

SECTION 14

INITIAL TESTS AND OPERATION

14.1 DESCRIPTION OF TEST PROGRAM

A carefully conceived and executed startup testing program, under the control, responsibility, and authority of Public Service Electric and Gas, was implemented to accomplish a safe, orderly, and comprehensive startup. This program demonstrated that the plant operates satisfactorily and presents no danger to the health and safety of the public. The program also provided an opportunity for station personnel to become thoroughly familiar with plant systems and procedures and to determine the adequacy of normal and emergency plant operating procedures.

After installation, individual components and systems were tested and evaluated in accordance with approved written test procedures. Although these preoperational test procedures were written for construction type testing, references to the normal operating and test procedures contained in the Plant Manual were made where feasible to assist in verification of their accuracy and applicability. Analyses of test results were made to verify that systems and components performed satisfactorily and to determine corrective action, if required.

The program included tests, adjustments, calibrations, and system operations necessary to assure that initial fuel loading, initial criticality and subsequent power operation could be safely undertaken. In general, tests were classified by type, as integrity, functional, operational, hydrostatic, cleaning, etc. Integrity tests verified proper installation of equipment. Functional tests verified that the systems or equipment were capable of performing the function for which they were designed. Operational tests involved actual operation of the systems and equipment to demonstrate the state of readiness and capability of the systems. Whenever feasible, tests were performed under

conditions similar to normal station operation. During system tests for which unit parameters were not available and could not be simulated, systems were operationally tested as far as possible without these parameters.

The remainder of the tests were performed as the parameters became available. Abnormal unit conditions were simulated during testing as required, whenever such conditions did not endanger personnel or equipment, or contaminate clean systems.

Prior to participating in preoperational tests, station operators and supervisors completed extensive formal classroom training in reactor theory and plant systems. In addition, considerable on-the-job training was obtained while verifying systems' completion prior to initiating tests.

The test program consisted of three distinct phases as described below:

Phase I

COMPONENT PREOPERATIONAL TESTS - Post-construction testing to verify component functional characteristics and installation integrity and confirmation of readiness for system operational tests. Tests included instrument calibration, continuity and megger checks, motor bump, hydrostatic testing, cleaning and flushing.

Phase II

SYSTEM OPERATIONAL TESTS - Individual system tests to verify satisfactory system operation and performance in order to ensure that systems could safely support initial criticality and subsequent testing at power.

Phase III

PLANT OPERATIONAL TESTS - Nuclear operation of the reactor, beginning with initial core load and including all power ascension and plant acceptance tests. Tests were performed to establish operating characteristics and ensure conformance with plant license requirements.