U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-388/84-18

Docket No. 50-388

License No. NPF-22 Priority -- Category B

Licensee: Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Facility Name: Susquehanna Steam Electric Station, Unit-2

Inspection At: Salem Township, Pennsylvania

Inspection Conducted: April 2-20, 1984

Inspectors: J.W. Chung, Lead Reactor Engineer — date: 5-8-84

H.H. Nicholas, Lead Reactor Engineer — date: 5-8-84

D.J. Florek, Reactor Engineer — date: 5/8/84

Approved by: L.H. Bettenhausen, Chief, Test Programs Section — date: 5/8/84

Inspection Summary: Inspection on April 2-20, 1984 (Report No. 50-388/84-18)

Areas Inspected: Routine unannounced inspection of Unit-2 startup test program; including witnessing of initial fuel loading activities, administrative activities of startup test program, startup test program procedure reviews and startup test program implementation; technical specification compliance to support initial criticality; compliance with license condition to assure procedures are consistent with technical specifications; followup of open items and tours of the facility. The inspection involved 134 hours onsite by three NRC region-based inspectors.

Results: Within the scope of this inspection, no items of noncompliance were identified.

DETAILS

1. Persons Contacted

Pennsylvania Power & Light Company

M. Buring, Health Physics Supervisor
F. Butler, I&C/Computer Supervisor
* T. Clymer, NQA Coordinator
S. Denson, Assistant Manager, NQA Operations
R. Doebler, Chemistry Supervisor
J. Doxey, Reactor Engineering Supervisor
F. Eisenhuth, Compliance Engineer
R. Fedor, Document Control Center Supervisor
G. Glasser, Unit 2 Foreman I&C
J. Graham, Senior Compliance Engineer
K. Hillman, Nuclear Plant Specialist
* H. Keiser, Superintendent of Plant
J. Klucar, Lead Shift Test Engineer
D. Lauer, ISG Coordinator
R. Lombard, Power Production Engineer Nuclear
T. Markowski, Day Shift Supervisor
C. Myer, Assistant Plant Superintendent, Outages
T. Nork, Startup Coordinator
L. O'Neil, Maintenance Supervisor
H. Palmer, Operations Supervisor
R. Preyo, OQA Supervisor
* A. Piemontese, Power Production Engineer-Compliance
J. Rossa, Engineer I/C
J. Searfoss, Nuclear Plant Specialist
M. Sager, NPE
R. Sheranko, Startup Test Group Supervisor
C. Smith, Power Production Engineer Nuclear
D. Thompson, Assistant Superintendent of Plant
J. Todd, Compliance Engineer
R. Whery, Startup Test Engineer
J. Zentz, RCG Supervisor

General Electric Corporation

T. Czubakowski, Lead Startup Test Engineer
K. Mertes, Operations Manager
M. Warren, Operations Superintendent

Bechtel Power Corporation

E. Figard, ISG Supervisor
P. McDaniel, Engineering

U.S. Nuclear Regulatory Commission

R. Jacobs, Senior Resident Inspector
T. Kenny, Senior Resident Inspector
L. Plisco, Resident Inspector

* denotes those persons in attendance at the exit meeting discussed in section 8 of this report.

The inspector also talked with and interviewed several other licensee employees including members of the technical and engineering staffs, and reactor and auxiliary operators.

2. Licensee Action on Previous Inspection Findings

(Closed) Inspector Followup Item (388/84-01-05) issue for use GO-2TY-102. The inspector verified that the licensee decided to perform the initial startup in accordance with the normal facility procedures. As such GO-2TY-102 is not required. STCN-027 was issued to revise ST-4.1 to use the facility normal startup procedure GO-200-002. The inspector had no further questions. This item is closed.

3. Startup Test Program

References

- SSES Final Safety Analysis Report
- SSES Safety Evaluation Report and Supplements 1, 2, 3, 4, & 5
- Regulatory Guide 1.68 Initial Test Programs for Water-Cooled Reactor Power Plants
- SSES Startup Test Schedule
- SSES Startup Test Administrative Procedure AD-TY-460

3.1 Administrative Controls of Startup Program

The inspector reviewed the administrative and support documents to verify that:

-- Test organization and individual responsibilities were clearly defined in accordance with the startup test administrative procedures, and the responsibilities were properly assigned;

-- Tests to be performed were identified, sequenced, and conducted in compliance with station procedures, Technical Specifications, and Regulatory Guide 1.68;

-- Review, approval, and documentation of tests were in accordance with the station approved procedures;

-- Procedures were consistent with the requirements specified in ANSI N18.7;

-- Procedure changes and test exception reports were promptly issued and approved in accordance with the startup test administrative procedures.

