



Commonwealth Edison

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May 24, 1988

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: LaSalle County Station Units 1 and 2
Implementation of 10 CFR 50.62, ATWS Rule
NRC Docket Nos. 50-373 and 50-374

- References (a): Letter dated December 19, 1987 from A. Bournia
to D.L. Farrar
- (b): Letter dated April 6, 1987 from C.M. Allen to
U.S. Nuclear Regulatory Commission
- (c): Letter dated June 12, 1987 from D.R. Muller to
D.L. Farrar
- (c): Letter dated October 23, 1987 from C.M. Allen
to U.S. Nuclear Regulatory Commission
- (e): Letter dated March 1, 1988 from D.R. Muller to
L.D. Butterfield

Dear Sir:

Attached is a revised response for LaSalle County Station regarding compliance with the requirements of 10 CFR 50.62, Anticipated Transient Without Scram. This information only applies to the design of the Standby Liquid Control System.

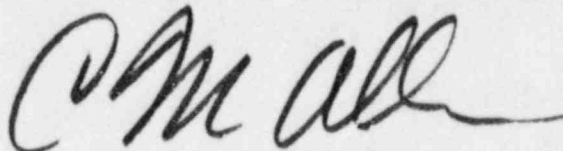
References (b) and (d) transmitted our original response to Part C.4 of the ATWS rule (10 CFR 50.62). Reference (e) transmitted the Safety Evaluation Report accepting that the response by your staff. Since that time our Engineering Department has determined that the modification we proposed is not the best alternative for installation at LaSalle. We have reevaluated all alternatives and chosen to install enriched boron. This modification is described in detail in the attachment to this letter and will be installed prior to startup from the second refuel outage for each unit. Technical specification changes for each unit will be submitted at a later date and will be in accordance with BWROG recommendations.

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May 24, 1988

If you have additional questions regarding this matter, please contact this office.

Very truly yours,

A handwritten signature in black ink, appearing to read "C M Allen", written in a cursive style.

C. M. Allen
Nuclear Licensing Administrator

lm

Attachment

cc: P. Shemanski - NRR
Regional Administrator - RIII
NRC Resident Inspector - LSCS
M.C. Parker - IDNS

ATTACHMENT

IMPLEMENTATION OF 10 CFR 50.62(c)(6) REQUIREMENT FOR THE STANDBY LIQUID CONTROL (SBLC) SYSTEM AT LASALLE COUNTY STATION UNITS 1 AND 2

Commonwealth Edison Company (CECo) is in the process of implementing modifications for the SBLC system required by 10 CFR 50.62(c)(4). This rule, as it applies to the SBLC system, requires injection equivalent to 86 gpm at 13 weight percent sodium pentaborate solution. CECo has chosen the enriched boron solution alternative and followed the conditions set forth in the Nuclear Regulatory Commission's (NRC) Safety Evaluation of Topical Report (NEDE-31096-P), "Anticipated Transient Without Scram; Response to NRC ATWS Rule, 10 CFR 50.62", to satisfy the equivalency requirement. After modifications have been implemented, the SBLC systems will satisfy the "equivalent control capacity" requirements outlined in Article 4.2.4 of the topical report.

The two pump SBLC system operation alternative proposed by CECo's (C.M. Allen) letters to the NRC dated April 6, and October 23, 1987 has been abandoned due to remaining concerns regarding the design margins after implementation of the modifications. Another factor was the reduced capital cost of the enriched boron solution alternative since the alternatives were originally evaluated.

LaSalle will utilize enriched sodium pentaborate solution with a minimum Boron-10 enrichment of 45 percent to implement the ATWS rule. The current one pump operation and existing Technical Specification concentration-volume requirements will be maintained. The Technical Specifications will be revised for sampling of the enriched sodium pentaborate solution in accordance with the BWR Owner's Group recommendations at a later date. The boron enrichment change to satisfy the ATWS rule will not invalidate the original SBLC design basis.

Modifications to the suction piping and SBLC relief valve setpoint will not be required with the enriched boron solution alternative. With one pump system operation the suction piping size is technically acceptable because there is no net positive suction head flashing or cavitation concern. The relief valve setpoint will remain at its present value of 1400 psig because the operating conditions for ATWS are identical to the present conditions. Utilization of this option provides the availability of a redundant SBLC pump.

The enrichment of the formulated sodium pentaborate material will be verified by use of the vendors certification (Eagle-Picher Industries, Inc.). Periodic testing of the sodium pentaborate solution will be performed in accordance with the BWR Owner's Group recommendations. All other aspects of surveillance and periodic testing of the SBLC system will be performed in accordance with the existing LSCS Technical Specifications requirements.

The equivalent flow requirement will be satisfied by enriching the Boron-10 in the sodium pentaborate to 45 percent and supplying a flow of approximately 42 gpm. The solution concentration and normal storage capacity will be maintained in accordance with the current approved Technical Specification requirements. Under these requirements, CECO must maintain a minimum Boron-10 enrichment of 40.1 percent; however, CECO chose to increase the Boron-10 enrichment to 45% to maintain operational flexibility. This margin will allow using the concentration-volume curve in the existing Technical Specification, and provide a contingency for variation in testing results. The enrichment calculation was performed in accordance with the ATWS rule equivalent control capacity formula as shown below:

$$E \geq 19.8 \times \frac{86}{Q} \times \frac{M}{M251} \times \frac{13}{C}$$

$$E \geq 19.8 \times \frac{86}{41.2} \times \frac{M251}{M251} \times \frac{13}{13.4}$$

where C = 13.4%

$\frac{M}{M251} = \frac{M251}{M251} = 1$ LaSalle County Station has a 251 inch core which is the same as reference plant.

Q = 41.2 gpm, The Technical Specification minimum flow requirement.

E = 40.1 atom percent Boron-10

GENERIC LETTER 85-06, QUALITY ASSURANCE REQUIREMENT

The Standby Liquid Control System is presently installed as a special system functioning as a backup reactivity control system to shutdown the reactor. It is not required to mitigate the consequences of any design bases accidents described in the FSAR and, therefore, does not fully meet, nor is it required to meet, all the design criteria of a safety-related system such as single failure or electrical separation. The system, however, was installed with all the necessary safety-related Q.A. controls applied, i.e., 10 CFR 50, Appendix B, Q.A. Program.

The SBLC enriched boron solution modifications for ATWS will be installed and maintained in accordance with CECO's most recent revision of Quality Assurance Program, as described in CECO Topical Report. New components purchased for the modifications will be purchased as safety-related and code; the enriched boron (45 AT%) sodium pentaborate material will be purchased under a safety-related purchase order and will require minimum enrichment and impurity certification. Replacement components will be purchased in accordance with their original requirements. The system will be classified for Quality Assurance purposes as non-safety related with safety-related components.