

PLANT VOGTLE
TRAINING SIMULATOR
4-YEAR CERTIFICATION
UPDATE

TABLE OF CONTENTS

ITEM	DESCRIPTION
Unit 1	
1)	Form 474
2)	Attachment 1 - Exceptions Unit 1 Exceptions
3)	Attachment 2 - Performance Tests Completed Form 05-01 - Malfunction Tests Form 06-01 - Normal Operations Tests Form 07-01 - Transient Tests Form 08-01 - Computer Tests Form 05-02 - Malfunction Test Abstracts Form 06-02 - Normal Operations Test Abstracts Form 07-02 - Transient Test Abstracts Form 08-02 - Computer Test Abstracts Form 12-02A - Simulator Performance Test Dates Form 12-01 - Discrepancy Resolution Worksheet Form 17-03 - Certification Review Committee
4)	Attachment 3 Form 17-02 - Performance Test Schedule
5)	Attachment 4 Form 18-01 - Performance Test Plan Changes
Unit 2	
1)	Form 474
2)	Attachment 1 Exceptions Unit 1 vs Unit 2 Differences

SIMULATION FACILITY CERTIFICATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 120 HOURS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0138), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: This form is to be filed for initial certification, recertification (if required), and for any change to a simulation facility performance testing plan made after initial submittal of such a plan. Provide the following information and check the appropriate box to indicate reason for submittal.

FACILITY:

A. W. Vogtle Unit 1 Nuclear Power Plant

DOCKET NUMBER

50-424

LICENSEE:

Georgia Power Company

DATE

1-4-1995

This is to certify that:

1. The above named facility licensee is using a simulation facility consisting solely of a plant-referenced simulator that meets the requirements of 10 CFR 55.45.
2. Documentation is available for NRC review in accordance with 10 CFR 55.45(b).
3. This simulation facility meets the guidance contained in ANSI/ANS 3.5, 1985, as endorsed by NRC Regulatory Guide 1.149.

If there are any **EXCEPTIONS** to the certification of this item, **CHECK HERE [X]** and describe fully on additional pages as necessary. **See Attachment 1: Exceptions**

NAME (or other identification) AND LOCATION OF SIMULATION FACILITY:

A. W. Vogtle Simulator, River Rd., Approx. 5 mi. NE of Hwy 23, Waynesboro, GA 30830

☒ SIMULATION FACILITY PERFORMANCE TEST ABSTRACTS ATTACHED. (For performance tests conducted in the period ending with the date of this certification.)

DESCRIPTION OF PERFORMANCE TESTING COMPLETED. (Attach additional pages as necessary and identify the item description being continued.)

See Attachment 2: Performance Tests completed.

☒ SIMULATION FACILITY PERFORMANCE TESTING SCHEDULE ATTACHED. (For the conduct of approximately 25% of performance tests per year for the four-year period commencing with the date of this certification.)

DESCRIPTION OF PERFORMANCE TESTING TO BE CONDUCTED. (Attach additional pages as necessary and identify the item description being continued.)

See Attachment 3: Performance Test Schedule

☒ PERFORMANCE TESTING PLAN CHANGE. (For any modification to a performance testing plan submitted on a previous certification.)

DESCRIPTION OF PERFORMANCE TESTING PLAN CHANGE (Attach additional pages as necessary and identify the item description being continued.)

See Attachment 4: Test Plan Changes

RECERTIFICATION (Describe corrective actions taken, attach results of completed performance testing in accordance with 10 CFR 55.45(b)(5)(v).
(Attach additional pages as necessary and identify the item description being continued.)

Any false statement or omission in this document, including attachments, may be subject to civil and criminal sanctions. I certify under penalty of perjury that the information in this document and attachments is true and correct.