The documents reviewed were:

1 AD-TY-460, Startup Test Administrative Procedure, Revision 5; Draft Copy of Revision 6A.

2. Unit 2 Startup and Test Schedule.

3. Susquehanna Steam Electric Station, Assignment of Outage Engineers.

4. Organization Charts, Technical Section.

5. S&T Group Shift Assignments.

6. Startup Test Change Notices (STCN).

Final Safety Analysis Report, Section 14, Unit 2.

1.1 Findings

The inspector noted that startup and technical groups were reorganized from Unit 1 startup to support the startup activities more efficiently and a startup coordinator was appointed to coordinate and to schedule the startup activities. However, the inspector was concerned with the experienced reactor engineers available to support the startup testing. One senior level reactor engineer was assigned to Unit 1 activities and two (one senior level and junior level) reactor engineers were assigned to the Unit 2 startup program, as compared with the four engineers during the Unit 1 startup testing.

The licensee stated that startup scoping for the reactor engineering activities and man-power allocations would be completed shortly, prior to the initial criticality and that additional support would be assigned as required to the reactor engineering group during busy periods of startup testing.

3.2 Startup Test Procedure Review

Scope

The 24 procedures in Attachment A were reviewed for technical and administrative adequacy and for verification that testing is planned to satisfy regulatory guidance and license commitments. The procedures were examined for management review and approval, procedure format, test objectives clearly stated, prerequisites, environmental conditions acceptance criteria, source of acceptance criteria, initial conditions, references, step-by-step instructions, verification of

prerequisites met, performance documentation and verification, restoration to normal after test, identification of personnel conducting the test, acceptance criteria verification, quality control verification of critical steps or parameters and the procedure is consistent with FSAR commitments. Changes to previously reviewed draft procedures were assessed.

Findings

The inspector verified that the issued procedures had reviewed TRC and PORC review and were issued for use by the Superintendent of Plant. Previous inspections verified QA review and comments on the startup procedures and a sampling of the procedures in Attachment A reaffirmed QA review and comment on the startup procedures. Discussions were held with the Startup Test Group Supervisor regarding these procedures and the inspector's questions were satisfactorily answered.

Based on the review and discussions identified above, the inspector verified that the startup test procedures of Attachment A are consistent with FSAR commitments. The inspector had no further questions at this time.

3.3 Initial Fuel Load Witnessing

Scope

The inspector conducted interviews with plant personnel, including operators of the fuel handling equipment and technical staff and reviewed startup test logs and test data to ascertain conformance to license requirements, verify communication between the control room and refueling floor, staffing levels, use of current procedure, use of inverse multiplication plots, shutdown margin demonstration, surveillance monitoring during interruptions of fuel load, shift turnover, control of access to refueling floor, maintenance of refueling status boards, change control for fuel load procedure, data log legibility and crew knowledgeability. This was done at various random times which covered shift turnovers and performance by several crews. SSES Startup Test Procedures examined and used for witness of fuel load included:

ST 3.0 Revision 2 Fuel Loading, ST 3.1 Revision 3 Installation of Neutron Sources And Fuel Loading Chambers, ST 3.3 Revision 3 Fuel Loading, ST 3.4 Core Verification.

