FPL

MAY 17 2007

L-2007-083
10 CFR 50.90
10 CFR 50.91

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

RE: Turkey Point Unit 3
Docket No. 50-250
License Amendment Request (LAR 192)
Inoperable Rod Position Indication

Pursuant to 10 CFR 50.90 and 10 CFR 50.91(a)(6), Florida Power and Light Company (FPL) requests exigent approval of changes to the Turkey Point Unit 3 Facility Operating License DPR-31 by incorporating the attached Technical Specification (TS) revision. This revision is being requested due to an inoperable control Rod Position Indicator (RPI). The proposed amendment would revise applicable Technical Specifications to allow the use of an alternate method of determining rod position for control rods M-6 and G-5 with inoperable RPIs.

This request is similar to the Turkey Point Unit 3 Exigent Technical Specification Amendment request submitted by FPL letter L-2006-209 dated September 8, 2006 and approved by NRC on October 5, 2006 (TAC No. MD2961) and is in effect for the remainder of Unit 3 Cycle 22, which is expected to be complete in the Fall of 2007, with the exception that this request involves the rod position indication for two control rods in different control banks. This request is also similar to Turkey Point Unit 4 Exigent Technical Specification Amendment request submitted by FPL letter L-2004-174 dated July 28, 2004 and approved by NRC on August 20, 2004 (TAC No. MC3889), which is no longer in effect but remains in the current Technical Specifications for Unit 4, since the changes do not meet the standards for exigent treatment.

FPL is requesting that this amendment be processed as an exigent amendment request pursuant to 10 CFR 50.91(a)(6) due to the unanticipated recent additional failure of the Turkey Point Unit 3 Analog RPI for control rod G-5 in Control Rod Bank A. The failure of the Unit 3 RPI for control rod G-5 has resulted in erratic position indication, with Control Rod Bank A all rods out position at 230 steps. This was confirmed by flux mapping. Troubleshooting activities outside containment have indicated intermittent low resistance between the primary and secondary coils and shield. Specialty equipment was used to further identify the fault inside containment. The test results indicated disturbances at the reactor head or curb box connector area.

Accessibility and significant radiation dose prevent repairs during power. The connector(s) or detector coils need inspection and repair during an outage. For the plant to conduct a shutdown to repair the inoperable RPIs at this time would be unnecessary. Repairs will be performed at the earliest opportunity, when Turkey Point Unit 3 enters Mode 3. If attempted repairs are not successful in Mode 3, Turkey Point Unit 3 will enter Mode 5 to



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effect the repairs for the inoperable RPIs. The RPIs will be repaired no later than Unit 3 Cycle 23 refueling outage in Fall 2007.

With one analog rod position indicator per bank inoperable, action statement a. of TS 3.1.3.2 currently requires that 1.) Determine the position of the non-indicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and within one hour after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or 2.) Reduce THERMAL POWER to less than 75% of RATED THERMAL POWER within 8 hours.

FPL is currently implementing TS action statement a.1 due to the failure of the analog RPI for control rod G-5 in Control Bank A. As a result, there is concern regarding excessive wear of the movable incore detector system, due to exercising the movable incore detectors every 8 hours (90 times per month), to comply with the compensatory actions required by the current action statement a.1 of TS 3.1.3.2. Although, wear of the incore detector system does not pose a reduction in the margin of safety for operation of Turkey Point Unit 3, excessive wear of the incore detector system could result in a loss of functionality of the system. This could lead to the inability to complete required surveillances, which if not completed could lead to a required plant power reduction and/or shutdown.

Implementation of the amendment request contained in this submittal will allow the use of an alternate method of determining rod position for both M-6 and G-5, the control rods with inoperable RPIs. The method to be used will monitor the stationary gripper coil of G-5 and M-6 Control Rod Drive Mechanism (CRDM). This alternate method is applied to the inoperable RPI for control rods G-5 and M-6 in the following TS sections and associated Surveillance Requirements:

3/4.1.3.1, Movable Control Assemblies
3/4.1.3.2, Position Indicating Systems - Operating
3/4.1.3.6, Control Rod Insertion Limits

The proposed changes have been evaluated in accordance with 10CFR50.91(a)(1), using the criteria in 10CFR50.92(c). FPL has determined that the proposed changes involve no significant hazards considerations.

Attachment 1 is an evaluation of the proposed change. Attachment 2 is the "Determination of No Significant Hazards Consideration." Attachments 3 and 4 contain copies of the affected Technical Specifications pages marked-up and a clean copy of the proposed revision, respectively.

The Turkey Point Plant Nuclear Safety Review Committee and the FPL Company Nuclear Review Board have reviewed the proposed amendment. In accordance with 10 CFR 50.91(b)(1), a copy of the proposed amendment is being forwarded to the State Designee for the State of Florida.

Upon approval of the proposed change, FPL requests that the amendment be made effective on the date of issuance.

Please contact James Connolly, Licensing Manager, at (305) 246-6632, if there are any questions regarding this submittal.

I declare under penalty of perjury that the foregoing is true and correct.