SIGNATURE, AUTHORIZED REPRESENTATIVE

TITLE

DATE

General Manager

1/13/95

In accordance with 10 CFR 55.5, Communications, this form shall be submitted to the NRC as follows:

BY MAIL ADDRESSED TO: DIRECTOR, OFFICE OF NUCLEAR REACTOR REGULATION
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

BY DELIVERY IN PERSON
TO THE NRC OFFICE AT:

ONE WHITE FLINT NORTH
11555 ROCKVILLE PIKE
ROCKVILLE, MD

Attachment 1

EXCEPTIONS

01/04/95

Plant A.W. Vogtle, Unit 1
Docket # 50-424
Georgia Power Company

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 1 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 3.1.1(7) TITLE: Startup, Shutdown & Pwr
Oper W/Less Than Full Reactor Coolant Flow

EXCEPTION:

GPC takes exception to this requirement. There is no Performance Test which will be performed as part of the Plant Vogtle simulator certification process

JUSTIFICATION:

Plant Vogtle is prevented from performing a plant startup or operate at power without full reactor flow by the plant's Technical Specifications

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 2 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 3.1.1(9) TITLE: Core Performance Testing
Using Permanently Installed Instrumentation

EXCEPTION:

GPC takes exception to this requirement only so far as permanently installed instrumentation will not be used. Core performance tests will be conducted as part of the Plant Vogtle simulator certification process using alternate means for monitoring core reactivity.

JUSTIFICATION:

Plant Vogtle, by design, has no permanently installed instrumentation for core reactivity tests.

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 3.1.2(12) TITLE: Control Rod Failures Including Stuck Rods, Uncoupled Rods, Drifting Rods, and Misaligned Rods

EXCEPTION:

GPC takes exception to this requirement only so far as uncoupled rods or drifting rods are not appropriate malfunctions on Plant Vogtle

JUSTIFICATION:

Malfunctions of this nature are not applicable to the Westinghouse designed control rod drives. The following malfunctions are presently available:

1. RCCA Withdrawal Interlock C1, C2, C3 & C4 Fail to Block Rod Movement in Manual or Automatic
2. Automatic RCCA Speed Signal Fails to Maximum
3. Uncontrolled Withdrawal of RCCA Bank
4. Uncontrolled Insertion of RCCA Bank
5. Uncontrolled Withdrawal of RCCA
6. Uncontrolled Insertion of RCCA
7. Control Banks Fail to Move on Auto Demand
8. Control Banks Fail to Move on Auto or Manual Demand
9. Control Rod Urgent Failure
10. Stuck RCCA
11. RCCA Fails to Move
12. Dropped RCCA
13. RCCA H-8 Ejected

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 4 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 3.1.2(25) TITLE: Reactor Pressure Control
System Failure Including Turbine Bypass Valve (BWR)

EXCEPTION:

GPC takes exception to this requirement. There is no Performance Test which will be performed as part of the Plant Vogtle simulator certification process

JUSTIFICATION:

Plant Vogtle is a Westinghouse Pressurized Water Reactor (PWR). This requirement is not applicable to the Vogtle simulator

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 5 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 4.1(3)(f)

TITLE: Recirculation Flow

EXCEPTION:

GPC takes exception to this requirement. This critical parameter will not be recorded as part of the Plant Vogtle simulator certification process

JUSTIFICATION:

Plant Vogtle is a Westinghouse Pressurized Water Reactor (PWR). This requirement is not applicable to the Vogtle simulator

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 6 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 4.3(5)

Temp

TITLE: BWR Suppression Pool

EXCEPTION:

GPC takes exception to this requirement. This operating limit will not be monitored as part of alerting the instructor when certain parameters reach model or plant design limits on the Plant Vogtle simulator.

JUSTIFICATION:

Plant Vogtle is a Westinghouse Pressurized Water Reactor (PWR). This requirement is not applicable to the Vogtle simulator.

The current parameters which are monitored for compliance with Section 4.3 of the ANS 3.5 standard are:

Containment Pressure
RCS Void Fraction
Average Clad Temperature

RCS Pressure
Average Fuel Temperature

A "computer fault" light will illuminate in the instructor's booth when any of the above parameters exceed their predetermined limit.

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 7 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: B2.1

TITLE: Steady State Performance

EXCEPTION:

GPC will substitute a steady state test at 35% power for the ANSI required 25% steady state test. Steady state tests at 75% and 100% will be performed as required by the standard.

JUSTIFICATION:

This power level is a more appropriate stopping point for our plant design and procedures.