Findings

Fuel loading at Susquehanna Unit 2 commenced on March 28, 1984. The last bundle (764 total) was loaded on April 13, 1984. The inspector observed fuel loading operations on several occasions. Each time the inspector observed direct communication between the refueling bridge and the control room as well as the individual assigned to keep the status board current on the refueling floor. The operators were knowledgeable of their responsibilities. During periods of observation adequate staffing levels were maintained. An official test copy of the procedure was identified and controlled with all data entries legible and permanent. The licensee maintained an inverse multiplication plot in accordance with procedure ST-3.3 Fuel Loading. The inspector witnessed the conduct of the shutdown margin verification when 144 fuel assemblies were inserted in the core. Control rods 26/27 and 27/34 were withdrawn a notch at a time until fully withdrawn. No stable period was indicated on the Source Range Monitors, indicating the shutdown margin demonstration was acceptable. The inspector verified by review of the startup logs and interviews with the startup test director that subsequent to periods of fuel loading interruptions, an instrumentation check of the fuel loading chambers was performed. The inspector observed shift turnover operations. At the turnover operations observed, the inspector did not identify any unacceptable items. The access to the refueling floor was controlled and found to be acceptable. The changes to ST-3.3 were observed to be handled in accordance with the administrative procedure. TRC and PORC approval of the STCN prior to acceptable plateau review was observed and is discussed further in section 3.5. A review of surveillance procedures SO-200-008, SO-200-014, SO-200-17 indicated these were performed prior to initiating fuel loading operations as required per the technical specifications. The Operations Quality Assurance organization was observed to be performing an audit of the fuel loading activities as they were ongoing.

Based on the review of logs, surveillance activities, interviews conducted, and direct inspector observation of work performance so items of noncompliance or deviations were identified. It should be noted that the licensee identified a violation of a Limiting Condition for Operation during fuel loading which was followed up by the Senior Resident Inspector.

3.4 Test Witnessing ST 5.0, Control Rod Drive (CRD) Tests

The inspector witnessed a portion of the cold CRD scram time test, and verified that an official test procedure was used and communication between the test technician and control room was established per test procedure. The CRD friction test was observed at 1350 hour, April 4, 1984, and the inspector verified that the observed pressure differentials were 5 and 12 psi for CRD 26-27 and 30-31 respectively. The acceptance criterion was 15 psi.

The inspector verified that during the scram time test, STCN 017 was used to prevent unnecessary bleeding down of nitrogen accumulators, and that the CRD 26-27 accumulator pressure was 535 psig while V107 charging water vent valve was open. The STCN required the nitrogen pressure of less than 580 psig at 70°F.

3.5 Startup Program Test Results Evaluation

The inspector witnessed portions of the licensee activities in completing the open vessel plateau review. The inspector attended and observed licensee's activities in TRC meeting 84-008 and PORC meeting 84-093.

The inspector reviewed the tests results listed below.

ST-3.3 Fuel Loading, Implemented March 28, 1984

ST-3.4 Core Verification, Implemented April 13, 1984

ST-5.2 Friction Measurements, Implemented March 30, 1984

ST-5.3 Zero and Rated Pressure Scram Testing of Individual Rods, Implemented March 30, 1984

ST-5.5 Scram Testing of Selected Rods, Implemented April 15, 1984

ST-99.1 Test Plateau 0 (Open Vessel) Testing, Implemented February 5, 1984

These were reviewed to verify that test data was reduced to meaningful and understandable form, test results compared to acceptance criteria, deficiencies identified and appropriate corrective action obtained, tests rerun as necessary after corrective action, test results reviewed by appropriate personnel.

Findings

The test results reviewed were of good quality and understandable. All test acceptance criteria were satisfied, except as described below. The deficient items were noted with corrective action identified. The test results were independently verified prior to being provided to the TRC or PORC. QA review was provided on the test results. The TRC and PORC meetings reviewed the test results, all test procedure changes and all dispositions to test exceptions.

Three test exceptions for the open vessel plateau review were identified.

1. ST-2.1 The radiation area around the suction strainer of the CRD pumps had a higher exposure rate than allowable. The short term solution was to rope off and post the area, with the long term solution to result from an ALARA analysis by the licensee.

2. ST-5.1 Notch position 22 on control rod 18-39 was not indicated. A Work Authorization (W/A) was issued to repair.

3. ST-5.1 During the course of this subtest, a faulty component was replaced which necessitated a retest of some control rods. The retest was not completed for all rods when fuel loading operations were completed. The current mode of the reactor precluded movement of control rods. These control rods will be retested and found acceptable as a prerequisite to beginning the evolution to initial criticality.

The inspector verified that the licensee has a method to monitor and track test exceptions. These will be monitored as part of subsequent inspections.

