

LER SUPPLEMENTAL INFORMATION

BFRO-50- 259 / 82084 Technical Specification Involved Tables 3.1.A & 3.2.B

Reported Under Technical Specification 6.7.2.b.(2) * Date Due NRC 11/17/82

Event Narrative:

Units 1 and 3 were operating at approximately 99-percent power; unit 2 was in a refueling outage. Only unit 1 was affected by this event. While performing Surveillance Instruction 4.1.A-7. (Reactor Protection System Reactor Water Level), level indicating switches, LIS-3-203B switch 1 and 2 operated at 537.88 inches and 583.13 inches, respectively. Technical Specification 3.1.A and 3.2.B require the trip level settings of 538 inches (sw. #1) and 583 inches (sw. #2) above vessel zero. Switch #1 actuation below the trip setting does the following: a) scrams the reactor; b) isolates reactor water cleanup system; c) closes the drywell vent purge and sump isolation valves; d) initiates TIP withdrawal; e) initiates standby gas treatment; f) RHR isolation signal trip; g) initiates reactor building main vent isolation. Switch #2 actuation above the trip setting trips the HPCI turbine. The Barton model 288 switches were recalibrated, functionally tested, and returned to service. There was no effect on the public health and safety. Redundant switches were available and operable. See corrective action plan for corrective action category 3 setpoint drift.

* Previous Similar Events:

BFRO-50-259/73022W, 73041W, 78024, 74001W, 82016, 80089, 80087, 81001, 81071
260/81055, 80004, 82006, 81068
296/82011, 80028, 81055, 82005

Retention: Period - Lifetime; Responsibility - Document Control Supervisor

*Revision: JRP

ACTION PLAN
BROWNS FERRY NUCLEAR PLANT - REACTOR PROTECTION SYSTEM
PRIMARY CONTAINMENT ISOLATION SYSTEM
AND CORE STANDBY COOLING SYSTEMS
PRIMARY SENSOR SWITCHES

BACKGROUND

The reactor protection system (RPS), the primary containment isolation system (PCIS), and the core standby cooling systems (CSCS) use mechanical-type switches in the sensors that monitor plant process parameters. The plant technical specifications have put very close tolerances on these instruments. As a result, almost any change in switch setpoint requires submittal of a licensee event report (LER). To reduce the frequency of this type LER, the following action plan has been developed.

LONG-TERM SOLUTION

Advances in technology make it possible to replace the mechanical-type switches with a more accurate and more stable electronic transmitter/electronic switch system. This modification is a major change to these safety systems and requires fully qualified safety-grade equipment. This equipment is in limited supply and has long procurement times. TVA is presently reviewing bids for this equipment. The tie-in of the new system to the balance of the RPS, the PCIS, and the CSCS requires a refueling outage. TVA expects to install the electronic systems during the first refueling outage after receipt of equipment.

INTERIM ACTIONS

Because of the long leadtime to implement the long-term solution, several interim actions have been taken. They are based on a review of licensee event reports which can be categorized as follows:

- Category 1: Individual instruments whose setpoints have drifted two consecutive times.
- Category 2: Groups of instruments which exhibit a predictable cyclic setpoint drift pattern.
- Category 3: Individual, randomly occurring instrument setpoint drifts which cannot be put in category 1 or 2.

For each category the following action is taken.

- Category 1: The instrument is replaced with an identical instrument.
- Category 2: The margin between the instrument setting and the technical specification limit is increased.
- Category 3: The instrument is readjusted to the specified setpoint.