. Morgan
Nuclear Licensing Administrator

cc: NRC Resident Inspector - LSCS

0741T

A012
1/1

ATTACHMENT

GE Nuclear Energy

February 26, 1990

Mr. R. L. Scott
Commonwealth Edison Company
1400 Opus Place, Suite 400
Downer's Grove, IL 60515

cc: A. DeVita, GE
G. Gerzen, CECo
S. Ranganath, GE
R. Tamminga, CECo

Subject: **UPPER SHELF ENERGY ASSESSMENT FOR LASALLE UNITS 1 AND 2**

References:

1. Response to NRC Question 121.15, LaSalle 1 and 2 Final Safety Analysis Report, Amendment 56, May 1981.

2. Caine, T.A., "LaSalle Units 1 and 2 Fracture Toughness Analysis per 10CFR50 Appendix G," GE Report SASR 88-10, DRF 137-0010, March 1988.

Dear Bob,

As requested, below is an assessment of the upper shelf energy (USE) predictions for LaSalle Units 1 and 2. The assessments have been made at 32 effective full power years (EFPY) for normal operation and at 48 EFPY for life extension purposes.

METHODS

The methods of predicting 32 and 48 EFPY USE values follow Regulatory Guide 1.99, Revision 2. Initial values of USE are based on Reference 1. Fluence and copper content information is from Reference 2. The steps in calculating decreased USE, per the regulatory guide, can be followed in Table 1.

Reference 1 discusses initial USE values for the plates and welds of Units 1 and 2. The discussion conservatively demonstrates that transverse USE meets at least 70 ft-lb for the Unit 1 plates and welds, and meets at least 75 ft-lb for the Unit 2 plates and welds. These values are used as conservative lower bound values of initial transverse USE in Table 1.

- Based on Reference 2 data, the 32 EFPY fluences are 3.9×10^{17} n/cm^2 and 4.2×10^{17} n/cm^2 for Units 1 and 2, respectively. The 48 EFPY fluences are 5.9×10^{17} n/cm^2 and 6.3×10^{17} n/cm^2 for Units 1 and 2, respectively.

The copper content information from Reference 2 was reviewed, and the highest values taken for use in Table 1. The highest value for Unit 1 plates is 0.15%, and for Unit 1 welds is 0.37%. The highest value for Unit 2 plates is 0.12% and for Unit 2 welds is 0.04%.

RESULTS

The results are summarized in Table 1 below.

Table 1
UPPER SHELF ENERGY ANALYSIS FOR
LASALLE 1 & 2 BELTLINE MATERIALS

COMPONENT	INITIAL TRANS. USE	%Cu	32 EFPY FLUENCE (x10^17)	32 EFPY % DECR. USE	32 EFPY TRANS. USE	48 EFPY FLUENCE (x10^17)	48 EFPY % DECR. USE	48 EFPY TRANS USE
UNIT 1:								
Plate	70.0	0.15	3.9	11.5	62.0	5.9	12.5	61.3
Weld *	70.0	0.37	3.9	27	51.1	5.9	28	50.4
UNIT 2:								
Plate	75.0	0.12	4.2	10	67.5	6.3	11	66.8
Weld	75.0	0.04	4.2	9	68.3	6.3	10	67.5

* Actual Unit 1 weld Charpy data, tested at only 10 F, range from initial values of 79 ft-lb to 126 ft-lb. Therefore, the actual 32 and 48 EFPY USE values will be significantly higher than those shown above.

In conclusion, the conservative predictions for USE of the Unit 1 and 2 beltline materials are above 50 ft-lb, as required by 10CFR50 Appendix G. If you have any further questions on the subject, please call me at the number below.

Regards,

Tom Caine

T. A. Caine, Senior Engineer
Materials Monitoring & Structural Analysis Services
(408) 925-4047, Mail Code 747