Based on the direct observation of the results of the TRC and PORC meeting and the review of the test results, the inspector did not find any items of noncompliance. The inspector had no further questions at this time.

3.6 Quality Assurance Program

The following QA activities were observed or reviewed by the inspector:

-- The inspector reviewed QA surveillance reports; QASR No. 84-34, 84-025, 84-027, 84-026, 84-023, and 84-020.

-- QA auditors were reviewing Startup Test procedure, ST 5.3, Revision 3 and STCN 017.

-- A QA auditor was reviewing the scram time test data and qualifications of personnel who performed the test.

-- QA was performing an audit of the ongoing fuel loading activities.

No items of noncompliance were identified.

4. Compliance With License Condition

References: SSES License No. NPF-22

SSES Technical Specifications

Scope

The inspector reviewed the licensee's compliance with license condition 1f "Upon issue of the Operating License Technical Specifications, verify that specified conditions, setpoints, and action points in facility procedures are consistent with those Technical Specifications." The inspector identified a listing of Technical Specifications and utilized the licensee Technical Specification surveillance procedure cross reference matrix to identify the appropriate surveillance procedures (Attachment B).

The 38 surveillance procedures (Attachment C) were then reviewed against the conditions, setpoints, and action points as stated in the Technical Specifications. The selected Technical Specifications included those that had been modified in the various draft versions of the Technical Specifications. The licensee's current activities to demonstrate compliance with the license condition were also assessed. The inspector witnessed portions of PORC meeting 84-093 wherein the responsible work group supervisors presented their methodology and implementation to assure compliance with the license condition. The inspector also interviewed responsible work group supervisors and individuals to ascertain compliance with this license condition.

Findings

Of the 45 technical specifications inspected for conditions, action points and setpoints, one surveillance procedure SI-278-315 did not conservatively reflect Technical Specification 3.3.6-2 in that a footnote to the acceptance criterion for downscale operability was not reflected in the acceptance criterion. The surveillance procedure, however, imposed more conservative constraints that would be imposed by the most conservative application of Technical Specification 3.3.6-2. The licensee immediately prepared a procedure change in accordance with his administrative procedure.

The licensee activities to assure compliance with Technical Specifications did identify changes required to the procedures. Work group supervisors interviewed were knowledgeable in their assigned tasks to meet license condition 1f. The methodology and implementation was reviewed by the PORC and found acceptable. The procedures that have intent or acceptance criteria changes were scheduled to be reviewed by the PORC and subsequent issuance for use by the Plant Superintendent. The licensee has strong management attention to assure compliance with this license condition.

Based on the findings of the inspector, acceptance by PORC on the methodology and implementation, the procedure changes being made, the licensee was found to be meeting license condition 1f.

5.0 Precritical Technical Specification Compliance

References: SSES Technical Specification

Scope

As part of the assessment of license condition 1f as described in section 4, the inspector verified compliance with selected Technical Specifications in support of initial criticality. The surveillance status in Attachment D was obtained from interviews and review of logs from the responsible work groups. A sample of surveillance results were reviewed as indicated in Attachment D.

Findings

Not all surveillances required for initial criticality have been completed. The licensee was aware that these were required to be satisfied prior to initial criticality. Those surveillance results reviewed were found to be adequate. No items of noncompliance were identified. The inspector had no further questions at this time.

6.0 Followup of Problem Items From Unit 1 Startup and Their Unit 2 Corrective Actions

The following items identified during startup test program for Unit 1 were reviewed for Unit 2 applicability and status.

6.1 Off-Gas System

During startup test ST37.1, of the Off-Gas system for Unit 1, the inlet HEPA filter was not functioning within the design specification even though the system operation was within the operational requirements of Technical Specifications (TS) (Reference: Inspection Report 50-387/82-44). The licensee identified that the problem was caused by excess condensation of moisture from the adjacent piping system. Subsequently, the inlet HEPA filter was removed under Work Authorization (WA) #33114 and Plant Modification Request (PMR) No. 83-107.

The inspector was informed that the licensee is planning to take a similar measure for Unit 2 since the system design and "As Built" conditions were similar for both units.

