

SOUTH CAROLINA ELECTRIC & GAS COMPANY

VIRGIL C. SUMMER NUCLEAR STATION

NUCLEAR OPERATIONS

FOR INFORMATION ONLY

NUCLEAR OPERATIONS

COPY NO. 44


STATION ADMINISTRATIVE PROCEDURE

SAP-145

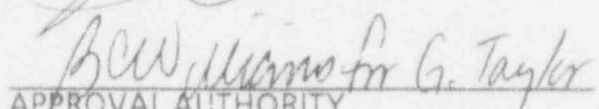
INSERVICE TESTING SECOND TEN YEAR INTERVAL

REVISION 6

SAFETY RELATED


DISCIPLINE SUPERVISOR

12/29/93
DATE


APPROVAL AUTHORITY

12/30/93
DATE

RECORD OF CHANGES

CHANGE LETTER	TYPE CHANGE	APPROVAL DATE	CANCELLATION DATE	CHANGE LETTER	TYPE CHANGE	APPROVAL DATE	CANCELLATION DATE

INFORMATION USE

Procedure May Be Performed from Memory.
User Retains Accountability for Proper Performance.

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ATTACHMENTS

ATTACHMENT I - RELIEF REQUEST FORM

1.0 PURPOSE

- 1.1 The purpose of this procedure is to ensure that Inservice Testing is conducted in an effective and consistent manner that complies with the plant operating license, procedures, management directives, Technical Specifications and applicable regulations and standards.

2.0 SCOPE

- 2.1 This procedure applies to the Test Unit and all other interfacing organizations for the performance of Inservice Testing of Pumps, Valves and System Pressure Testing.

3.0 REFERENCES

- 3.1 ASME Boiler and Pressure Vessel Code Section XI, 1989 Edition.
- 3.2 ASME/ANSI OMa, 1988 Addenda to ASME/ANSI OM-1987, Part 6, Inservice Testing of Pumps in Light-Water Reactor Power Plants.
- 3.3 ASME/ANSI OMa, 1988 Addenda to ASME/ANSI OM-1987, Part 10, Inservice Testing of Valves in Light-Water Reactor Power Plants.
- 3.4 10CFR50.55a.
- 3.5 10CFR50, Appendix J.
- 3.6 FSAR Chapters 5, 9, and 15.
- 3.7 V. C. Summer Technical Specifications.
- 3.8 INPO Good Practice MA-305.
- 3.9 Generic Letter 89-04, NRC Guidance on Developing Acceptable Inservice Testing Programs.
- 3.10 SAP-117, Statement of Responsibilities - Technical Services.
- 3.11 SAP-132, Off-Normal Occurrence Evaluation, Reporting and Resolution.
- 3.12 SAP-139, Procedure Development, Review, Approval and Control.

- 3.13 SAP-642, Administration of Welding.
- 3.14 SAP-643, ASME Code, Section XI Repair Program.
- 3.15 SAP-1141, Non-Conformance Control Program.
- 3.16 SAP-1340, Transmittal and Maintenance of Records.
- 3.17 NUREG/CP-0123, Proceedings of the Second NRC/ASME Symposium on Pump and Valve Testing.

4.0 DEFINITIONS

- 4.1 Inservice Testing (IST) - Planned and systematic activities required to implement the Pump, Valve and System Pressure Testing requirements of ASME Section XI.
- 4.2 Inspection Interval - That amount of time approximately equal to 1/4 of expected plant life, 10 years.
- 4.3 Inspection Period - That amount of time in calendar years or months approximately equal to 1/3 of an inspection interval, three to four years.
- 4.4 Code of Record - ASME Code Section XI, 1989 Edition, which includes ASME/ANSI OM Part 6, Inservice Testing of Pumps in Light-Water Reactor Power Plants, and ASME/ANSI OM Part 10, Inservice Testing of Valves in Light-Water Reactor Power Plants.
- 4.5 Surveillance Test - A functional test of installed equipment or systems designed to satisfy Technical Specification Surveillance Requirements.
- 4.6 Accident - The events listed in Chapter 15 of the FSAR.
- 4.7 Relief Request - Request to the NRC to modify, delete or revise existing ASME Code testing requirements for a specific plant component.
- 4.8 Deferred Test Justification - Justification for testing on a frequency other than as specified by ASME/ANSI OM-10 due to impracticality of testing on-line.

