DUKE POWER COMPANY
OCONEE UNIT 3

Report No.: RO-287/76-21

Report Date: January 19, 1977

Occurrence Date: December 21, 1976

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: One channel of borated water storage tank level indication inoperable

Conditions Prior to Occurrence: Unit at 100 percent full power

Description of Occurrence:

On December 21, 1976 one of two redundant channels of the Oconee Unit 3 borated water storage tank (BWST) level instruments indicated a decreasing tank water level. The remaining instrument indicated that the level of borated water required by Technical Specifications was being maintained. Investigation was promptly initiated and revealed that the decreasing water indication was erroneous due to a faulty level indication channel.

This condition is considered to be reportable since it constituted operation in a degraded mode permitted by a Limiting Condition for operation. Technical Specification 3.3.5 makes provision for the removal from service for test or monitoring of any component of high pressure injection, low pressure injection or reactor building spray for a period of 24 hours provided not more than one train of each system is afflicted. The BWST level channel was restored to operable status within two hours.

Apparent Cause of Occurrence:

This occurrence was caused by the freezing of the process line between the Oconee Unit 3 BWST and the BWST level transmitter. The insulation which had surrounded a portion of the heat trace on the process line had been torn, allowing the process line to be exposed to below freezing temperatures and resulting in the frozen line and faulty indication.

Analysis of Occurrence:

This occurrence resulted in the loss of one of two redundant channels of BWST level indication for approximately two hours. During this period, the redundant level transmitter properly indicated the true level in the BWST. The conditions of the BWST required by Technical Specification 3.2 were maintained and the emergency core cooling systems would have performed as required in the unlikely event they were needed. It is concluded that the health and safety of the public was not affected by this incident.

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Corrective Action:

The process line was promptly thawed and the torn insulation was replaced. The level instrumentation was checked and verified operable. The insulation surrounding the process lines has also been examined and no other damage was discovered. In addition, the present Dekoron heat tracing system surrounding the process lines will be replaced by a Nelson heat tracing system by October 3, 1977. The new system will add an extra emergency heat trace line on the piping which will be powered by a separate power supply.