

3150-0011

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LER SUPPLEMENTAL INFORMATION

BFRO-50- 260 / 83004 Technical Specification Involved 3.2.A

Reported Under Technical Specification 6.7.2.a (5)* Date Due NRC 3/6/83

Event Narrative:

Units 1 and 3 were at steady state operation at approximately 95-percent power, and unit 2 was in a refueling outage. Only unit 2 was affected by this event. During the performance of Surveillance Inspection 4.1.A-7 to return switches to service (Reactor Protection System Reactor Water Level) all of the switches were found out-of-tolerance. The Surveillance Inspection for these switches is not required during a refueling outage. The switches had been out of service for an extended period of time during the refueling outage. The technical specification values are sw. #1 \geq 538" and sw. #2 $<$ 538" of H₂O. The as-found valves are LIS-3-203A sw. #1 = 537.60"; LIS-3-203B sw. #1 = 535.91", sw. #2 = 584.00"; LIS-3-203C sw. #1 = 537.60", sw. #2 = 584.14; and LIS-3-203D sw. #1 = 537.25", sw. #2 = 584.56".

Below the low-water level setpoint, sw. #1 initiates, reactor scram, the isolation of reactor water cleanup system, the closure of drywell vent purge and sump isolation valve, tip withdrawal, standby gas treatment, RHR isolation signal trip, and the reactor building main vent isolation. Above the high-water level setpoint, sw. #2 of LIS-3-203 (B & D) trips the HPCI turbine. The switches were calibrated, functionally tested, and returned to service. The switches were functional, tolerance error was small, and the unit was in cold shutdown. There was no effect on public health and safety. See the attached action plan for corrective action for category 3 setpoint drift.

* Previous Similar Events:

BFRO-50-259/7824, 80898, 8216, 8284
260/8004, 8029, 8104, 8155, 8168, 8206
296/8028, 8127, 8155, 8205, 8211, 8247, 8249, 8308

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.