6.2 Standby Gas Treatment System (SGTS)

During the turbine-generator trip test with loss of offsite power on December 22, 1982, SGTS was isolated on loss of power for Unit 1. A post-test investigation indicated that the radiation monitoring instrument at the exhaust vent-line failed "high" upon the power loss. Subsequent licensee evaluation of the incident (50-387/82-42, item 6.2) recommended the removal of fail-high logic of the detector upon

loss of power, and the auto-swap logic was eliminated per WA T21611/21612.

The inspector reviewed PMR 82-433 and verified that Emergency Procedure, EO-00-011, "Abnormal Radiation Release Gaseous", was updated to incorporate the changes. This permanent change, PCN 1-83-1426, was approved by PORC on February 24, 1984 and was implemented into the procedure.

The inspector also verified that circuit breaker load lists for DC and AC circuits were completed and in place in the control files. The load lists for AC and DC breakers were E-15 and E-16 respectively for Unit 1, and E-17 and E-18 respectively for Unit 2. The inspector noted that fuses for positive and negative legs were clearly marked in the drawings so as to identify the proper fuses during the SGTS surveillance tests. No unacceptable conditions were identified for Unit 2.

6.3 Recirculation Pump Coastdown

On January 26, 1983, the licensee identified that the Unit 1 APRM flow-biased rod block and trip setpoints were incorrectly calibrated due to an error in the drive flow calibration and calibration circuitry (50-387/83-05, Section 2.7). Subsequently, the drive flow, W_D, was calibrated using a calorimetric method and the low impedance on the Transient Monitoring System (TMS) was replaced with high impedance resistors to minimize the load on the test signal per General Electric (GE) Field Deviation Disposition Request (FDDR) No. KR1-119 and Plant Modification Request (PMR) No. 83-186.

For Unit 2, Design Change Package (FDDR2-982-0 Revision 0) was issued on July 14, 1983 by Bechtel Power Corporation, and the auxiliary unit card for the TMS point which overloaded the test signal pot was repaired under WA U-36612 on August 10, 1983.

During the performance of the Unit 1 reactor recirculation drive flow coastdown test, the level 1 acceptance criteria was not met. An interim action was taken in accordance with the Technical Specification MCPR penalty requirements to permit continued operation. On November 3, 1983, GE provided a new "allowable coastdown curve" for the RPT (Recirculation Pump Trip) transient, and increased the limit on CPR values. The licensee is in the process of finalizing a revision to the FSAR and Technical Specifications; the revision will be implemented upon approval by NRR. However, it is not expected to change the RPT coastdown requirements for the Unit 2 recirculation pumps, pending completion of the scheduled startup RPT coastdown tests.

6.4 Fast Transfer upon Loss of Power

The Unit 1 Fast-Transfer Synchro-Check logic circuit had failed during the 100% load rejection test due to defective circuit design of the reference voltage. The Synchro-Check logic was subsequently removed per DCP 83-166 and Safety Evaluation Report (SER), and the load rejection had been retested successfully by the breaker fast transfer logic alone. The SER included the worst case phase angle study and concluded that the worst phase angle differences during the loading to the startup bus would be less than ± 20°.

Bechtel Design Change Package, DCP No. 20147, was released for Unit 2 on May 9, 1983 and the fast transfer synchro-check was removed on May 31, 1983 under WA U-30704.

6.5 Emergency Service Water System - Water Hammer

DCP 83-620 was issued to change the setpoint on the time delay relays for the ESW valves on low flow. The changes were being made for water hammer considerations as a result of Unit 1/Unit 2 interties. ESW load sequence timers were also reset to prevent concurrent start of the ESW pumps with the RHR or CS pumps. The changes were initiated under PMR No. 83-798.

6.6 Instrumentation

The inspector was informed that 9 additional technicians and 16 outside I&C contractors were hired, an increase of 16 from 45, to accommodate additional work loads for Unit 2.

The inspector reviewed calibration records of the Unit 2 recirculation loops and jet pump flow and temperature instruments. The calibration and test equipment was all calibrated in accordance with the station procedures. The inspector also verified by review of the Setpoint Change Request No. 83-43, for reactor vessel water level channels and the 18 month calibration procedure, SI-280-303, that RCIC and HPCI initiation level setpoints were calibrated to -30 and -35 inches respectively. The setpoints were selected conservatively based on the instrument accuracy and 3¼% drift, and considering the TS trip setpoint and allowable value. Also, the licensee stated that it is desirable to start relatively low capacity RCIC prior to the HPCI initiation. The following documents were reviewed:

-- Setpoint Change Request, No. 83-43. Unit 1.