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: B2.2TITLE: Transient Performance

EXCEPTION:

The Standard requires all transient tests listed in Section B2.2 of Appendix B be performed from an initial condition of 100% power, steady state xenon and decay heat. GPC takes exception to the requirement to run all tests at 100% power.

GPC intends on running the following transients at the power level indicated. All remaining transients will be ran at 100% power.

- B2.2(5) - Trip of any single reactor coolant pump - 12%
- B2.2(6) - Main turbine trip without a reactor trip - 35%
- B2.2(9) - Maximum size unisolable main steam line rupture - 10E-8 ICA

JUSTIFICATION:

The intent of the Standard is still met insofar as the transients will be tested annually but at a power level that will provide more meaningful data to GPC. Specifically, each power level was selected because:

B2.2(5) - In previous years this was the highest available initial condition (power level) that GPC could be certain the reactor would not trip (due to something other than a low RCS flow). It was felt that not having the reactor trip was preferred since response of the plant to a complete loss of RCS flow would be conducted at 100% power and result in a reactor trip. For testing consistency we continue to test at this power level.

B2.2(6) - A turbine trip will not cause a reactor trip at this power level. As above this power level is still used for test consistency.

B2.2(9) - Response is more severe at this power level and was close to the power level used in the FSAR analysis of this transient (the FSAR started with a subcritical core).

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: B2.2.1/2/3/4 TITLE: Transient Performance

EXCEPTION:

This section of Appendix B requires that all Appendix B listed transient tests be recorded with a resolution of .5 second or less. GPC takes exception to this requirement of recording at .5 second intervals. GPC has a record program on the simulator computer which can meet the requirement. GPC chooses to record critical parameter data at 1 second intervals for transient/malfunction testing and at 30 second intervals for normal operation tests due to the massive size of the files.

JUSTIFICATION:

Current data recording meets the requirement of Section 4.4, Monitoring Capability, of the Standard. With a resolution of 1 second intervals, it is GPC's view that no anomalies would be missed at this rate which could cause negative training. This is balanced against the amount of data that is stored and plotted.

FORM: 00-01 VOGTLE SIMULATOR CERTIFICATION PLAN

PAGE 10 OF 12

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 4.1
Steady State Operation

TITLE: Performance Criteria for

EXCEPTION:

ANSI requirements state that simulator computed values of critical parameters shall agree with +/- 2% of the reference plant parameters and shall not detract from training. ANSI requirements also state that the calculated values of noncritical parameters pertinent to plant operation, that are on the simulator control room panels, shall agree within +/- 10% of the reference plant parameters and shall not detract from training.

JUSTIFICATION:

GPC takes exception with this section of the standard only to the extent that since the standard does not define whether the tolerance is referenced to plant value or to scale range, GPC will use the scale range. Using a tolerance based on plant value can create requirements that are beyond training needs when the value is very small. (i.e. a meter displaying 0. has no tolerance when plant value is used as criteria)

FORM TITLE: ANSI/ANS 3.5 EXCEPTIONS WORKSHEET

REVISION NO 4

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95

APPROVED BY R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 5.3 TITLE: Simulator Modification

EXCEPTION:

This requirement specifies that the simulator shall be modified as required within 12 months following the annual establishment of the simulator update design data referenced in Section 5.2 of the ANS 3.5 standard. GPC takes exception to this requirement only so far as the following discrepancy reports (DR) have not been resolved within the time period permitted by the ANS standard.

DR 9205015 Get some spray flow with RCP #1 off and it's spray valve open.

JUSTIFICATION: Minor training impact. Expect repair in 1995.

DR 9206006 With a loss of 1BY1B our Plasma Display remains in Service.

JUSTIFICATION: With our current computer system, the display can not be put back in service after a loss of power without rebooting the computer system. We are replacing this computer system in 1995/1996 and will be able to remove power with the new system.