Very truly yours,

William Jefferson, Jr.
Vice President
Turkey Point Nuclear Plant

Attachments

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant
Mr. W. A. Passetti, Florida Department of Health

MAY 17 2007

# EVALUATION OF PROPOSED TS CHANGE

## EVALUATION OF PROPOSED TS CHANGE

### BACKGROUND

This request is similar to the Turkey Point Unit 3 Exigent Technical Specification Amendment request submitted by FPL letter L-2006-209 dated September 8, 2006 and approved by NRC on October 5, 2006 (TAC No. MD2961) and is in effect for the remainder of Unit 3 Cycle 22, which is expected to be complete in September 2007. At that time, the Unit 3 Rod Position Indication (RPI) for control rod M-6 in Control Bank C was faulty and the proposed alternate rod position monitoring method was approved for Turkey Point Unit 3 under License Amendment 230 and is applicable for Unit 3 Cycle 22 only.

Pursuant to 10 CFR 50.90 and 10 CFR 50.91(a)(6), FPL requests that Turkey Point Unit 3 TS 3/4.1.3.1, 3/4.1.3.2 and 3/4.1.3.6 be modified to allow the use of an alternate method of determining rod position for M-6 and G-5 control rods. This would be effective during Unit 3 Cycle 22 only, until repair of the indication system can be completed.

An additional failure of the RPI for control rod G-5 recently occurred with Control Bank A in the all rods out position at 230 steps. This was confirmed by flux mapping. Troubleshooting activities outside containment have indicated intermittent low resistance between the primary and secondary coils and shield. Specialty equipment was used to further identify the fault inside containment. The test results indicated disturbances at the reactor head or curb box connector area. Accessibility and significant radiation dose prevent repairs during power. The connector(s) or detector coils need inspection and repair during an outage.

For the plant to conduct a shutdown to repair the inoperable RPI at this time would be unnecessary. The proposed changes provide adequate controls to ensure that the rod position is known and to ensure that a rod drop or misalignment is detectable. The justification of the requested changes concludes that the increase in the likelihood of an undetected rod drop or misalignment is negligible and that the basis and consequences of the accident analyses are maintained.

Repairs will be performed at the earliest opportunity, when Turkey Point Unit 3 enters Mode 3. If attempted repairs are not successful in Mode 3, Turkey Point Unit 3 will enter Mode 5 to effect the repairs for the inoperable RPIs. The RPIs will be repaired no later than Unit 3 Cycle 23 refueling outage in Fall 2007.

## DESCRIPTION OF PROPOSED TS CHANGE

The current Technical Specifications for Unit 4 were previously revised with Exigent Technical Specification Amendment 221 dated August 20, 2004, concerning the inoperability of Rod Position Indication System for Unit 4 control rod F-8 in Shutdown Bank B, limited to Unit 4 Cycle 21 only. The RPI system for F-8 was repaired during Unit 4 refueling operations; thus, the associated TS revisions are no longer in effect. The TSs will be revised by a future amendment to remove the associated notes regarding the inoperability of the Unit 4 control rod F-8 in Shutdown Bank B, since the changes to the Unit 4 Technical Specifications do not meet the standards for exigent treatment.

With one analog RPI per bank inoperable, TS action statement a. of TS 3.1.3.2 currently requires that 1.) Determine the position of the non-indicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and within one hour after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or 2.) Reduce THERMAL POWER to less than 75% of RATED THERMAL POWER within 8 hours.

FPL is currently implementing action statement a.1 due to the inoperable RPI for control rod G-5 in Control Bank A. In addition, due to the failure of the analog RPI for control rod M-6 in Control Bank C in September 2006, FPL is currently implementing action statement a.1 by use of an alternate method of determining rod position for control rod M-6, as approved by the NRC under License Amendment 230 for Turkey Point Unit 3 Cycle 22.

The proposed Unit 3 TS changes regarding the use of an alternate method of determining rod position which is currently approved for control rod M-6, for the inoperable RPI for control rod G-5 in Control Bank A are summarized below. Marked-up and clean Technical Specification pages for the proposed changes are provided as Attachments 3 and 4.

A description of the proposed changes is provided below.

For TS 3/4.1.3.1, Movable Control Assemblies, and 3/4.1.3.2, Position Indicating Systems – Operating, the following note is revised (underlined text) relating to the use of an alternate method for analog rod position indication for control rod G-5 in Control Bank A:

> "During Unit 3 Cycle 22, the position of Rod M-6 <u>in</u> Control Bank C<u>, and Rod G-5 in Control Bank A,</u> will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed."

For TS Surveillance Requirement of 4.1.3.1.1, the following note is revised regarding the use of an alternate method for analog rod position indication for control rod G-5 in Control Bank A:

"During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for rods M-6 and G-5 do not require the 4 hour comparison of demanded versus actual position per 4.1.3.1.1."

For Surveillance Requirements of 4.1.3.2.1, the following note is revised regarding the use of an alternate method for analog rod position indication for control rod G-5 in Control Bank A:

"During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for rods M-6 and G-5 do not require the 4 hour comparison of demanded versus actual position per 4.1.3.2.1."