-- SI-280-303, 18 month Calibration of Reactor Vessel Level Channels
LIS-B21-N031 A, B, C, and D., Revision 1, February 7, 1984, Unit 2.

-- Technical Specifications, Table 3.3.3-2.

-- Calibration Sheets; T-2N023A-1, T-2N023B-1, TT-2N601B, TT-2N601C, TT-2N601D, TT-2N601A, T-2N035A, LIS-B21-2N0311A/B/C/D, FT-B31-2No14A/B/C/D, FT-B31-2N024A/B/C/D, F-B31-2No24A/B/C/D, F-B31-2No14A/B/C/D.

7.0 Plant Tours

The inspector made several tours of the facility during the course of the inspection including the reactor building, turbine building, control structure, control room and refueling floor.

The inspector observed work in progress including scram testing of selected control rods, housekeeping, cleanliness and storage and protection of components, piping and systems.

No items of noncompliance were identified and no unacceptable conditions were noted.

8.0 Exit Interview

At the conclusion of the site inspection on April 19, 1984, an exit meeting was conducted with the licensee's senior site representatives (denoted in Paragraph 1). The findings were identified and previous inspection items were discussed. At no time during this inspection was written material provided to the licensee by the inspector.

ATTACHMENT A

Startup Test Procedure Reviews

1.	ST-8.1	Suppression Pool Cooling Mode Rev 1 March 21, 1984
2.	ST-8.2	Steam Condensing Mode-Heat Capacity Rev 2 March 23, 1984
3.	ST-8.3	Shutdown Cooling Mode Rev 2 March 21, 1984
4.	ST-8.4	Steam Condensing Mode Stability Test Rev 1 March 21, 1984
5.	ST-8.5	Steam Condensing Mode-Reactor Isolated Rev 0 March 21, 1984
6.	ST-25.0	Main Steam Isolation Valves Rev 3 March 21, 1984
7.	ST-25.1	MSIV Functional Test Rev 3 March 23, 1984
8.	ST-25.3	Full Isolation Rev 3 March 23, 1984
9.	ST-15.0	High Pressure Coolant Injection System Rev 2 February 6, 1984
10.	ST-15.1	Condensate Storage Tank Injections Rev 2 February 14, 1984
11.	ST-15.2	Reactor Vessel Injections Rated Pressure Rev 2 March 23, 1984
12.	ST-15.3	Rated Pressure Auto Quick Starts to Vessel Rev 2 March 13, 1984
13.	ST-28.0	Shutdown from Outside the Control Room Rev 3 March 16, 1984
14.	ST-28.2	Reactor Scram from Outside the Control Room Rev 2 March 16, 1984
15.	ST-10.0	SRM and IRM Performance and Control Rod Sequence Rev 2 February 24, 1984
16.	ST-10.1	IRM-SRM Overlap Verification Rev 4 March 13, 1984
17.	ST-12.0	APRM Calibration Rev 2 April 2, 1984
18.	ST-12.1	Low Power APRM Calibration Rev 1 March 23, 1984
19.	ST-24.0	Turbine Valve Surveillance Rev 4 March 23, 1984
20.	ST-24.1	Turbine Stop, Control, Combined Intermediate and Bypass Valve Testing Rev 4 March 23, 1984
21.	ST-27.0	Turbine Trip and Generator Load Rejection Rev 4 March 16, 1984
22.	ST-27.1	Turbine Trip Rev 3 March 23, 1984

