

#### 4.7.2 Control Rod Program Verification

##### Applicability

Applies to surveillance of the control rod systems.

##### Objective

To verify that the designated control rod (by core position 1 through 69) is operating in its programmed functional position and group. (Rod 1 through 12, Groups 1-8)

##### Specification

- 4.7.2.1 Whenever the control rod drive patch panel is locked (after inspection, test, reprogramming, or maintenance) each control rod drive mechanism shall be selected from the control room and exercised by a movement of approximately two inches to verify that the proper rod has responded as shown on the unit computer printout of that rod.
- 4.7.2.2 Whenever power or instrumentation cables to the control rod drive assemblies atop the reactor or at the bulkhead are disconnected or removed, an independent verification check of their reconnection shall be performed.

##### Bases

Each control rod has a relative and an absolute position indicator system. One set of outputs goes to the plant computer, identified by a unique number (1 through 69) associated with only one core position. The other set of outputs goes to a programmable bank of 69 edgewise meters in the control room. In the event that a patching error is made in the patch panel or connectors in the cables leading to the control rod drive assemblies or to the control room meter bank are improperly transposed upon reconnection, these errors and transpositions will be discovered by a comparative check by: (1) selecting a specific rod from one group (e.g., Rod 1 in Regulating Group 6), (2) noting that the program-approved core position for this rod of the group (assume the approved core position is No. 53), (3) exercising of the selected rod and (4) noting that the computer displays both absolute and relative position response for the approval core position (assumed to be position No. 53) and that the proper meter responds in the control room display bank (assumed to be Rod 1 in Group 6) for both absolute and relative meter positions. This type of comparative check will not assure detection of improperly connected cables inside the reactor building. For these, it is necessary for a responsible person, other than the one doing the work, to verify by appropriate means that each cable has been matched to the proper control rod drive assembly.

Attachment # 2

Markup of Existing Technical Specification Bases

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##### Objective

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##### Specification

- 4.7.2.1 Whenever the control rod drive patch panel is locked (after inspection, test, reprogramming, or maintenance) each control rod drive mechanism shall be selected from the control room and exercised by a movement of approximately two inches to verify that the proper rod has responded as shown on the unit computer printout of that rod.
- 4.7.2.2 Whenever power or instrumentation cables to the control rod drive assemblies atop the reactor or at the bulkhead are disconnected or removed, an independent verification check of their reconnection shall be performed.

##### Bases

Each control rod has a relative and an absolute position indicator system. One set of outputs goes to the plant computer, identified by a unique number (1 through 69) associated with only one core position. The other set of outputs goes to a programmable bank of 69 edgewise meters in the control room. In the event that a patching error is made in the patch panel or connectors in the cables leading to the control rod drive assemblies or to the control room meter bank are improperly transposed upon reconnection, these errors and transpositions will be discovered by a comparative check by: (1) selecting a specific rod from one group (e.g., Rod 1 in Regulating Group 6), (2) noting that the program-approved core position for this rod of the group (assume the approved core position is No. 53), (3) exercising of the selected rod and (4) noting that the computer prints out both absolute and relative position response for the approval core position (assumed to be position No. 53) and that the proper meter responds in the control room display bank (assumed to be Rod 1 in Group 6) for both absolute and relative meter positions. This type of comparative check will not assure detection of improperly connected cables inside the reactor building. For these, it is necessary for a responsible person, other than the one doing the work, to verify by appropriate means that each cable has been matched to the proper control rod drive assembly.

displays