

LICENSEE EVENT REPORT (LER)

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|---------------------------------------|--|--------------------|
| FACILITY NAME (1) Sequoyah, Unit 1 | DOCKET NUMBER (2) 0 5 0 0 0 3 2 7 1 | PAGE (3) OF 0 3 |
|---------------------------------------|--|--------------------|

TITLE (4)
Number of Reactor Coolant Pumps Required in Mode 3

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | | |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|-------|-------------------------------|--|------------------|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | | DOCKET NUMBER(S) |
| 0 5 | 3 1 | 8 4 | 8 4 | 0 3 8 | 0 | 1 0 | 4 1 | 0 8 6 | Sequoyah, Unit 2 | | 0 5 0 0 0 3 2 8 |
| | | | | | | | | | | | 0 5 0 0 0 |

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

| | | | | |
|-------------------------|--|---|---|--|
| OPERATING MODE (9) 1 | <input type="checkbox"/> 20.402(b) | <input type="checkbox"/> 20.408(c) | <input type="checkbox"/> 50.73(a)(2)(iv) | <input type="checkbox"/> 73.71(b) |
| | <input type="checkbox"/> 20.405(a)(1)(i) | <input type="checkbox"/> 50.36(c)(1) | <input type="checkbox"/> 50.73(a)(2)(v) | <input type="checkbox"/> 73.71(c) |
| | <input type="checkbox"/> 20.405(a)(1)(ii) | <input type="checkbox"/> 50.36(c)(2) | <input type="checkbox"/> 50.73(a)(2)(vii) | OTHER (Specify in Abstract below and in Text, NRC Form 366A) |
| | <input type="checkbox"/> 20.405(a)(1)(iii) | <input type="checkbox"/> 50.73(a)(2)(i) | <input type="checkbox"/> 50.73(a)(2)(viii)(A) | |
| | <input type="checkbox"/> 20.405(a)(1)(iv) | <input checked="" type="checkbox"/> 50.73(a)(2)(ii) | <input type="checkbox"/> 50.73(a)(2)(viii)(B) | |
| | <input type="checkbox"/> 20.405(a)(1)(v) | <input type="checkbox"/> 50.73(a)(2)(iii) | <input type="checkbox"/> 50.73(a)(2)(ix) | |

LICENSEE CONTACT FOR THIS LER (12)

| | |
|--|---|
| NAME Michael E. Frye, Compliance Section Engineer | TELEPHONE NUMBER 6 1 5 8 7 0 7 6 7 6 7 |
| AREA CODE | |

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRC |
|-------|--------|-----------|--------------|-------------------|-------|--------|-----------|--------------|-------------------|
| | | | | | | | | | |
| | | | | | | | | | |
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SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

| | | | |
|-------------------------------|-------|-----|------|
| EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
| | | | |

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

Sequoyah Technical Specifications, Limiting Condition for Operation (LCO) 3.4.1.2, require two reactor coolant pumps operable with one running during mode 3 operation. A Westinghouse review has determined that the requirements of the LCO are not consistent with the initial conditions used for analyzing mode 3 accidents. The accidents were reanalyzed by Westinghouse with one pump running, and it was determined that only the rod bank withdrawal from subcritical was a problem. There are no concerns with two pumps running. TVA has implemented administrative controls to ensure that when the unit is in mode 3, either two reactor coolant pumps are in operation or the reactor trip breakers are open. This is consistent with the Westinghouse recommendations. A technical specification change will be implemented that will make the LCO consistent with the administrative controls.

Westinghouse stated that on a best estimate basis, Departure from Nucleate Boiling (DNB) design basis could have been met since the licensing basis analysis included conservatism which, when removed, showed that the DNB ratio was above limits; therefore, no significant safety hazard existed.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| FACILITY NAME (1) Sequoyah, Unit 1 | DOCKET NUMBER (2) 0 5 0 0 0 3 2 7 8 4 - 0 3 8 - 0 1 0 2 OF 0 3 | LER NUMBER (6) | | | PAGE (3) | |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

The following is a revision of LER SQRO-50-327/84038 and is made to clarify the relationship between the Westinghouse report, the Sequoyah technical specifications, and the Final Safety Analysis Report (FSAR). Also, additional information that has been provided since the original report is given.

