

NRC INSPECTION MANUAL

INSPECTION PROCEDURE 72584

POWER ASCENSION TEST PROCEDURE REVIEW (EVALUATION OF FLUX ASYMMETRY OR PSEUDO ROD EJECTION TEST)

PROGRAM APPLICABILITY:

72584-01 INSPECTION OBJECTIVE

Ascertain whether one of the identified tests is consistent with regulatory requirements, guidance, license commitments, and technical specifications.

72584-02 INSPECTION REQUIREMENTS

02.01 Flux Asymmetry with Single Rod Assembly Fully Inserted and Partially Inserted (Group A)

If Group A procedures are selected for review, the inspector shall:

- a. Review the FSAR, DL Safety Evaluation Report, and docketed letters from the licensees and verify that the testing commitments have been included.
- b. Verify standard procedures review requirements are met as defined in Procedure 72300.
- c. Verify that the procedure contains acceptance criteria as follows:
 - (1) Core radial and axial power distribution, radial and axial peaking factors, linear heat rate are determined and compared to predicted values.
 - (2) Critical peaking factors, DNBR, peak linear heat rate and its location are determined and compared to predicted values.
- d. Assure that precautions are established for:
 - (1) DNBR
 - (2) Licensed linear heat rate

e. Assure that initial conditions require:

(1) Computer in service

(2) All instrumentation calibrated.

- f. Review test conditions to assure they include the following steps:
 - (1) Within T/S limits partially insert and fully insert one rod of the control bank.
 - (2) Record data for each rod position to determine the flux profile for this operating condition.
 - (3) Determine the DNBR for each of the above rod positions.
 - (4) Return the rod to the normal bank position. Restore normal plant conditions.

02.02 Pseudo Rod Ejection Test with Full Power Rod Configuration (Group B). If Group B procedures are selected for review, the inspector shall:

- a. Review the FSAR, DL Safety Evaluation Report, and docketed letters from the licensee and verify that the testing commitments have been included.
- b. Verify standard procedures review requirements are met as defined in procedure 72300.
- c. Verify that the procedure contains acceptance criteria as follows:
 - (1) Worth of most reactive rod shall be compared to predicted values.
 - (2) Neutron flux profile shall be compared to predicted values.
 - (3) DNB value shall be computed and compared to predicted value.
- d. Assure that precautions require that:
 - (1) Reactivity changes are performed only with specified approvals.
 - (2) Reactor coolant is maintained within temperature and pressure limits.
 - (3) Boric acid tank level shall not be decreased below that at which sufficient boric acid is available to achieve cold shutdown.
 - (4) CRD control system must meet all T/S and Administrative requirements.
 - (5) An accurate log of the step counter must be maintained to ensure that the single unit will be returned to the proper bank position.

- e. Confirm that initial conditions require steady state operation at greater than 10% reactor power.
- f. Review test conditions to assure they contain the following steps:
 - (1) Modify CRD control system to select and withdraw a single rod of the control bank.
 - (2) Adjust boron concentration to maintain reactivity until the selected rod is "out of position" and later is in "Withdrawn."
 - (3) Assure boron sampling and concentration measurements at specified frequency.
 - (4) At specified positions of the control rod obtain a thermocouple map, excore data and selected incore movable detector traces.
 - (5) Assure acceptance criteria is met.
 - (6) Return the control rod to the bank position. Restore CRD control to the design condition. Log all modifications.

72584-03 INSPECTION GUIDANCE

Ascertain whether the licensee has prepared and approved test with applicable provisions of Regulatory Guide 1.68, and with the test program description in the FSAR.

END