23. ST-27.2 High Power Generator Load Rejection Rev 4 March 21, 1984

24. ST-27.3 Generator Load Reject Within Bypass Capacity Rev 3 March 16, 1984

ATTACHMENT B

Technical Specification Compliance

	Technical Specification		Compliance Procedure
1.	4.1.3.1.1.a		SO-255-005
2.	4.1.3.5.a		SO-255-001
3.	4.1.3.5.b.1.a		SI-255-302
4.	4.1.3.5.b.1.b		SI-255-302
5.	4.1.3.8		SM-262-001
6.	4.1.4.1.a		SO-231-001
7.	4.1.4.2.a.2		SO-256-004
8.	4.1.5.a.1-3		SO-200-007
9.	4.1.5.b.2		SC-253-101
10.	4.3.1.1-1.1.a		GO-200-002
11.	4.3.1.1-1.2.a	channel check	SO-200-006
12.	4.3.1.1-1.2.a	functional check	SI-278-209
13.	4.3.1.1-1.1.b	functional check	SI-278-201
14.	4.3.1.1-1.3	functional check	SI-258-203
15.	4.3.1.1-1.3	calibration	SI-258-303
16.	4.3.1.1-1.6	channel check	SO-200-006
17.	4.3.1.1-1.6	functional check	SI-279-201
18.	4.3.1.1-1.6	calibration	SI-279-306
19.	4.3.1.1-1.8.a	functional check	SI-258-204
20.	4.3.1.1-1.8.a	calibration	SI-258-304
21.	4.3.3.1-1.2.a	channel check	SO-200-006
22.	4.3.3.1-1.2.a	functional check	SI-280-203

23.	4.3.3.1-1.2.a	calibration	SI-280-303
24.	4.3.6.1.2.d	functional check	SI-278-209
25.	4.3.3.7.5-1.7	channel check	SO-200-002
26.	4.3.3.7.5-1.7	calibration	SI-273-310
27.	4.3.7.6.a.2	channel check	GO-200-002
28.	4.3.7.6.a.2	calibration	SI-278-315
29.	4.3.7.11-12.a	channel check	SO-200-007
30.	4.3.7.11-12.a	calibration	SC-234-105
31.	4.3.7.12	channel check	SO-200-007
32.	4.3.7.12	functional check	SO-067-001
33.	4.3.7.12	calibration	SI-267-301
34.	4.4.3.1.b	functional	SI-269-202
35.	4.4.3.1.b	calibration	SI-269-302
36.	4.4.4.a		SC-276-101
37.	4.4.4.b.1.a		SC-276-106
38.	4.6.5.1.c.1.a		SO-270-006
39.	4.6.5.1.c.1.b		SO-270-006
40.	4.6.5.1.c.1.c		SE-070-001 SO-170-006 SO-270-006 SO-070-006
41.	4.6.5.1.c.2.a		SO-070-007
42.	4.6.5.1.c.2.b		SO-070-007
43.	4.6.5.1.c.3.a		SO-270-006
44.	4.6.5.1.c.3.b		SO-270-006
45.	Table 3.6.5.2-1		SO-034-001 SO-134-001 SO-234-001

ATTACHMENT C

Surveillance Procedure Review

1.	SI-269-202	Monthly Functional Test of Drywell Floor Drain Sump Level Channels Rev 1 March 27, 1984
2.	SI-269-302	18 Month Calibration of Drywell Floor Drain Sump Level Channels Rev 0 October 17, 1983
3.	SI-267-301	18 Month Calibration of Loose Parts Monitoring Systems Rev 1 March 28, 1984
4.	SC-253-101	Chemistry Surveillance of Unit II Standby Liquid Control System Rev 0 July 29, 1983
5.	SC-234-105	18 Month Calibration of the Reactor Building Vent Radiation Monitor Rev 0 August 8, 1983
6.	SC-276-101	Unit II Reactor Coolant Conductivity Determination Rev 0 November 30, 1983
7.	SC-276-106	Unit II Reactor Coolant Chloride and pH Determination Rev 0 November 3, 1983
8.	SO-200-007	Daily Surveillance Operating Log Rev 0 February 5, 1984
9.	SO-200-006	Shiftily Surveillance Operating Log Rev 1 March 26, 1984
10.	SO-255-001	Control Rod Scram Accumulator Weekly Surveillance Rev 0 November 4, 1983
11.	SO-255-005	CRD Scram Discharge Volume Drain and Vent Valve Monthly Verification Rev 0 November 3, 1983
12.	SI-255-302	18 Month Calibration of Control Rod Scram Accumulator Leak Detectors Rev 1 December 15, 1983
13.	SI-278-201	Weekly Functional Test of Intermediate Range Monitor (IRM) Channels A-H Rev 0 July 22, 1983
14.	SI-278-209	Weekly Functional Test of Average Power Range Monitor (APRM) Channel A-F Rev 1 February 5, 1984
15.	SI-279-201	Monthly Channel Functional Test of Main Steam Line Radiation Monitors Rev 1 December 1, 1983
16.	SI-279-306	18 Month Calibration Test of Main Steam Line Radiation Monitor Rev 1 February 24, 1984