For Surveillance Requirements of 4.1.3.6, the following note is revised regarding the use of an alternate method for analog rod position indication for control rod G-5 in Control Bank A:

"During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state.

## JUSTIFICATION FOR PROPOSED TS CHANGE

As described in the bases for Specification 3.1.3, the purpose of the rod control system, of which the RPIs are an integral part, is to ensure that: "(1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) the potential effects of rod misalignment on associated accident analyses are limited. OPERABILITY of the control rod position indicators is required to determine control rod positions and thereby ensure compliance with the control rod alignment and insertion limits."

FPL has determined that these objectives can be met with an inoperable RPI in both Control Banks A and C without subjecting the movable incore system to unnecessary additional wear. FPL is currently utilizing a spare control room recorder point to track parameters of the stationary gripper coil of the Control Rod Drive Mechanism (CRDM) for rod M-6 and continues to verify at least once every 8 hours that the coil has not changed state. FPL proposes to utilize an additional spare control room recorder point to track the parameters of the stationary gripper coil of the Control Rod Drive Mechanism (CRDM) for

rod G-5 and verify that the coil has not changed state at least once every 8 hours. The 8-hour surveillance period is consistent with the current operational requirements for control rod M-6 and G-5 flux trace position determination and is more frequent than the normal 12-hour requirement for position determination specified in TS 4.1.3.1.1. If the coil from either M-6 or G5 has changed state, a determination of the affected control rod position (either M-6 or G-5) will be made by using the movable incore detector system in accordance with plant procedures. Regardless, at least once every 31 effective full power days, a confirmation of the position of M-6 and G-5 will be made, using the movable incore system.

In summary, FPL concludes that the proposed change will ensure that the intent of Technical Specifications are met.

In evaluating the requested change, the following conditions were considered:

- Rod Drop or Rod Misalignment During Power Operation
- Rod Drop or Rod Misalignment During Reactor Startup
- Reactor Trip
- SHUTDOWN MARGIN

Rod Drop or Rod Misalignment During Power Operation

A full rod drop of this control rod would be immediately detectable by other means than the position indication system. Independent indication of a dropped control rod is obtained by using the excore power range signals. This rod drop detection circuit is actuated upon sensing a rapid decrease in flux and is designed such that normal load variations do not cause it to be actuated. Furthermore, a negative reactivity insertion corresponding to the reactivity worth of a full rod drop of control rod M-6 or G-5 would cause a noticeable change in core parameters including core power and core average temperature.

A rod misalignment of this control rod may also be detectable by other means, e.g. axial flux deviation and the required operator actions would therefore not be dependent on the status of the individual rod position indication system. For the infrequent instances when Control Bank C or A movement is required during power operation, a determination of control rod M-6 or G-5 position will be made by using the movable incore detector system in accordance with plant procedures.

With alternate CRDM parameter monitoring and rod drop/misalignment parameter indications, the increase in the likelihood of an undetected rod drop or misalignment is considered to be negligible.

Rod Drop or Misalignment During Reactor Startup

Repairs will be performed at the earliest opportunity, when Turkey Point Unit 3 enters Mode 3. If attempted repairs are not successful in Mode 3, Turkey Point Unit 3 will enter Mode 5 to effect the repairs for the inoperable RPIs. Turkey Point will not restart Unit 3 with inoperable RPIs.

Reactor Trip

Following a reactor trip, the position indication system is used to verify that all rods have fully inserted. Current plant procedures require emergency boration if more than one rod fails to fully insert. The inoperability of the position indication system prevents verification of insertion for the control rod M-6 in Control Bank C and control rod G-5 in Control Bank A during reactor trip. As a result, emergency boration will be required upon a reactor trip consistent with current post-trip procedures. Turkey Point typically performs a manual reactor trip from approximately 25% power in the event of a controlled shutdown so that these post-trip procedures would also be used.

Shutdown Margin

Consistent with TS 3/4.1.1.1, SHUTDOWN MARGIN in Modes 1 and 2 is ensured by verifying compliance with the control bank insertion limits of TS 3.1.3.6. The surveillance specified in TS 4.1.3.6 is performed with the Rod Insertion Limit Monitor, which relies on the group step counter demand position indication and is unaffected by the out-of-service Analog RPI for Rods M-6 and G-5. Nevertheless, in the case when the Rod Insertion Limit Monitor is inoperable, the analog RPI for individual rods can be used to demonstrate compliance with TS 3.1.3.6 consistent with TS surveillance requirement 4.1.3.6. The proposed alternate method to monitor the stationary gripper coil for Rods M-6 and G-5 will provide assurance that the position has not changed and remains within the allowed misalignment with the group step counter demand position for Control Bank C and Control Bank A and the control bank insertion limits of TS 3.1.3.6.

In addition, verification of compliance with required SHUTDOWN MARGIN in Modes 1 and 2 also relies upon the control rods being movable and trippable. This is verified by periodic rod exercise consistent with TS surveillance requirement 4.1.3.1.2. During the performance of this rod exercise procedure, control rods M-6 and G-5 will be exercised and flux traces will be performed after insertion and removal to confirm the position of control rods M-6 and G-5. Thus, the moveable and trippable status of M-6 and G-5 will be confirmed and control rods M-6 and G-5 can continue to be credited in verification of SHUTDOWN MARGIN in Modes 1 and 2.