Technical Specifications (TS), Limiting Condition for Operation (LCO) 3.4.1.2, require two reactor coolant pumps to be operable with one pump in operation for mode 3 operation. Mode 3 is defined by the technical specifications as reactor coolant system temperature between 350 degrees F and no-load temperature of 547 degrees F with the reactor subcritical as required by the shutdown margin TS 3.1.1.1.

At 1600 EST on May 31, 1984, Westinghouse notified Sequoyah that consistency between the safety analysis and technical specifications, as required by 10 CFR 50.36, may not have existed. Mode 3 operation was bounded by the analysis performed for hot zero power. The limiting accidents for hot zero power were main steam line break, rod ejection, and rod bank withdrawal from subcritical. No assumption was stated in the Sequoyah FSAR for the number of reactor coolant pumps in operation for the main steam line break and rod ejection accidents; therefore, there were no inconsistencies between the FSAR and the technical specifications for these two events. The analysis of the uncontrolled rod bank withdrawal from subcritical was evaluated in the FSAR with the stated assumption that all four reactor coolant pumps were in operation; therefore, this was inconsistent with the technical specification requirements of two pumps operable and one in operation.

Westinghouse reviewed all three accidents under the reduced flow conditions of one pump and determined that for the steam line break and rod ejection events, the reduced flow did not impact the conclusions presented in the safety analysis. For the rod bank withdrawal from subcritical accident, Westinghouse calculations showed that the Departure from Nucleate Boiling (DNB) design basis for the condition II event may not have been met when only one reactor coolant pump was in operation. Based on this evaluation, the margin for safety, as defined in the basis for technical specification 3.4.1.2, was reduced. The condition may have been an unreviewed safety question according to 10 CFR 50.59.

Westinghouse stated that on a best estimate basis, DNB design basis could have been met since the licensing basis analysis included conservatisms (such as high reactivity insertion rates) which, when removed, showed that the DNB ratio was above limits. Therefore, no significant safety hazard existed.

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| | | | 0 3 8 | 0 1 | 0 3 | OF | 0 3 |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Upon notification of this condition, Sequoyah implemented administrative controls to require either (1) two reactor coolant pumps operating in mode 3, or (2) one reactor coolant pump operating with all rods on the bottom with all power removed from the rods when in mode 3. Sequoyah received the formal plant specific safety analysis from Westinghouse which states: For the uncontrolled rod bank withdrawal from subcritical, two reactor coolant pumps are assumed to be in operation. This is consistent with the administrative controls that are in effect; therefore, they will remain in effect until a technical specification change can be submitted to and approved by NRC.

There was no effect on public health or safety. At the time of the notice, unit 1 was in mode 1 (550 degrees F, 2235 psig) at 10 percent power and unit 2 was in mode 1 (578 degrees F, 2235 psig) at 100 percent reactor power. There have been no previous occurrences.

TENNESSEE VALLEY AUTHORITY

Sequoyah Nuclear Plant
Post Office Box 2000
Soddy Daisy, Tennessee 37379

April 11, 1986

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

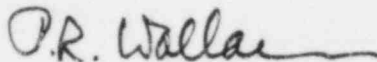
Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 1 - DOCKET NO.
50-327 - FACILITY OPERATING LICENSE DPR-77 - REPORTABLE OCCURRENCE REPORT
SQRO-50-327/84038 REVISION 1

The enclosed revised licensee event report provides details concerning notification from Westinghouse that Technical Specification 3.4.1.2 may be incorrect. This event is reported in accordance with 10 CFR 50.73, paragraph a.2.ii.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



P. R. Wallace
Plant Manager

Enclosure
cc (Enclosure):

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Atlanta, Georgia 30339

NRC Inspector, NUC PR, Sequoyah

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