		Change No. 2-84-0526 18 Month Calibration Test of Main Steam Line Radiation Monitor March 29, 1984
17.	SI-278-315	Semi-Annual Calibration of Source Range Channels A, B, C, D Rev 1 March 27, 1984
18.	SI-258-203	Monthly Functional Test of Reactor Vessel Steam Dome Pressure Channels Rev 0 September 15, 1983
19.	SI-258-303	Quarterly Calibration of Reactor Vessel Steam Dome Pressure Channels Rev 1 November 19, 1983
20.	SI-258-204	Monthly Functional Test of the Scram Discharge Volume High Water Level Channels Rev 0 March 21, 1984
21.	SI-258-304	18 Month Calibration of the Scram Discharge Volume High Water Level Channels Rev 0 March 21, 1984
22.	SI-280-203	Monthly Functional Test of Reactor Vessel Water Level Channels Rev 2 March 29, 1984
23.	SI-280-303	18 Month Calibration of Reactor Vessel Water Level Channels Rev 1 February 5, 1984
24.	SI-273-310	18 Month Calibration of the Drywell Temperature Channels Rev 0 October 24, 1983
25.	SO-200-002	Accident Monitoring Instrument Monthly Channel Check Rev 1 March 26, 1984
26.	SO-231-001	Rod Worth Minimizer Operability Prior to Rod Withdrawal Rev 0 November 22, 1984
27.	SO-256-004	Rod Sequence Control System Self Test Rev 0 November 3, 1983
28.	SO-067-001	Monthly Functional Test of the Loose Part Monitoring System Rev 0 December 5, 1983
29.	GO-200-002	Plant Startup and Heatup Rev 0 November 23, 1983
30.	SO-270-006	18 Month Secondary Containment Verification Check February 9, 1984
31.	SE-070-001	18 Month Secondary Containment Verification Check Draft copy
32.	SE-170-006	18 Month Secondary Containment Verification Check February 9, 1984

33.	SO-170-006	18 Month Secondary Containment Verification Check February 9, 1984
34.	SO-070-006	18 Month Secondary Containment Verification Check February 9, 1984
35.	SO-070-007	18 Month Secondary Containment Verification Check February 9, 1984
36.	SO-034-001	Secondary Containment Isolation Damper Quarterly Timing Test-Zone III February 2, 1984 (Change copy)
37.	SO-134-001	Secondary Containment Isolation Damper Quarterly Timing Test-Zone I February 2, 1984 (Change copy)
38.	SO-234-001	Secondary Containment Isolation Damper Quarterly Timing Test-Zone II February 7, 1984

ATTACHMENT D

		Surveillance	Ready for Initial Criticality 4/23/84
1.	*	SO-255-005	Y
2.		SO-255-001	N = Must be completed prior to initial criticality
3.		SI-255-202	Y
4.		SI-255-302	Y
5.		SO-231-001	N
6.		SO-256-004	N
7.	*	SC-253-101	Y
8.		SI-278-209	Y
9.	*	SI-278-201	Y
10.		SI-258-203	N
11.		SI-258-303	Y
12.		SI-279-201	Y
13.		SI-279-306	Y
14.		SI-258-204	Y
15.		SI-258-304	Y
16.		SI-280-203	Y
17.		SI-280-303	Y
18.		SI-273-310	N
19.	*	SI-278-315	Y
20.	*	SC-234-105	Y
21.		SI-067-001	N
22.		SI-267-301	Y
23.		SI-269-202	Y
24.		SI-269-302	Y
25.	*	SC-276-101	Y
26.	*	SC-276-106	Y
27.	*	SC-216-001	Y
28.		SC-278-215	Y

* surveillance results reviewed