Consistent with TS 3/4.1.1.1 and TS 3/4.1.1.2, SHUTDOWN MARGIN in Modes 3, 4 and 5 is ensured by considering Reactor Coolant System (RCS) boron concentration, control rod position, RCS average temperature, fuel burnup, xenon concentration and samarium

concentration. Plant procedures ensure SHUTDOWN MARGIN in Modes 3, 4 and 5 by specifying RCS boron concentration requirements that consider all these factors. While in Modes 3, 4 and 5 the analog rod position indication is relied upon to determine control rod position. While the analog RPIs for control rods M-6 and G-5 remain out-of-service in Modes 3, 4 and 5, rod position cannot be easily determined. Accordingly, these RCS boron concentration requirements will be increased to consider an allowance for the withdrawn worth of control rods M-6 and G-5 and a third control rod that provides the highest combined reactivity allowance. Shutdown Margin Calculation procedure 0-OP-028.2 will be revised to ensure that shutdown margin limits continue to be met for the remainder of this operating cycle. The use of the alternate methodology requires that the pertinent procedures are modified to account for the inoperable RPIs.

Thus, the proposed alternate position verification for control rods M-6 and G-5 while at power, normal rod exercise surveillance of control rods M-6 and G-5, and increased shutdown boron concentration requirements will ensure compliance with the SHUTDOWN MARGIN requirements of TS 3.1.1.1 and TS 3.1.1.2 will be maintained.

## Proposed Alternate Rod Position Monitoring Method Implementation

### Parameter Monitored

The parameter monitored for control rods M-6 and G-5 will be the stationary gripper coil current. The control rods are held in place by energized stationary gripper coils. A control rod can not be moved without de-energizing the stationary gripper coil. The rod control power cabinet design uses a resistor to monitor the coil current. The gripper coil current (measured as an equivalent voltage) will be monitored on an existing control room recorder, R-3-348. This digital recorder is a Yokogawa model DX-208 eight-channel recorder. This is mounted on a vertical panel within the control room surveillance area. R-3-348 is a multi-channel recorder with currently one channel in continuous use for Generator Gross Mega-Watts and one channel used periodically for Auxiliary Feedwater testing. Two spare channels will be used to display gripper current for control rod M-6 and G-5. The normal gripper current is 4.4 amps, which when measured across the resistor will be equivalent to 275 milli-volts. The recorder has alarm indication in a form of a display window, which is programmed for a low voltage alarm indicative of a gripper coil change of state.

### Operator Training

The licensed Reactor and Senior Reactor Operators will be responsible for monitoring the output data from the alternate monitoring equipment, recorder R-3-348. The recorder will be programmed to display control rod M-6 and G-5 gripper trends and numerical values. Operating procedure 3-OSP-201.1 " RCO Daily Log", will provide instructions for monitoring gripper trends. Accordingly, the indicated value for control rods M-6 and G-5 will be logged by the Operators at least every 8 hours. The Operators will be able to

identify any changes in gripper coil state based on a deviation from the normal state, which is defined by a predetermined operating band as well as by a programmed alarm, and by observing the historical trend line displayed on the recorder. In addition, a Stationary Gripper Coil Status Annunciator will be added to Control Room Panel 3F-2/1 providing an audible alarm and a flashing light on a preset high or low gripper coil voltage indicating a potential change in rod position for either M-5 or G-5. The actions prescribed in the Annunciator Response and Off Normal Operating procedures for a change in the gripper value are the same as those for a rod that is indicated to be deviating based on an individual RPI.

Impact on Indications and Alarms:

The following table provides a summary of the indications and alarms and how they are affected by the inoperable RPI for control rods M-6 and G-5 :

| Function | Indication / Alarm Identification | Normal Operation | Affect of Modified Operation |
|---|---|---|---|
| Analog Meter Indication | RPI M-6 and G-5 Panel 3C01 | Provides analog rod position reading for control rod M-6 and G-5. | This indication will be disabled and considered out-of-service for Rod M-6 and G-5. |
| Rod Bottom Indication Lights | RPI M-6: Panel 3QR70 & 3C01<br>RPI G-5:<br>Panel 3QR69 & 3C01 | Lights illuminate when any rod is within 20 steps or closer to the bottom of the core. | This indication will be disabled and considered out-of-service for Rod M-6 and G-5. The lights will not be capable of illumination. |
| Rod Bottom / Rod Drop Annunciation | Annunciator window B7/1 – NIS / RPI Rod Drop Rod Stop | This annunciation is actuated when any rod is within 20 steps or closer to the bottom of the core. | The ability of RPI M-6 and G-5 to actuate this annunciation will be disabled. |
| Rod Deviation Annunciation | Annunciator window B9/3 Rod Deviation | This annunciation is actuated for any deviation of 12 (24 moving) steps between any two rods in the same bank. | The ability of RPI M-6 and G-5 to actuate this annunciation will be disabled. |