PERFORMED BY: T.Petrak DATE: 01/03/95 REVIEWED BY: M.Gibson DATE: 01/03/95APPROVED BY: R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

ANSI SPECIFICATION: 3.1.1 (10) TITLE: Operator Conducted Surveillances

EXCEPTION: This requirement specifies that simulators be capable of operator conducted surveillance testing on safety-related equipment or systems. GPC takes exception to this requirement to the extent that many Plant Vogtle surveillances utilize local equipment, process panels, etc. GPC has selected the following surveillances as representative of the Plant Vogtle surveillances that can be essentially completed utilizing control board instrumentation:

Vogtle Certification Surveillance Tests

- 1) 14980-1 DG operability test
- 2) 14423-1 Source range NIS channel operability test
- 3) 14424-1 Intermediate range NIS analog channel operability test
- 4) 14425-1 Power range quarterly analog channel operational test
- 5) 14510-1 Control room emergency filtration system operability test
- 6) 14490-1 Containment cooling system operability test
- 7) 14705-1 Boron injection flow rate verification test
- 8) 14406-1 Boron injection flow path verification - shutdown
- 9) 14405-1 Boron injection flow path verification during operation
- 10) 14805-1 Residual heat removal pump and check valve IST
- 11) 14220-1 Main turbine valves weekly stroke test
- 12) 14410-1 Control rod operability test
- 13) 14725-1 Reactor vessel head vent path operational flow test
- 14) 14842-1 Main steam isolation valves partial stroke inservice test
- 15) 14505-1 Main feed isolation valves partial stroke inservice test
- 16) 14230-1 A. C. source verification

JUSTIFICATION:

Simulation of local panels, process panels, etc. is beyond the scope of the Vogtle simulator and most other simulators.

Attachment 2

PERFORMANCE TESTS COMPLETED

01/04/95

Plant A.W. Vogtle, Unit 1
Docket # 50-424
Georgia Power Company

INDEX OF PERFORMANCE TESTING

Form No.	Description
05-01	Malfunction Tests - This section contains a list of the malfunctions that were tested. The list includes the required malfunctions from section 3.1.2 of the standard plus those selected from a review of the Control Room Tasks derived from a systematic approach to training.
06-01	Normal Operations Tests - This section contains a list of the normal operations tests that were performed. This list includes the tests that are required by section 3.1.1 of the standard.
07-01	Transient Tests - This section contains a list of the transient tests that were performed. This list includes the required transients from Appendix B of the standard.
08-01	Computer System Tests - This section contains the real time tests and the simulator out of limits testing.
05-02	Test Abstracts for the malfunction testing identified on Form 05-01
06-02	Test Abstracts for the normal operations testing identified on Form 06-01
07-02	Test Abstracts for the transient testing identified on Form 07-01
08-02	Test Abstracts for the computer system testing identified on Form 08-01.
12-02A	Simulator Performance Test Dates
12-01	Discrepancy Resolution Worksheet - Describes the discrepancies identified during the testing and includes the current status of the discrepancies.
17-03	Certification Review Committee - Describes the qualifications of the committee members, the methodology of their review and includes any differing opinions.

FORM TITLE: MALFUNCTION PERFORMANCE TEST LIST

REVISION 0

PREPARED BY: M. Pellechi DATE: 4/06/88 REVIEWED BY: M. Gibson DATE: 12/16/94APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

MALFUNCTION TEST NUMBER	MALFUNCTION TEST TITLE
05-01	Loss of coolant, significant PWR steam generator leaks
05-02	Loss of coolant, Inside primary containment
05-03	Loss of coolant, Outside primary containment
05-04	Loss of coolant, Large reactor coolant breaks including demonstration of saturation conditions
05-05	Loss of coolant, Small reactor coolant breaks including demonstration of saturation conditions
05-06	Failure of safety and relief valves
05-07	Loss of instrument air to the extent that the whole system or individual headers can lose pressure and affect the plant's static or dynamic performance
05-08	Loss or degraded electrical power to the station, loss of offsite power
05-09	Loss or degraded electrical power to the station, loss of emergency power
05-10	Loss or degraded electrical power to the station, loss of emergency generators
05-11	Loss or degraded electrical power to the station, loss of power to the plant's electrical distribution busses

