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O. W. DIXON, JR.
VICE PRESIDENT
NUCLEAR OPERATIONS

83 FEB 25 A10:34

February 22, 1983

Mr. James P. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Region II, Suite 3100
101 Marietta Street, N.W.
Atlanta, Georgia 30303

SUBJECT: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operating License No. NPF-12
Fourteen Day Written Report
LER 83-001, Revision 1

Dear Mr. O'Reilly:

Please find attached Licensee Event Report #83-001, Revision 1, for Virgil C. Summer Nuclear Station. This Fourteen Day Report is required by Technical Specification 6.9.1.12(b) as a result of failure to comply with Action Statement 19 of Technical Specification 3.3.2, Table 3.3-3, Item 8, "Engineered Safety Feature Actuation System Instrumentation," and entry into Action Statements (a) and (b) of Technical Specification 3.3.3.6, "Accident Monitoring Instrumentation," on January 19, 1983.

Revision 1 to this LER corrects an administrative error discovered by the Licensee. Should there be any questions, please call us at your convenience.

Very truly yours,

O. W. Dixon, Jr.

CJM:OWD:dwf/fjc
Attachment

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DETAILED DESCRIPTION OF EVENT

On January 19, 1983, at 0630 hours with the Plant in Mode 1, Refueling Water Storage Tank (RWST) level instrument (LI-990) failed high. This is a Post Accident Monitoring System (PAMS) Instrument, and Technical Specification 3.3.3.6, Action Statement (a) was entered. At 0835 hours, a second RWST level instrument (LI-991), which is not a PAMS instrument, failed high. At 0915 hours, a third RWST level instrument (LI-992), which is a PAMS instrument failed high, and Technical Specification 323.6, Action Statement (b) was entered. At this point, there was only one (1) operable RWST level instrument (LI-993). LI-990 was returned to operable status at 1010 hours.

At 1015 hours, it was realized that Technical Specification 3.3.2, Table 3.3-3, Item 8, was applicable and required the operability of four (4) RWST level instruments. Action Statement 19 had not been complied with, and Technical Specification 3.0.3 was implemented. The start time for the implementation of Technical Specification 3.0.3 was established at 0835 hours. Unless three (3) RWST level instruments were returned to operable status by 1535 hours, the Plant would have to be in Hot Standby.

At 1115 hours, action was taken to place the bistables associated with RWST level instrument (LI-992) in the tripped condition. The bistables associated with LI-991 were not placed in the tripped condition at this time since Operations personnel considered this action would have placed the Plant in an unsafe condition. With the two-out-of-four logic for Lo-Lo RWST level "made up", any Safety Injection signal would create a flow path from the RWST directly to the Reactor Building Recirculation sumps.

At 1300 hours, a Turbine Load Reduction was initiated at the predetermined rate of 1% per minute in order to comply with Technical Specification 3.0.3. At 1304 hours, RWST level instrument (LI-992) was returned to operable status, and the Turbine Load Reduction was stopped since three (3) RWST level instruments were operable. RWST level instrument (LI-991) was subsequently placed in the tripped condition at 1308 hours.

On January 20, 1983, at 1000 hours, it was discovered that RWST level instruments (LI-991) and (LI-992) had actually been placed in bypass instead of the intended trip condition as identified in Action Statement 19 of Technical Specification 3.3.2. Channel LI-991, which was presently out of service, was placed in the tripped condition at the time of this discovery.

DETAILED DESCRIPTION OF EVENT (Continued)

Repairs were completed on RWST level transmitter (LT-991) on January 21, 1983. The channel was returned to operable status at 1440 hours upon the satisfactory performance of a transmitter calibration with the appropriate surveillance test procedure.

PROBABLE CONSEQUENCES

There were no adverse consequences during the event; however, for approximately fifty five (55) minutes, the failure of three (3) RWST level channels in the high direction would have prevented the automatic transfer of suction for the Residual Heat Removal (RHR) and Reactor Building Spray pumps from the RWST to the Reactor Building Recirculation sumps in the event of a Lo-Lo RWST level coincident with a Safety Injection signal. Emergency Operating Procedure EOP-1, "Safety Injection," contains procedural steps to instruct the operators to manually perform the transfer of suction for the RHR and Reactor Building Spray Pumps in the event automatic transfer does not occur.

CAUSE(S) OF THE OCCURRENCE

The failure of the RWST level instrumentation was due to the frozen instrument lines at the base of the transmitter. The level transmitters were not adequately heat traced at time of the occurrence.

IMMEDIATE CORRECTIVE ACTIONS TAKEN

Maintenance personnel were directed to investigate the possible failure of the heat tracing on RWST level transmitter (LT-990) immediately after the 0630 occurrence. The heat tracing on the instrument lines was found to be operational and maintaining temperature at approximately 50°F; however, the level transmitter was found to be open to the environment and not heat traced. Heat was applied to the transmitter at that time since it appeared that the failure of LT-990 was due to frozen instrument lines at the base of the transmitter. The transmitter was returned to operable status at 1010 hours as verified by a channel check.

IMMEDIATE CORRCTIVE ACTIONS TAKEN (Continued)

Maintenance personnel were notified during the repair of LT-990 that similar failures had occurred on LT-991 at 0835 hours and LT-992 at 0915 hours. Investigation into the cause of failure again indicated that the transmitter instrument lines were frozen at the base of the transmitter. RWST level transmitter (LT-992) was thawed and returned to operable status at 1304 hours after the performance of a satisfactory channel check. Attempts to restore LT-991 to operable status were not successful on the morning of January 19, 1983, due to internal damage of the transmitter. The transmitter was replaced and returned to operable status at 1440 hours on January 20, 1983, upon the completion of a satisfactory calibration with the appropriate surveillance test procedure. In addition to the above repair actions, maintenance personnel installed additional heat tracing on the transmitters. The additional heat tracing was a temporary means to prevent recurrence until an engineering evaluation of the system design could be accomplished.

ACTION TAKEN TO PREVENT RECURRENCE

The Licensee is performing the following actions to prevent recurrence:

1. The heat tracing sensors have been determined to be in the correct location on the RWST level instrument lines. Action is being taken to install insulated enclosures and additional permanent heat tracing on the RWST level transmitters. This action is expected to be complete by February 15, 1983. Temporary meansures will remain in effect until this modification is complete.

2. In regards to the generic issue of freeze protection for plant instrumentation, we are investigating all other similar situations (i.e., Condensate Storage Tank). Additional corrective actions as necessary will be taken.

3. Operations personnel will be instructed to review the Surveillance Test Master (GTP-701) during future events to provide additional assurance that Technical Specifications associated with failed instrumentation will be recognized. This action will be accomplished by February 28, 1983.