| Function | Indication / Alarm Identification | Normal Operation | Affect of Modified Operation |
|---|---|---|---|
| Rod Insertion Limit Monitor | Annunciator window B8/1 & B8/2 Rod Bank A/B/C/D Low Limit & Extra Low Limit | This annunciation is actuated for any control bank at or below its B8/2:lo-lo limit (Banks A & B – 203 steps, Banks C & D variable per COLR rod insertion limit) and B8/1: lo-limit (Banks A & B – 223 steps, Bank C 10 steps above lo-lo limit and Band D 20 steps above lo-lo limit) | This annunciation relies on the group step counter demand position indication and is unaffected by the out-of-service Analog RPI for Rod M-6 and G-5. |
| Gross Megawatts Recorder | Yokogawa Recorder R-3-348 Panel 3C04 | Provide a single continuous recording of the gross megawatts from the main generator. | Two additional recorder channel indications will be added to the function of the equipment. The indications will provide continuous recording and indication of the Stationary Gripper status for Rod M-6 and G-5. |
| Gross Megawatts Recorder | Yokogawa Recorder R-3-348 Panel 3C04 | No alarms are utilized on this recorder. | High and low alarm indication light settings will be provided on this recorder for the Stationary Gripper status for Rod M-6 and G-5. |
| Stationary Gripper Coil Status Annunciator | Annunciator window 3F-2/1 | Currently a spare annunciator window | This annunciation will be actuated on a preset high or low gripper coil voltage for Rod M-6 and G-5 indicating potential change in the stationary gripper status. An audible alarm and flashing light will be provided until acknowledged. Window will be lit until condition clears. |

Compensatory Measures

The following compensatory measures will be used to offset the loss of indication and alarms affected by the inoperable RPI for either control rods M-6 or G-5. Training with the instrumentation required for the alternate methodology will be provided to the reactor operators and Instrumentation and Control Maintenance technicians to assure familiarity with new plant conditions and modified procedures.

For the Analog Meter Indication:

The specific position indication of height for the individual RPI of either control rods M-6 and G-5 that will not be available on the alternate monitoring equipment will be compensated for by performing flux traces. Flux traces will be required following rod motion that affects either Control Bank C or Control Bank A. This measure will be procedurally driven by the general operating procedures that govern reactor operation and the surveillance procedure that exercises all of the rods on a routine basis. The traces during the rod exercising procedure will be performed following the insertion of either Control Bank C or Control Bank A and following the subsequent withdrawal to 230 steps.

For the Rod Bottom Light Indication and Rod Bottom Annunciation Alarm:

The M-6 and G-5 Rod Bottom Light and Rod Bottom Annunciation Alarm that will not be available on the alternate monitoring equipment will be compensated for by the procedurally driven requirement to perform a flux trace any time a gripper coil change in state is indicated on the recorder. In the case of an indicated change in state on the recorder for M-6 or G-5, the Operators will monitor the plant response as trained for a Dropped Rod event. They will specifically monitor for changes in RCS temperature and pressure, changes of indicated reactor power and indicated neutron flux, changes in generator output and pressurizer level. If no changes in plant parameters are noted along with no change in state based on the alternate monitoring indication, a flux trace is still procedurally required. If changes are noted in plant parameters, it will be assumed that the rod has dropped and required actions will be taken. If another rod drops in conjunction with the indications discussed for either M-6 or G-5, it will be assumed that two rods dropped and Operators will take appropriate actions.

For the Rod Deviation Annunciation Alarm:

The Rod Deviation Annunciation Alarm that will be lost for control rods M-6 and G-5, will be compensated by flux traces driven from the Annunciator Response procedure as well as the routine surveillance procedure when a gripper coil change in state is observed on the alternate monitoring equipment.

# DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

## DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

The Commission has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with a proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

Florida Power and Light Company (FPL) has concluded that the proposed amendment to the Turkey Point Unit 3 operating license does not involve a significant hazards consideration. In support of this determination, an evaluation of each of the three standards set forth in 10 CFR 50.92 is provided below.

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   No. The proposed change provides an alternative method for verifying rod position of control rod M-6 and G-5. The proposed change meets the intent of the current specification in that it ensures verification of position of the control rod once every eight (8) hours. The proposed change provides only an alternative method of monitoring control rod position and does not change the assumption or results of any previously evaluated accident.

   Therefore, operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   No. As described above, the proposed change provides only an alternative method of determining the position of Unit 3 control rods M-6 and G-5. No new accident initiators are introduced by the proposed alternative manner of performing rod position verification. The proposed change does not affect the reactor protection system or the reactor control system. Hence, no new failure modes are created that would cause a new or different kind of accident from any accident previously evaluated.

Therefore, operation of the facility in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

   No. The bases of Specification 3.1.3.2 state that the operability of the rod position indicators is required to determine control rod positions and thereby ensure compliance with the control rod alignment and insertion limits. The proposed change does not alter the requirement to determine rod position but provides an alternative method for determining the position of the affected rods. As a result, the initial conditions of the accident analysis are preserved and the consequences of previously analyzed accidents are unaffected.

