

STARTUP TEST PROCEDURE 17

SYSTEM EXPANSION

1. PURPOSE

- A. Verify that the reactor drywell piping system is free and unrestrained with regard to thermal expansion.
- B. Verify that suspension components are functioning in the specified manner.

2. CRITERIA

A. Level 1

- 1. There shall be no evidence of blocking of the displacements of any system component caused by thermal expansion of the system.
- 2. Electrical cables shall not be fully stretched.
- 3. Hangers shall not be bottomed out or have the spring fully stretched.
- 4. Snubbers shall be in the operating range about the midpoint of the total travel range at operating temperature.
- 5. The measured steady state displacement of the recirculation and main steam systems shall not exceed the allowable values.

B. Level 2

- 1. At a steady-state condition, the displacements of instrumented points with displacement measuring devices shall not vary from the calculated values. If measured displacements do not meet these criteria, the piping design engineer must be contacted to analyze the data with regard to design stresses.
- 2. During the heatup cycle, the trace of instrumented points on the main steam and recirculation systems shall fall within a range of 150 percent of the calculated value from the initial cold position in the direction of the calculated value and 50 percent of the calculated value from the initial position in the opposite direction of the calculated value.
- 3. Hangers will be in their operating range between the hot and cold settings.

3. RESULTS

Test Condition 3.

Displacements of instrumented points were recorded at steady state power. Displacements of some points exceeded the thermal expansion criteria. Analyses by General Electric have shown these exceptions with respect to the Main Steam and Recirc Systems to be acceptable with actual displacements yielding acceptable stress levels.

Although the Feedwater System data analysis by Sargent and Lundy is not yet complete, the two instrumented Feedwater points which exceeded the thermal expansion criteria are not expected to produce unacceptable stress levels.