5.0 RESPONSIBILITY

- 5.1 The Manager, Technical Services is responsible for the overall implementation of the Inservice Testing Program.
- 5.2 The Test Unit Supervisor or designated alternate shall be responsible for the performance of applicable tests by:
 - 5.2.1 Developing and approving IST Surveillance Test Procedures (STPs and GTPs).
 - 5.2.2 Developing and implementing a Training Program for test personnel.

- 5.2.3 Performing required pump, valve and system pressure tests.
- 5.2.4 Temporary maintenance of applicable records in accordance with SAP-1340.
- 5.2.5 Providing Nuclear Licensing and Operating Experience, the bases and alternative tests associated with a proposed Relief Request.
- 5.2.6 Coordinating the planning, scheduling, and performance of the required tests with the affected disciplines.
- 5.2.7 Pre and post test review of task sheets to include review of data for acceptability.
- 5.2.8 Performing review and evaluation of IST procedures.
- 5.2.9 Promptly identifying unacceptable test results for appropriate corrective action or performance of specified tests, as applicable.
- 5.2.10 Initiate corrective measures for unacceptable test results by:
 - A. Non-Conformance Notice (NCN), Preapproved Disposition (PAD), or Off-Normal-Occurrence (ONO) form.
 - B. Maintenance Work Requests (MWRs).
 - C. Support records and documentation, or
 - D. A combination thereof, where applicable.
- 5.2.11 Trending test results.
- 5.2.12 Insuring proper test equipment as specified in the procedure is correctly installed and promptly removed when test is completed.
- 5.2.13 Submitting MRF's or REE's on plant design problems noted during testing.
- 5.4 The Manager, Design Engineering and/or Manager, Systems and Component Engineering is responsible for supporting the Test Unit in the performance of applicable tests and examinations as follows:
 - 5.4.1 Provide engineering evaluation of problems noted during Inservice Testing.
 - 5.4.2 Provide engineering evaluation of test acceptance criteria and associated test methodology when requested by the Test Unit.
 - 5.4.3 Provide engineering review of Inservice Testing program documents (GTP-301, GTP-302, and GTP-304) upon request from the Test Unit.
- 5.5 The Manager, Nuclear Training is responsible for providing VT training for the Test Unit.

- 5.6 The Manager, Planning and Scheduling is responsible for supporting the Test Unit in the performance of Inservice Tests as follows:
 - 5.6.1 Scheduling system pressure tests, and pump and valve tests.
 - 5.6.2 Tracking completed Inservice Tests.
 - 5.6.3 Maintaining a summary of completed Inservice Tests for each pump and valve.
 - 5.6.4 Maintaining a summary of completed System Pressure Tests.
 - 5.6.5 This summary may be a chart, graph, table or other appropriate document specifying the test performed and the results.
- 5.7 The Manager, Nuclear Licensing and Operating Experience shall be responsible for supporting the Test Unit by:
 - 5.7.1 Submitting IST Programs and Relief Requests to the Nuclear Regulatory Commission (NRC).

6.0 PROCEDURE

- 6.1 Inservice Testing Program
 - 6.1.1 The IST Program shall be used to assess component operational integrity and performance of ASME Code Class 1, 2, and 3 components throughout the service life of the component.
 - 6.1.2 Tests and repairs shall be performed in accordance with the requirements of the applicable work or test documents as approved under the SCE&G QA Program.
 - 6.1.3 The Inservice Test Program will consist of administrative and technical procedures as follows:
 - A. Administrative - The following procedures contain the administrative requirements for this program:
 - 1. SAP-145, Inservice Testing Second Ten Year Interval.
 - 2. GTP-301, Inservice Testing of Pumps Second Ten Year Interval.
 - 3. GTP-302, Inservice Testing of Valves Second Ten Year Interval.
 - 4. GTP-304, Inservice Inspection System Pressure Testing Second Ten Year Interval.
 - 5. GTP-240, General Pump Performance Test.
 - 6. GTP-249, Hydrostatic/Pneumatic Pressure Testing.

