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October 13, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: LaSalle County Station Units 1 and 2
FSAR Changes to the Startup Test Program
NRC Docket Nos. 50-373 and 50-374

Dear Mr. Denton:

Per a telephone conversation between LaSalle County Station personnel and Mr. Bill Long of your office on October 5, 1983, we are transmitting the enclosed marked up changes to the LaSalle County FSAR.

Enclosed please find proposed changes to FSAR Table 14.2-130, Table 14.2-124, Table 14.2-114 and Figure 14.2-2. A summary of each change is provided below.

Table 14.2-130	As this startup test is not included in the Unit 2 Startup Test program because the Unit 2 jet pump adapters are identical to the prototype (Tokai-2) this change allows for the collection of certain vibration data during the preoperational test program. Appropriate changes have also been made to Figure 14.2-2.
Table 14.2-121	The performance of this test during the section activation between 62% and 85% power will yield more meaningful data for purposes of extrapolation to higher power levels.
Table 14.2-114	During the performance of the Unit 1 Startup test program certain expansion data was collected during the non-nuclear heatup associated with STP-34. Because STP-34 has been deleted in the Unit 2 Startup Test Porgram we are requesting permission to use expansion data collected during the non-nuclear heatups which have taken place during the performance of the Unit 2 preoperational test program.

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Figure 14.2-2

The performance of STP-5 at Test Condition 1 has been deleted from the Unit 2 Startup Test Program as a result of the deletion of STP-28 (reference FSAR Question 423.8) STP-5 is performed in conjuction with a planned scram at the particular test condition. With the deletion of STP-28, there are no planned scrams at Test Condition 1, hence the deletion of this test.

The performance of STP-8 has been deleted from the Unit 2 Startup Test Program (reference FSAR Question 423.8) hence the deletion on the Figure.

The performance of STP-28 has ben deleted from the Unit 2 startup Test Program (reference FSAR Question 423.8) hence the deletion on the Figure.

The performance of STP-27 at Test Condition 6 has been deleted from the Unit 2 Startup Test Program (reference FSAR Question 423.8) hence the deletion on the Figure.

The performance of STP-34 has been deleted from the Unit 2 Startup Test Program because Unit 2 is identical to the prototype hence the deletion on the Figure.

The superscript "2" for STP-31 at Test Condition 2 has been eliminated. Scram timing is not possible during the loss of offsite power as the required equipment has no power source.

The remaining changes to the Figure are related to the Reactor Recirculation Flow Control System modes applicable during the performance of STP-23. We feel the changes as shown are more applicable to the testing which occurs at the particular test condition.

It is requested that you confirm the acceptibility of these changes by telecon so that they may be incorporated into an amendment to the FSAR.

One signed original and forty (40) copies of this letter are provided for your use.

If there are any questions in this matter, please contact this office.

Very truly yours,

CW Schroeder 10/15/83

C. W. Schroeder
Nuclear Licensing Administrator

cc: NRC Resident Inspector LSCS
W. Long, NRR

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TABLE 14.2-130

VIBRATION MEASUREMENTS STARTUP TEST

PURPOSE

To obtain vibration measurements on the jet pumps to confirm the mechanical integrity of the system with respect to flow induced vibration and to verify the accuracy of the analytical vibration model. This will be in conformance with Regulatory Guide 1.20 requirements for Non-Prototype, Category II Plants (similar to prototype but some component differences).

DESCRIPTION

During operation, the reactor structure may be forced into many modes of vibrations. Previous vibration measurements for internal structures of similar design indicate that destructive level vibrations will not occur.

Since the LSCS Unit 1 jet pump adapter is a unique design, which differs from the prototype (Tokai-2), and which may introduce different jet pump vibration characteristics from that of the prototype, one jet pump pair is to be instrumented as described below. The LSCS Unit 2 jet pump configuration is identical to that of the prototype (Tokai-2) and, hence, no instrumentation is planned.

Sixteen internal sensors will be used for LSCS Unit 1:

a. Four strain gauges on riser braces (location identical to the prototype).

b. Four strain gauges at 90° intervals on each jet pump adapter, below the shroud support plate.

c. Two piezoelectric accelerometers mounted just below the slip joint on each diffuser.

This test program is in addition to that defined by the flow induced vibration test performed prior to startup (see Table 14.2-45). The startup test will consist of a cold flow test with the reactor vessel at pressures up to 1000 psig and fully loaded, followed by hot power tests performed with the system at normal operating pressure and temperature. During the vibration test vibration amplitudes and frequencies obtained from the sensors will be monitored and recorded. The measured amplitudes and frequencies are then compared to the acceptance criteria to assure that all measured vibration amplitudes are within acceptable levels.

TABLE 14.2-130 (Cont'd)

In addition, a visual inspection of reactor vessel level and pressure instrumentation lines and CRD withdraw and insert lines inside containment will be made in conjunction with this test. The visual inspection will be conducted to identify any excessive vibration. Unit 2 vibration data will be obtained during preoperational test conditions (PT-PV-201)

ACCEPTANCE CRITERIA

Level 1

The peak stress intensity may exceed 10,000 psi (single amplitude) when the component is deformed in a manner corresponding to one of its normal or natural modes but the fatigue usage factor must not exceed 1.0.

