

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)
Sequoyah Nuclear Plant (SQN), Unit 1DOCKET NUMBER (2)
05000327PAGE (3)
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TITLE (4) Turbine and Reactor Trips Resulting From a Failure of the 'A' Phase Main Transformer Sudden Pressure Relay

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 NAME	DOCKET NUMBER
07	17	95	95	010	00	08	10	95	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)	100	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)			
		20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)			
		20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	OTHER			
		20.405(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)			
		20.405(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)				
		20.405(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)

NAME
J. Bajraszewski, Compliance Licensing EngineerTELEPHONE NUMBER (Include Area Code)
(615) 843-7749

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

CAUSE	SYS TEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	FK	RLY	Q011	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES
(If yes, complete EXPECTED SUBMISSION DATE).

X NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On July 17, 1995, with Unit 1 in power operation at approximately 100 percent, a turbine trip occurred followed by a reactor trip. The event resulted from the initiation of a trip signal by a sudden pressure relay located on the 'A' phase main transformer. A review of the condition determined that a no fault condition existed in the transformer. The reactor protection systems responded to the trip as expected; no anomalies occurred. Operators responded to the trip as prescribed by procedures and stabilized the reactor in the hot standby condition. Subsequent to the event, the sudden pressure relay, Qualitrol Corporation Model No. 900-003-01, was tested and found to be defective. Testing was performed on two additional Qualitrol Series 900 sudden pressure relays. Those relays were found to be nonfunctional. After an examination of the internal components of the failed relays, it was determined that the nonorificed control bellows was distended in each of the relay assemblies. Qualitrol Series 900 sudden pressure relays that are located on transformers in use were either disabled or replaced with relays of a different design.

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

I. PLANT CONDITIONS

Unit 1 was in power operation at approximately 100 percent.

II. DESCRIPTION OF EVENT

A. Event

On July 17, 1995, at 1314 eastern daylight time (EDT), a turbine trip occurred followed by a reactor trip. The event resulted from the initiation of a trip signal by a sudden pressure relay (EIS Code RLY) located on the 'A' phase main transformer (EIS Code FK). A review of the condition determined that a no fault condition existed in the transformer. The reactor protection systems responded as expected to the trip; no anomalies occurred. Operators responded to the trip as prescribed by procedures and stabilized the reactor in the hot standby condition.

B. Inoperable Structures, Components, or Systems that Contributed to the Event

None.

C. Dates and Approximate Times of Major Occurrences

July 17, 1995 at 1314 EDT The turbine tripped followed by a reactor trip. The trip signal was initiated by the 'A' phase main transformer sudden pressure relay.

July 17, 1995 Approximately 1405 EDT The main control room operators stabilized the reactor in a safe condition, Mode 3 (hot standby).

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

The turbine and reactor trips were annunciated on the main control room panels.

F. Operator Actions

Control room operators responded as prescribed by emergency procedures. The condition was promptly diagnosed, and the necessary actions were taken to stabilize and maintain the unit in a safe condition.

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G. Safety System Responses

The plant responded to the turbine and reactor trips as designed.

III. CAUSE OF EVENT

A. Immediate Cause

The immediate cause of the event was the initiation of a trip signal by the 'A' phase main transformer protection circuit. An evaluation of the condition determined that the trip signal was initiated by the sudden pressure relay located on the 'A' phase main transformer.

B. Root Cause

The root cause of the event was the failure of the sudden pressure relay located on the 'A' phase main transformer. Subsequent disassembly of the relay determined that the nonorificed bellows was distended. The specific failure mechanism for this subassembly has not been identified.

C. Contributing Factors

None.

IV. ANALYSIS OF EVENT

The plant response during and after the unit trip was consistent with the responses described in the Final Safety Analysis Report, and accordingly, the event did not adversely affect the health and safety of plant personnel or the general public.

V. CORRECTIVE ACTIONS

A. Immediate Corrective Actions

Control room operators responded as prescribed by emergency procedures. The condition was promptly diagnosed, and the necessary actions were taken to stabilize and maintain the unit in a safe condition.

B. Corrective Actions to Prevent Recurrence

Qualitrol Series 900 sudden pressure relays located on the main bank transformers were disabled. Qualitrol Series 900 sudden pressure relays located on other transformers that are in use were either disabled or replaced with a sudden pressure relay of a different design.

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VI. ADDITIONAL INFORMATION

A. Failed Components

The failed component for this event was a sudden pressure relay, Model No. 900-03-01 (rapid pressure rise relay), manufactured by Qualitrol Corporation.

A trip signal was initiated by the sudden pressure relay located on the 'A' phase main transformer. Subsequent to the event, the sudden pressure relay, Qualitrol Corporation Model No. 900-003-01, was tested and found to be defective. Testing was performed on two additional Qualitrol Series 900 sudden pressure relays. Those relays were found to be nonfunctional. After an examination of the internal components of the failed relays, it was determined that the nonorificed control bellows was distended in each of the relay assemblies. Qualitrol Series 900 sudden pressure relays were disabled or replaced with relays of a different design.

B. Previous Similar Events

A review of previous events identified two other events (50-327/86026 and 90022) associated with the failure of the sudden pressure relay. Those failures resulted from either a shorted micro-switch or wiring terminal. Actions taken for those failures would not have prevented the event described by this LER.

VII. COMMITMENTS

None.