- B. Technical - The technical testing requirements for each IST component are contained in the appropriate Surveillance Test Procedures.
- 6.1.4 The second test interval end date may decrease or be extended as much as one year from the date given in Step 6.9.
- 6.2 Personnel Qualifications
 - 6.2.1 Personnel performing System Pressure Testing shall be qualified in accordance with ASME XI IWA-2300 for System Pressure Testing prior to performing inspection or testing activities.
 - 6.2.2 Personnel performing Pump and Valve Testing shall be qualified in accordance with the Test Unit Training Manual.
- 6.3 Inservice Testing Activities - Pump Testing
 - 6.3.1 Pumps classified by the following criteria will be included in the Inservice Test Program:
 - A. Class 1, 2 and 3 centrifugal and positive displacement pumps.
 - B. Pumps, provided with an emergency power source, which are required in shutting down the reactor to the cold shutdown condition and maintaining the cold shutdown condition.
 - C. Pumps required to mitigate the consequences of an accident.
 - D. Exceptions to the above criteria, as allowed by ASME/ANSI OM-6 or Relief Request, are stated in GTP-301, Inservice Testing of Pumps Second Ten Year Interval.
 - 6.3.2 Each pump identified in accordance with the criteria of Step 6.3.1 shall be tested in accordance with the requirements of GTP-301 and the appropriate implementing STP or GTP.
 - 6.3.3 Test results shall be maintained in accordance with GTP-301.
- 6.4 Inservice Testing Activities - Valve Testing
 - 6.4.1 Valves classified by the following criteria will be included in the Inservice Test Program.
 - A. Active or passive valves, including their actuating and position indication systems, which are required to perform a specific function in shutting down the reactor to the cold shutdown condition and maintaining the cold shutdown condition.
 - B. Active or passive valves which are required to perform a specific function in the mitigation of the consequences of an accident.

- C. Pressure relief devices that protect systems or portions of systems which perform a required function in shutting down the reactor to the cold shutdown condition and maintaining the cold shutdown condition.
 - D. Pressure relief devices that are required to perform a specific function in the mitigation of the consequences of an accident.
 - E. Exceptions to the above criteria, as allowed by ASME/ANSI OM-10 or Relief Request, are stated in GTP-302, Inservice Testing of Valves Second Ten Year Interval.
- 6.4.2 Each valve identified in accordance with the criteria of 6.4.1 shall be tested in accordance with the requirements of GTP-302 and the appropriate implementing STP.
- 6.4.3 A summary of test results shall be maintained in accordance with GTP-302.
- 6.5 Inservice Testing Activities - System Pressure Testing
 - 6.5.1 Code Class 1, 2 and 3 pressure retaining systems and components will be included in the Test Program.
 - 6.5.2 Each code class system shall be tested and examined in accordance with the requirements of GTP-304 and the appropriate implementing STP or GTP.
 - 6.5.3 Records and results will be maintained in accordance with GTP-304.
- 6.6 Documentation
 - 6.6.1 Procedures, reports, qualification and certification records and other applicable records of tests shall be prepared in accordance with written procedures and the ASME code. These documents shall be maintained and stored in accordance with SAP-1340, Station Administration Procedure Transmitted And Maintenance Of Records.
- 6.7 Documentation Review
 - 6.7.1 Required documentation shall be reviewed for accuracy and adequacy and placed in permanent storage in accordance with SAP-1340.
 - 6.7.2 During review and evaluation of test results, a deficiency document may be issued to report unsatisfactory or deficient test results.
- 6.8 Relief Requests
 - 6.8.1 Exceptions to the required tests will be addressed in the form of Relief Requests.

- 6.8.2 Relief Requests will specify alternate tests to be performed when alternate tests or examinations are practical and meaningful.
 - 6.8.3 The need for an exception to required testing will be documented on Attachment I.
 - 6.8.4 After approval, Attachment I will be forwarded to the Manager, Nuclear Licensing and Operating Experience, for formal review and submittal to the NRC.
- 6.9 The Second Inservice Test Interval is between **January 1, 1994** and **December 31, 2004**.

7.0 FIGURES

- 7.1 None

8.0 RECORDS

- 8.1 There are no records generated by this procedure.

9.0 REVISION SUMMARY

- 9.1 Procedure revised to incorporate the requirements of ASME Section XI, 1989 Edition.

RELIEF REQUEST FORM

TO: Manager, Nuclear Licensing and Operating Experience

System _____ Relief Request # _____

Component or Item _____

Code Category _____ Code Item Number _____ Code Class _____

Component Function _____

Existing Test or Examination Requirement _____

Relief or Alternate Test Requested _____

Reason(s) for Request _____

Prepared By: _____

Reviewed By: _____
Test Unit Supervisor

Approved By: _____
Manager, Technical Services