Level 2

The peak stress intensity shall not exceed 10,000 psi (single amplitude) when the component is deformed in a manner corresponding to one of its normal or natural modes. This is the low stress limit which is suitable for sustained vibration in the reactor environment for the design life of the reactor components.

INITIAL CONDITIONS

1. All construction tests and preoperational tests are completed and approved.

2. All systems are operational to the extent necessary to perform this test.

TABLE 14.2-121

TURBINE VALVE SURVEILLANCE

PURPOSE

The purpose of this test is to demonstrate acceptable procedures and maximum power levels for recommended periodic surveillance testing of the main turbine control, stop and bypass valves without producing a reactor scram.

DESCRIPTION

Individual main turbine control, stop and bypass valves are tested routinely during plant operation as required for turbine surveillance testing. At several test points the response of the reactor will be observed. The maximum possible power level for performance of these tests along the 100% load line will be established. First actuation will be between 45% and 75% power on the 75% load line. A second actuation will be between 62% and 70% power on the 100% load line. These two test points will be used to extrapolate to the maximum power test condition on the 100% load line with ample margin to scram. Note proximity to APRM flow bias scram point and PCIOMR envelope. Each valve test will be manually initiated and reset. Rate of valve stroking and timing of the close-open sequence will be such that the minimum practical disturbance is introduced and that PCIOMR limits are not exceeded.

85%

ACCEPTANCE CRITERIA

Level 1

The decay ratio of any oscillatory response must be less than 1.0.

Level 2

a. Peak neutron flux must be at least 7.5% below the scram trip setting. Peak vessel pressure must remain at least 10 psi below the high pressure scram setting. Peak heat flux must remain at least 5.0% below its scram trip point.

b. Peak steam flow in each line must remain 10% below the high flow isolation trip setting.

c. The decay ratio of any oscillatory response must be less than 0.25, when operating above the minimum core flow of the recirculation master manual mode.

TABLE 14.2-121 (Cont'd)

INITIAL CONDITIONS

1. All construction tests and preoperational tests are completed and approved.

2. Instrumentation has been installed and calibrated.

3. All systems are operational to the extent required to conduct the test.

TABLE 14.2-114

SYSTEM EXPANSION STARTUP TEST

PURPOSE

To verify that the reactor drywell piping system is free and unrestrained in regard to thermal expansion and that suspension components are functioning in the specified manner. The test also provides data for calculation of stress levels in nozzles and weldments.

DESCRIPTION

Observations and recordings of the horizontal and vertical movements of major equipment and piping in the NSSS and auxiliary systems will be made in order to ensure that components are free to move as designed. Adjustments will be made as necessary for freedom of movement. Unit 2 Expansion data shall be obtained during preoperational test conditions (PT-RR-201 and PT-PV-201) and during startup test conditions.

ACCEPTANCE CRITERIA

Level 1

There shall be no evidence of blocking of the displacement of any system component caused by thermal expansion of the system.

Hangers shall not be bottomed out or have the spring fully stretched.

Shock and sway arrestors shall be in the operating range about the midpoint of the total travel range at operating temperature.

Electrical cables shall not be fully stretched.

The measured steady-state displacement of the recirculation and main steam systems shall not exceed the allowable values.

Level 2

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.

TABLE 14.2-114 (Cont'd)

During the heatup cycle, the trace of the instrumented points shall fall within a range of 150% of the calculated value from the initial cold position in the direction of the calculated value and 50% of the calculated value from the initial position in the opposite direction of the calculated value.

Hangers will be in their operating range between hot and cold settings.

INITIAL CONDITIONS

1. All construction tests and preoperational tests are completed and approved. (For Unit 2 as applicable)

2. Instrumentation is installed and calibrated.

QUESTION 423.8

"Identify the major transient tests that will only be conducted for one unit or commit to provide an amendment to your application identifying these transients at least 9 months prior to fuel loading for NRR review and approval. (Reference page 14.2-17)"

RESPONSE

The startup tests that are to be conducted on Unit 1 only are the Control Rod Sequence Exchange Startup Test, the Shutdown from Outside the Main Control Room Startup Test, and the turbine trip from 100% power portion of the Turbine Stop Valve Trip and Generator Load Rejection Startup Test.

Upon successful demonstration of a method for control rod sequence exchange at the maximum power level (20%-40%) at which it will be permitted, the results will be applicable to Unit 1. Attention is then focused on power distribution and available margin on thermal limits prior to applying Unit 1 test results to Unit 2.

The demonstration of an orderly shutdown from outside the main control room is to be conducted on Unit 1. Because the Unit 2 remote shutdown panel is identical and based on its preoperational test results, it is not necessary to perform a live shutdown from outside the main control room once the procedure has been established on Unit 1. The logic and circuit verification test thoroughly validates this equipment in its preoperationl test series.

If the turbine stop valve and/or control valve trips on Unit 2 at low and intermediate power levels are comparable to those on Unit 1, the high-power trip on Unit 2 will be extrapolated from the results of the high-power trip on Unit 1. If the Unit 2 trips at low and intermediate power levels are not comparable the high-power trip will be performed on Unit 2.

FOR YOUR INFORMATION