FORM: 05-01 VOGTLE SIMULATOR CERTIFICATION PLAN PAGE 2 OF 4

FORM TITLE: MALFUNCTION PERFORMANCE TEST LIST REVISION 0

PREPARED BY: M. Pellechi DATE: 4/06/88 REVIEWED BY: M. Gibson DATE: 12/16/94

APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

MALFUNCTION TEST NUMBER	MALFUNCTION TEST TITLE
05-12	Loss or degraded electrical power to the station, loss of power to the individual instrumentation busses (AC) that provide power to the control room indication or plant control functions affecting the plant's response
05-13	Loss or degraded electrical power to the station, loss of power to the individual instrumentation busses (DC) that provide power to the control room indication or plant control functions affecting the plant's response
_____	Loss of forced core coolant flow due to single or multiple pump failure (This test is a duplicate of Tests 07-04 & 07-05)
05-14	Loss of condenser vacuum including loss of condenser level control
05-15	Loss of service water or cooling to individual components
05-16	Loss of shutdown cooling
05-17	Loss of component cooling system or cooling to individual components
_____	Loss of normal feedwater or normal feedwater system failure (This is a duplicate of test 07-02)
05-18	Loss of all feedwater (normal and emergency)
_____	Loss of protective system channel (This test is covered in Test 05-12)

FORM TITLE: MALFUNCTION PERFORMANCE TEST LIST REVISION 0

PREPARED BY: M. Pellechi DATE: 4/06/88 REVIEWED BY: M. Gibson DATE: 12/16/94APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

MALFUNCTION TEST NUMBER	MALFUNCTION TEST TITLE
05-19	Control rod failure including stuck rods, rod drops, and misaligned rods
05-20	Inability to drive control rods
05-21	Fuel cladding failure resulting in high activity in reactor coolant or off gas and the associated high radiation alarms
_____	Turbine trip (This test is a duplicate of Test 07-06)
05-22	Generator trip
05-23	Failure in automatic control system(s) that affect reactivity and core heat removal
05-24	Failure of reactor coolant pressure and volume control systems (PWR)
_____	Reactor trip (This test is a duplicate of Test 07-01)
_____	Main steam line break inside containment (This test is a duplicate of Test 07-09)
05-25	Main steam line break outside containment
05-26	Main feed line break inside containment
05-27	Main feed line break outside containment
05-28	Nuclear instrumentation failure(s)
05-29	Process instrumentation, alarms, and control system failures

FORM TITLE: MALFUNCTION PERFORMANCE TEST LIST REVISION 0

PREPARED BY: M.Pellechi DATE: 4/06/88 REVIEWED BY: M.Gibson DATE: 12/16/94

APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

MALFUNCTION TEST NUMBER	MALFUNCTION TEST TITLE
05-30	Passive malfunctions in systems, such as engineered safety features, emergency feedwater system
05-31	Failure of the automatic reactor trip system

FORM TITLE: NORMAL AND STEADY STATE TEST LIST

REVISION 0

PREPARED BY: P. Rubin DATE: 9/27/90 REVIEWED BY: M. Gibson DATE: 12/16/94APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

TEST NUMBER	NORMAL AND STEADY STATE TEST TITLE
06-01	Plant startup - cold to hot standby. The starting conditions shall be cold shutdown conditions of temperature and pressure.
_____	Operations at hot standby (This test is redundant with portions of Test 06-01)
06-02	Nuclear startup from hot standby to rated power
_____	Turbine startup and generator synchronization (This test is redundant with portions of Test 06-02)
06-03	Load changes
06-04	Plant shutdown from rated power to hot standby
06-05	Cooldown to cold shutdown conditions
06-06	Reactor trip followed by recovery to rated power
_____	Core performance testing, Heat balance (This test as part of Tests 06-09, 06-10 and 06-11)
_____	Core performance testing, Shutdown Margin Demonstration (This test is performed as part of Tests 06-01 and 06-05)
06-07	Core performance testing, Reactivity Coefficient Measurements
_____	Core performance testing, Control Rod Worth using permanently installed instrumentation (This test is performed as part of Test 06-07)
06-08	Operator conducted surveillance testing on safety-related equipment or systems