   Therefore, operation of the facility in accordance with the proposed amendments would not involve a significant reduction in the margin of safety.

Based on the reasoning presented above, FPL has determined that the requested changes involve no significant hazards consideration.

**Environmental Consideration**

The proposed license amendment changes requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The proposed amendment involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and no significant increase in individual or cumulative occupational radiation exposure. FPL concluded that the proposed amendment involves no significant hazards consideration and meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and that, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendment.

**Conclusion**

FPL concludes, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be detrimental to the common defense and security or to the health and safety of the public.

Turkey Point Unit 3
Docket No. 50-250
License Amendment Request
Inoperable Rod Position Indication

L-2007-083
Attachment 3

TURKEY POINT UNIT 3 MARKED-UP TECHNICAL SPECIFICATION PAGES

Pages 3/4 1-17
Pages 3/4 1-18
Pages 3/4 1-20
Pages 3/4 1-21
Pages 3/4 1-26

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

GROUP HEIGHT

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full length (shutdown and control) rods shall be OPERABLE and positioned within the Allowed Rod Misalignment between the Analog Rod Position Indication ** and the group step counter demand position within one hour after rod motion. The Allowed Rod Misalignment shall be defined as:

a. for THERMAL POWER less than or equal to 90% of RATED THERMAL POWER, the Allowed Rod Misalignment is ± 18 steps, and

b. for THERMAL POWER greater than 90% of RATED THERMAL POWER, the Allowed Rod Misalignment is ± 12 steps.

APPLICABILITY: MODES 1* and 2*

ACTION:

a. With one or more full length rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in HOT STANDBY within 6 hours.

b. With more than one full length rod inoperable or misaligned from the group step counter demand position by more than ± 12 steps and THERMAL POWER greater than 90% of RATED THERMAL POWER, within 1 hour either:

   1. Restore all indicated rod positions to within the Allowed Rod Misalignment, or

   2. Reduce THERMAL POWER to less than 90% of RATED THERMAL POWER and confirm that all indicated rod positions are within the Allowed Rod Misalignment, or

   3. Be in HOT STANDBY within the following 6 hours.

c. With more than one full length rod inoperable or misaligned from the group step counter demand position by more than ± 18 steps and THERMAL POWER less than or equal to 90% of RATED THERMAL POWER, within 1 hour either:

   1. Restore all indicated rod positions to within the Allowed Rod Misalignment, or

   2. Be in HOT STANDBY within the following 6 hours.

* See Special Test Exceptions 3.10.2 and 3.10.3.

**During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed, until the repair of the indication system for this rod is completed. and Rod G-5 in Control Bank A,

**During Unit 3 Cycle 22, the position of Rod M-6 Control Bank C will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

d. With one full length rod inoperable due to causes other than addressed by ACTION a, above, or misaligned from its group step counter demand position by more than the Allowed Rod Misalignment of Specification 3.1.3.1, POWER OPERATION may continue provided that within one hour either:

1. The rod is restored to OPERABLE status within the Allowed Rod Misalignment of Specification 3.1.3.1, or

2. The remainder of the rods in the bank with the inoperable rod are aligned to within the Allowed Rod Misalignment of Specification 3.1.3.1 of the inoperable rod while maintaining the rod sequence and insertion limits of Specification 3.1.3.6; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation, or

3. The rod is declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. POWER OPERATION may then continue provided that:

a) The THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the power range neutron flux high trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER. THERMAL POWER shall be maintained less than or equal to 75% of RATED THERMAL POWER until compliance with ACTIONS 3.1.3.1.d.3.c and 3.1.3.1.d.3.d below are demonstrated, and

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours, and

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours, and

d) A reevaluation of each accident analysis of Table 3.1-1 is performed within 5 days; this reevaluation shall confirm that the previously analyzed results of these accidents remain valid for the duration of operation under these conditions.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position * of each full length rod shall be determined to be within the Allowed Rod Misalignment of the group step counter demand position at least once per 12 hours (allowing for one hour thermal soak after rod motion) except during time invervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours. **

4.1.3.1.2 Each full length rod not fully inserted in the core shall be determined to be OPERABLE by movement of at least 10 steps in any one direction at least once per 92 days.

* During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 4 Cycle 21, the position of Rod F-8, Shutdown Bank B, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for Rod F-8 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.1.1. in AND Rod G-5 in Control Bank A,

* During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed. in AND Rod G-5 in Control Bank A,

** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for ~~Rod M-6~~ Rods M-6 and G-5 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.1.1.

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEMS - OPERATING

LIMITING CONDITION FOR OPERATION (Continued)

3.1.3.2 The Analog Rod Position Indication System * and the Demand Position Indication System shall be OPERABLE and capable of determining the respective actual and demanded shutdown and control rod positions as follows:

a. Analog rod position indicators *, within one hour after rod motion (allowance for thermal soak);

All Shutdown Banks: within the Allowed Rod Misalignment of Specification 3.1.3.1 of the group demand counters for withdrawal ranges of 0-30 steps and 200-All Rods Out as defined in the Core Operating Limits Report.

