

TABLE 3.3-1
REACTOR TRIP SYSTEM INSTRUMENTATION

| FUNCTIONAL UNIT | TOTAL NO. OF CHANNELS | CHANNELS TO TRIP | MINIMUM CHANNELS OPERABLE | APPLICABLE MODES | ACTION |
|---|--------------------------|---------------------|---------------------------------|---------------------|--------|
| 1. Manual Reactor Trip | 2 | 1 | 2 | 1, 2 | 1 |
| | 2 | 1 | 2 | 3*, 4*, 5* | 10 |
| 2. Power Range, Neutron Flux | | | | | |
| a. High Setpoint | 4 | 2 | 3 | 1, 2 | 2# |
| b. Low Setpoint | 4 | 2 | 3 | 1###, 2 | 2# |
| 3. Power Range, Neutron Flux High Positive Rate | 4 | 2 | 3 | 1, 2 | 2# |
| 4. Power Range, Neutron Flux, High Negative Rate | 4 | 2 | 3 | 1, 2 | 2# |
| 5. Intermediate Range, Neutron Flux | 2 | 1 | 2 | 1###, 2 | 3 |
| 6. Source Range, Neutron Flux | | | | | |
| a. Startup | 2 | 1 | 2 | 2## | 4 |
| b. Shutdown | 2 | 1 | 2 | 3, 4, 5 | 5, 12 |
| 7. Overtemperature ΔT | | | | | |
| a. Four Loop Operation | 4 | 2 | 3 | 1, 2 | 6# |
| b. Three Loop Operation | ** | ** | ** | ** | ** |
| 8. Overpower ΔT | | | | | |
| a. Four Loop Operation | 4 | 2 | 3 | 1, 2 | 6# |
| b. Three Loop Operation | ** | ** | ** | ** | ** |
| 9. Pressurizer Pressure-Low | 4 | 2 | 3 | 1 | 6# |
| 10. Pressurizer Pressure-High | 4 | 2 | 3 | 1, 2 | 6# |

ACTION STATEMENTS (Continued)

- ACTION 4 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, suspend all operations involving positive reactivity changes. The boron dilution flux doubling signals from the source range instrumentation may be blocked during reactor startup.
- ACTION 5 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers, suspend all operations involving positive reactivity changes and verify Valves BG-V178 and BG-V601 are closed and secured in position within the next hour.
- ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- The inoperable channel is placed in the tripped condition within 1 hour, and
 - The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.1.1.
- ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.
- ACTION 8 - With less than the Minimum Number of Channels OPERABLE, within 1 hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing plant condition, or apply Specification 3.0.3.
- ACTION 9 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1, provided the other channel is OPERABLE.
- ACTION 10 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or open the Reactor trip breakers within the next hour.
- ACTION 11 - With the number of OPERABLE channels less than the Total Number of Channels, operation may continue provided the inoperable channels are placed in the tripped condition within 1 hour.
- Action 12 - With the number of OPERABLE channels two less than the Minimum Channels requirement, verify the Reactor trip breakers are open, suspend all operations involving positive reactivity changes, verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable, within 1 hour, and verify valves BG-V178 and BG-V601 are closed and secured in position within 4 hours.

Enclosure 2
ULNRC-889
8/1/84

SAFETY EVALUATION

Callaway Plant, Unit 1
Technical Specification-Table 3.3-1

This amendment request is for revision of Technical Specification Table 3.3-1 to include an action statement if two channels of the source range neutron flux monitors are not operable in Modes 3, 4 and 5 and allows the block of both channels of flux doubling in Mode 2 in order to perform a reactor startup.

Mode 2 Below P-6

Table 3.3-1, Item 6.2 requires 2 source range channels to be OPERABLE in Mode 2 below P-6.

A statement has been added to Action 4 to allow the block of both source range flux doubling channels in order to do a normal reactor startup. Block switches are provided on the main control board to perform this function. By design, this action disables only the automatic switchover of the charging pump suction from the VCT to the RWST. The Reactor Trip and all alarms generated from the source range channels are neither bypassed nor blocked. Therefore no reduction in safety margin is experienced, and the change is consistent with the safety analysis as described in Chapter 15 of the FSAR.