FORM TITLE: NORMAL AND STEADY STATE TEST LIST

REVISION 0

PREPARED BY: P. Rubin DATE: 9/27/90 REVIEWED BY: M. Gibson DATE: 12/16/94APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

TEST NUMBER	NORMAL AND STEADY STATE TEST TITLE
06-09	Steady State Performance at 35% power
06-10	Steady State Performance at 75% power
06-11	Steady State Performance at 100% power for 60 minutes

FORM TITLE: TRANSIENT PERFORMANCE TEST LIST REVISION 0
PREPARED BY: P. Rubin DATE: 9/15/90 REVIEWED BY: M. Gibson DATE: 12/16/94
APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

TRANSIENT TEST NUMBER	TRANSIENT OPERATIONS TEST TITLE
07-01	Transient Performance, Manual reactor trip
07-02	Transient Performance, Simultaneous trip of all feedwater pumps
07-03	Transient Performance, Simultaneous closure of all Main Steam Isolation Valves
07-04	Transient Performance, Simultaneous trip of all reactor coolant pumps
07-05	Transient Performance, Single reactor coolant pump trip
07-06	Transient Performance, Main turbine trip (from the maximum power level which will not result in an immediate reactor trip)
07-07	Transient Performance, Maximum rate power ramp (100% down to approximately 75% and back to 100%)
07-08	Transient Performance, Maximum size reactor coolant system rupture combined with a loss of offsite power
07-09	Transient Performance, Maximum size unisolable main steam line rupture
07-10	Transient Performance, Slow primary system depressurization to saturated condition using pressurizer relief or safety valve stuck open (Inhibit activation of the high pressure Emergency Core Cooling Systems)

FORM TITLE: COMPUTER SYSTEMS TEST REVISION 0

PREPARED BY: P. Rubin DATE: 9/15/90 REVIEWED BY: M. Gibson DATE: 12/16/94

APPROVED BY: R. Dorman SUPERVISOR OPERATIONS TRAINING DATE: 01/04/95

TEST NUMBER	COMPUTER SYSTEM TESTS TEST TITLE
08-01	Computer Real Time Test
08-02	Simulator Limits Exceeded Test

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: LOCA: Significant SG Leaks (05-01)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A SG 1 tube rupture (malf #84) is inserted one minute after the simulator is placed in run @ 10% severity. The leak is increased to 50% severity after 6 minutes. At 11 minutes from the beginning of the session, the malfunction severity is increased to 100%. The exercise is terminated once the pressurizer level is stable or slowly increasing above 20%.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: LOCA: Inside Containment (05-02)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A Hot Leg #2 rupture (malf #36) is inserted @100% severity one minute after the simulator is placed in run. The exercise is terminated 3 minutes after safety injection actuates.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: LOCA: Outside Containment (05-03)

The Vogtle simulator is initialized to 0% power, BOL, Hot Standby. A letdown line leak in the auxiliary building (malf #76) is inserted @ 10% severity one minute after the simulator is placed in run. The exercise is terminated after the leak has been automatically isolated.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: LOCA: Large Break (05-04)

The Vogtle simulator is initialized to 100% power, EOL, equilibrium Xe. A RCS Loop 3 cold leg rupture (malf RC03C) is inserted one minute after the simulator is placed in run. The exercise is terminated 11 minutes after the simulator has been placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: LOCA: Small Break (05-05)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A hot leg leak at SG #2 inlet (malf #37) is inserted @ 8% severity one minute after the simulator is placed in run. The exercise is terminated 3 minutes after safety injection actuates.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Failure of Pzr SVs and PORVs
(05-06)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A pressurizer safety valve PSV-8010a leakage (malf #58) is inserted @ 10% severity one minute after the simulator is placed in run. At 6 minutes from the beginning of the simulator run, the malfunction severity is increased to 100%. The exercise is terminated 20 minutes after the start of the simulator run.

The Vogtle simulator is reinitialized to 100% power, EOL, Equilibrium Xe, PORV block HV-8000A open with I/O override. A pressurizer relief valve PV-455a leakage (malf #63) is inserted @ 100% severity one minute after the simulator is placed in run. The exercise is terminated 15 minutes after the start of the simulator run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Instrument Air (05-07)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of instrument air (malf #198) is inserted @ 70% severity one minute after the simulator is placed in run. The main turbine is tripped at 70 psig. When the instrument air pressure decreases to 10 psig, the malfunction is removed. The exercise is terminated 3 minutes after the instrument air pressure returns to normal.