Control Bank A and B: within the Allowed Rod Misalignment of Specification 3.1.3.1 of the group demand counters for withdrawal ranges of 0-30 steps and 200-All Rods Out as defined in the Core Operating Limits Report.

Control Banks C and D: within the Allowed Rod Misalignment of Specification 3.1.3.1 of the group demand counters for withdrawal range of 0-All Rods Out as defined in the Core Operating Limits Report.

b. Group demand counters; ± 2 steps.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With a maximum of one analog rod position indicator per bank inoperable either:

1. Determine the position of the non-indicating rod(s) * indirectly by the movable incore detectors at least once per 8 hours and within one hour after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or

2. Reduce THERMAL POWER to less than 75% of RATED THERMAL POWER within 8 hours.

b. With a maximum of one demand position indicator per bank inoperable either:

1. Verify that all analog rod position indicators for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within the Allowed Rod Misalignment of Specification 3.1.3.1 at least once per 8 hours, or

2. Reduce THERMAL POWER to less than 75% of RATED THERMAL POWER within 8 hours.

* During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed. and Rod G-5 in Control Bank A.

* During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS

4.1.3.2.1 Each analog rod position indicator * shall be determined to be OPERABLE by verifying that the Demand Position Indication System and the Analog Rod Position Indication System * agree within the Allowed Rod Misalignment of Specification 3.1.3.1 (allowing for one hour thermal soak after rod motion) at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor ** is inoperable, then compare the Demand Position Indication System and the Analog Rod Position Indication System at least once per 4 hours.

4.1.3.2.2 Each of the above required analog rod position indicator(s) * shall be determined to be OPERABLE by performance of a CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST performed in accordance with Table 4.1-1.

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* During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 4 Cycle 21, the position of Rod F-8, Shutdown Bank B, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for Rod F-8 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.2.1.

* During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C AND Rod G-5 in Control Bank A will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C AND Rod G-5 in Control Bank A may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for ~~Rod M-6~~ Rods M-6 AND G-5 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.2.1.

REACTIVITY CONTROL SYSTEMS

CONTROL ROD INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6 The control banks shall be limited in physical insertion specified in the Rod Bank Insertion Limits curve, defined in the CORE OPERATING LIMITS REPORT.

APPLICABILITY: MODES 1* and 2* **

ACTION:

With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2 either:

a. Restore the control banks to within the limits within 2 hours, or

b. Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the bank position specified in the Rod Bank Insertion Limits curve, defined in the CORE OPERATING LIMITS REPORT, or

c. Be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours, except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions *** at least once per 4 hours.

* See Special Test Exceptions Specifications 3.10.2 and 3.10.3.
** With $K_{eff}$ greater than or equal to 1.0
*** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C and Rod G-5 in Control Bank A may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state.

Turkey Point Unit 3
Docket No. 50-250
License Amendment Request
Inoperable Rod Position Indication

L-2007-083
Attachment 4

TURKEY POINT UNIT 3 CLEAN TECHNICAL SPECIFICATION PAGES

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Pages 3/4 1-26

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

GROUP HEIGHT

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full length (shutdown and control) rods shall be OPERABLE and positioned within the Allowed Rod Misalignment between the Analog Rod Position Indication ** and the group step counter demand position within one hour after rod motion. The Allowed Rod Misalignment shall be defined as:

a. for THERMAL POWER less than or equal to 90% of RATED THERMAL POWER, the Allowed Rod Misalignment is ± 18 steps, and

b. for THERMAL POWER greater than 90% of RATED THERMAL POWER, the Allowed Rod Misalignment is ± 12 steps.

APPLICABILITY: MODES 1* and 2*

ACTION:

a. With one or more full length rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in HOT STANDBY within 6 hours.

b. With more than one full length rod inoperable or misaligned from the group step counter demand position by more than ± 12 steps and THERMAL POWER greater than 90% of RATED THERMAL POWER, within 1 hour either:

   1. Restore all indicated rod positions to within the Allowed Rod Misalignment, or

   2. Reduce THERMAL POWER to less than 90% of RATED THERMAL POWER and confirm that all indicated rod positions are within the Allowed Rod Misalignment, or

   3. Be in HOT STANDBY within the following 6 hours.

c. With more than one full length rod inoperable or misaligned from the group step counter demand position by more than ± 18 steps and THERMAL POWER less than or equal to 90% of RATED THERMAL POWER, within 1 hour either:

   1. Restore all indicated rod positions to within the Allowed Rod Misalignment, or

   2. Be in HOT STANDBY within the following 6 hours.

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* See Special Test Exceptions 3.10.2 and 3.10.3.

**During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed, until the repair of the indication system for this rod is completed.

** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

d. With one full length rod inoperable due to causes other than addressed by ACTION a, above, or misaligned from its group step counter demand position by more than the Allowed Rod Misalignment of Specification 3.1.3.1, POWER OPERATION may continue provided that within one hour either:

1. The rod is restored to OPERABLE status within the Allowed Rod Misalignment of Specification 3.1.3.1, or

2. The remainder of the rods in the bank with the inoperable rod are aligned to within the Allowed Rod Misalignment of Specification 3.1.3.1 of the inoperable rod while maintaining the rod sequence and insertion limits of Specification 3.1.3.6; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation, or

3. The rod is declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. POWER OPERATION may then continue provided that:

a) The THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within one hour and within the next 4 hours the power range neutron flux high trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER. THERMAL POWER shall be maintained less than or equal to 75% of RATED THERMAL POWER until compliance with ACTIONS 3.1.3.1.d.3.c and 3.1.3.1.d.3.d below are demonstrated, and

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours, and

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours, and

d) A reevaluation of each accident analysis of Table 3.1-1 is performed within 5 days; this reevaluation shall confirm that the previously analyzed results of these accidents remain valid for the duration of operation under these conditions.

SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position * of each full length rod shall be determined to be within the Allowed Rod Misalignment of the group step counter demand position at least once per 12 hours (allowing for one hour thermal soak after rod motion) except during time invervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours. **

4.1.3.1.2 Each full length rod not fully inserted in the core shall be determined to be OPERABLE by movement of at least 10 steps in any one direction at least once per 92 days.

* During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 4 Cycle 21, the position of Rod F-8, Shutdown Bank B, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for Rod F-8 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.1.1.

* During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for Rods M-6 and G-5 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.1.1.

LIMITING CONDITION FOR OPERATION (Continued)

3.1.3.2 The Analog Rod Position Indication System * and the Demand Position Indication System shall be OPERABLE and capable of determining the respective actual and demanded shutdown and control rod positions as follows:

a. Analog rod position indicators *, within one hour after rod motion (allowance for thermal soak);

All Shutdown Banks: within the Allowed Rod Misalignment of Specification 3.1.3.1 of the group demand counters for withdrawal ranges of 0-30 steps and 200-All Rods Out as defined in the Core Operating Limits Report.

Control Bank A and B: within the Allowed Rod Misalignment of Specification 3.1.3.1 of the group demand counters for withdrawal ranges of 0-30 steps and 200-All Rods Out as defined in the Core Operating Limits Report.

Control Banks C and D: within the Allowed Rod Misalignment of Specification 3.1.3.1 of the group demand counters for withdrawal range of 0-All Rods Out as defined in the Core Operating Limits Report.

b. Group demand counters; ± 2 steps.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With a maximum of one analog rod position indicator per bank inoperable either:

1. Determine the position of the non-indicating rod(s) * indirectly by the movable incore detectors at least once per 8 hours and within one hour after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or

2. Reduce THERMAL POWER to less than 75% of RATED THERMAL POWER within 8 hours.

b. With a maximum of one demand position indicator per bank inoperable either:

1. Verify that all analog rod position indicators for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within the Allowed Rod Misalignment of Specification 3.1.3.1 at least once per 8 hours, or

2. Reduce THERMAL POWER to less than 75% of RATED THERMAL POWER within 8 hours.

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* During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

* During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

SURVEILLANCE REQUIREMENTS

4.1.3.2.1 Each analog rod position indicator * shall be determined to be OPERABLE by verifying that the Demand Position Indication System and the Analog Rod Position Indication System * agree within the Allowed Rod Misalignment of Specification 3.1.3.1 (allowing for one hour thermal soak after rod motion) at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor ** is inoperable, then compare the Demand Position Indication System and the Analog Rod Position Indication System at least once per 4 hours.

4.1.3.2.2 Each of the above required analog rod position indicator(s) * shall be determined to be OPERABLE by performance of a CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST performed in accordance with Table 4.1-1.

* During Unit 4 Cycle 21, the position of Rod F-8 Shutdown Bank B will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 4 Cycle 21, the position of Rod F-8, Shutdown Bank B, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for Rod F-8 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.2.1.

* During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, will be determined every 8 hours by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state, until the repair of the indication system for this rod is completed.

** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state and it will not provide an input into the Rod Position Deviation Monitor. The use of the alternate method for Rods M-6 and G-5 does not require the 4 hour comparison of demanded versus actual position per 4.1.3.2.1.

REACTIVITY CONTROL SYSTEMS

CONTROL ROD INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6 The control banks shall be limited in physical insertion specified in the Rod Bank Insertion Limits curve, defined in the CORE OPERATING LIMITS REPORT.

APPLICABILITY: MODES 1* and 2* **

ACTION:

With the control banks inserted beyond the above insertion limits, except for surveillance testing pursuant to Specification 4.1.3.1.2 either:

a. Restore the control banks to within the limits within 2 hours, or

b. Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the bank position specified in the Rod Bank Insertion Limits curve, defined in the CORE OPERATING LIMITS REPORT, or

c. Be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours, except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions *** at least once per 4 hours.

* See Special Test Exceptions Specifications 3.10.2 and 3.10.3.
** With $K_{eff}$ greater than or equal to 1.0
*** During Unit 3 Cycle 22, the position of Rod M-6 in Control Bank C, and Rod G-5 in Control Bank A, may be monitored by verifying gripper coil parameters of the Control Rod Drive Mechanism to determine it has not changed state.