Modes 3, 4, 5

Table 3.3-1, Item 6.b requires 2 source range channels to be operable including the Reactor trip feature as well as the boron dilution flux doubling signal.

If 1 channel of source range becomes inoperable then Action 5, which allows 48 hours to repair, or within 1 hour open the reactor trip breakers, suspend positive reactivity changes, and verify valves BG-V178 and BG-V601 are closed and secured in position, would apply. This action, if carried past the 48 hour time limit, would place the plant in the same lineup as in Mode 6 with only 1 source range OPERABLE and is consistent with Standard Technical Specifications.

There is currently no action statement for loss of both channels.

The Standard Technical Specifications (STS) allow only 1 source range channel operable in Modes 3, 4, 5 if the Reactor Trip breakers are open. If that channel is lost, SHUTDOWN MARGIN must be verified within 1 hour and then once per 12 hours thereafter. The Standard Technical Specifications do not take into account the boron dilution accident.

Enclosure 2
ULNRC-889
8/1/84

The real concern for an accident in Mode 3, 4 or 5 with the Reactor Trip breakers open, is the boron dilution accident. In Mode 6, it is deemed appropriate to prevent this accident by isolating all sources of dilution. Since the Callaway Technical Specifications currently have no action for loss of both source range channels, the proposed technical specification would place the plant in the same configuration as is required in Mode 6 with loss of both source range channels. Based on the following analysis, this is considered acceptable.

IF both source range channels are lost:

- A. Verifying the reactor trip breakers are open prevents positive reactivity addition via the control rods. (i.e., provides appropriate compensation for Hi Flux Shutdown Trip)
- B. Suspension of all operations involving positive reactivity changes will ensure the plant is stabilized.
- C. Verifying SHUTDOWN MARGIN will ensure the appropriate boron concentration.
- D. Verifying the Makeup Water Valves BG-V178 and BG-V601 are closed isolates all sources of dilution (i.e., provides appropriate compensation for the Flux Doubling Valve realignment).

These actions place the plant in a safe condition consistent with the assumptions for the boron dilution accident analysis contained in Chapter 15 of the FSAR for Modes 3, 4 and 5.

Enclosure 3
ULNRC-889
8/1/84

SIGNIFICANT HAZARDS CONSIDERATION

Callaway Plant, Unit 1
Technical Specification-Table 3.3-1

This amendment request revises Technical Specification Table 3.3-1 to include an action statement if two channels of the source range neutron flux monitors are not operable in Modes 3, 4 and 5 and allows the block of both channels of flux doubling in Mode 2 in order to perform a reactor startup.

The Commission has provided guidance concerning the application of the standards in 10 CFR 50.92 by providing certain examples (48FR14870). This amendment request is similar to the example of an administrative change to technical specifications for correction of an error. In this case the Technical Specifications are not consistent with the plant design and would not allow plant startup.

This amendment request does not involve a significant increase in the probability or consequences of an accident or other adverse condition over previous evaluations; nor create the possibility of a new or different kind of accident or condition over previous evaluations; nor involve a significant reduction in a margin of safety. Based on the foregoing, the requested amendment does not present a significant hazard.

Enclosure 4
ULNRC-889
8/1/84

ENVIRONMENTAL ASSESSMENT

Callaway Plant Unit 1
Technical Specification - Table 3.3-1

This amendment request revises Technical Specification Table 3.3-1 to include an action statement if two channels of the source range neutron flux monitors are not operable in Modes 3, 4, and 5 and allows the block of both channels of flux doubling in Mode 2 in order to perform a reactor startup.

In accordance with 10 CFR 51.30, an environmental assessment has been performed. This amendment request does not involve a significant increase in the probability or consequences of an accident or other adverse condition over previous evaluations; nor create the possibility of a new or different kind of accident or condition over previous evaluations; nor does it pose any adverse environmental effects. This amendment has been discussed with Ron Kucera, Deputy Director, Missouri Department of Natural Resources. Based on the foregoing, the requested amendment poses no significant impact on the environment.