The simulator response is evaluated against best estimate judgement.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Offsite Power (05-08)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of reserve auxiliary transformers 1NXRA/B (malf EL02 & EL03) and loss of unit auxiliary transformers 1NXAA/B (malf EL04 & EL05) is inserted one minute after the simulator is placed in run. The malfunctions are removed after a sample of loads are checked for proper load shedding and reloading. Following malfunction removal, the RAT's and the Non 1-E buses are re-energized and the 4160V 1E buses are transferred from the DG's to the RAT's. The exercise is terminated after the Diesels are unloaded.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Emergency Power (05-09)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of control building 4.16 KV swgr 1AA02 (malf #132) is inserted one minute after the simulator is placed in run. A Train equipment that was running prior to the loss of the bus is verified to have tripped and attempts are made to restart bus loads. The exercise is terminated after attempts to restart loads.

The Vogtle simulator is reinitialized to 100% power, EOL, Equilibrium Xe. A loss of reserve auxiliary transformer, 1NXRA (malf 126) is inserted one minute after the simulator is placed in run. The exercise is terminated after the appropriate bus loads have verified to have been properly sequenced onto the bus.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Emergency Generators
(05-10)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. An emergency diesel DG 1A fails to start (malf #139A) is inserted one minute after the simulator is placed in run. The DG is verified not to manually start and then placed in standby. A loss of reserve auxiliary transformer 1NXRA (malf #126) is inserted. Following verification that DG 1A did not start, malf #139A is removed and DG 1A is verified that it starts and loads properly. The exercise is terminated after the appropriate equipment has started.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Elec. Dist. Busses
(05-11)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A loss of turbine building 13.8 KV swgr 1NAA (malf #130A) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The malfunction is then removed. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of control building 4.16 KV swgr 1BA03 (malf #132B) is inserted one minute after the simulator is placed in run. B train equipment that was running/energized prior to the loss of the bus are verified to have tripped and attempts are made to restart/energize bus loads. The exercise is terminated after attempts to restart/energize loads.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of 480 V swgr 1NB03 (malf #134A) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The malfunction is then removed. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of 480 V swgr 1NB02 (malf #134D) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The malfunction is then removed. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of 480 V swgr 1NB09 (malf #135A) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The malfunction is then removed. The exercise is terminated after the

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Elec. Dist. Busses
(05-11)

appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A loss of 480 V swgr 1BB06 (malf #135H) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The malfunction is then removed. The exercise is terminated after the appropriate loads have been restarted.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Instrument AC Busses
(05-12)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe, unaffected SG control channel selected for input to SGWLC. A vital instrument panel 1AY1A failure (malf EL13A) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe, unaffected SG control channel selected for input to SGWLC. A vital instrument panel 1CY1A failure (malf EL13C) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The exercise is terminated after the appropriate loads have been restarted.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Instrument DC Busses
(05-13)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. An ESF 125 V DC swgr 1AD1 fault (malf #136A) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. An ESF 125 V DC swgr 1DD1 fault (malf #136D) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. An non-ESF 125 V DC swgr 1ND1 fault (malf #137A) is inserted one minute after the simulator is placed in run. The malfunction is removed after the proper loads have been verified deenergized. The exercise is terminated after the appropriate loads have been restarted.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. An non-ESF 125 V DC swgr 1ND3A fault (malf #137C) is inserted one minute after the simulator is placed in run. The malfunction is removed after 1) the proper loads have been verified deenergized and 2) it is verified that the input power to the inverters normally feed from 1ND3A auto transfer to the alternate input power supply (no loss of essential 120 VAC power). The exercise is terminated after the appropriate loads have been restarted.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Cond Vacuum/Lvl Control
(05-14)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A loss of condenser vacuum (malf #141) is inserted @ 100% severity one minute after the simulator is placed in run. The malfunction is removed when condenser vacuum reaches 10in Hg Vac. The exercise is terminated after condenser vacuum reaches 20in Hg Vac.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A hotwell level transmitter LT-4415 failure (malf #142) is inserted @ 10% severity one minute after the simulator is placed in run. The malfunction is removed 9 minutes after the simulator has been placed in run. Condenser level is then verified to be returning to normal. The exercise is terminated 25 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PFTRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Service Water (05-15)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe, standby NSCW pump in auto. An NSCW train B pump P-2 shaft break (malf #191A) is inserted one minute after the simulator is placed in run. The NSCW pump P-2 handswitch is placed to STOP and then START. Both NSCW pumps P-2 & 4 handswitches are placed in the "Pull to Lock" position. The malfunction is removed. Pump P-2 is then manually started. The exercise is terminated after NSCW flow returns to normal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe, standby NSCW pump in auto. An NSCW train A pipe break to CCW Hx #1 (malf #192) is inserted one minute after the simulator is placed in run. The malfunction is removed after 6 additional minutes. The exercise is terminated after NSCW pressure returns to normal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe, standby NSCW pump in auto. An NSCW train B pipe break to ACCW Hx #2 (malf #193) is inserted one minute after the simulator is placed in run. The malfunction is removed after 6 additional minutes. The exercise is terminated after NSCW pressure returns to normal.

The simulator response is evaluated against best estimate judgement.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Shutdown Cooling (05-16)

The Vogtle simulator is initialized to 0% power, BOL, 330 Deg F, Mode 4. A RHR pump P-1 trip (malf RH01A) is inserted one minute after the simulator is placed in run. The RHR pump P-1 handswitch is placed to STOP and then START. RHR pump P-1 is verified not started. RHR pump P-1 handswitch is placed to STOP and the malfunction removed. Pump P-1 is then manually started. The exercise is terminated after RHR flow returns to normal.

The simulator response is evaluated against best estimate judgement.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of Component Cooling (05-17)

The Vogtle simulator is initialized to 50% power, BOL, Equilibrium Xe, standby CCW pump in AUTO. A CCW pump P-3 trip (malf #194B) is inserted one minute after the simulator is placed in run. The CCW pump P-3 handswitch is placed to STOP and then START. CCW pump P-3 is verified not started. CCW pump P-3 handswitch is placed to STOP and the malfunction removed. Pump P-3 is then manually started. The exercise is terminated after CCW flow stabilizes.

The Vogtle simulator is initialized to 0% power, BOL, Hot Shutdown, standby CCW pump in AUTO. A CCW train B discharge header pipe break (JMCCW1B) is inserted one minute after the simulator is placed in run. The malfunction is removed after the CCW pumps have tripped. Two CCW pumps on train B are then manually started. The exercise is terminated after CCW train B pressure returns to normal.

The Vogtle simulator is initialized to 50% power, BOL, Equilibrium Xe, standby ACCW pump in AUTO. An ACCW pump P-1 locked rotor (malf #197A) is inserted one minute after the simulator is placed in run. The ACCW pump P-1 handswitch is placed to STOP and then START. ACCW pump P-1 is verified not started. ACCW pump P-1 handswitch is placed to STOP and the malfunction removed. Pump P-1 is then manually started. The exercise is terminated after ACCW flow stabilizes.

The simulator response is evaluated against best estimate judgement.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FC TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Loss of All Feedwater (05-18)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A complete loss of all feedwater is initiated by inserting a trip of both main feedwater pumps (malf 146A & B) and a trip of all auxiliary feedwater pumps (malf 160A & B and 161) one minute after the simulator is placed in run. Malfunctions 160A & B are removed 35 minutes after the start of the run which is after the pressurizer PORVs have opened and when all SGs are emptied. AFWPs P-2 & 3 are then started. The exercise is terminated after the pressurizer PORVs close.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Control Rod Failures (05-19)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A dropped RCCA H8 (malf #28I) is inserted one minute after the simulator is placed in run. The rod is verified unmovable in all rod control modes. The malfunction is removed and the dropped rod retrieved using the appropriate plant procedure. The exercise is terminated after the rod is within 2 steps of its group.

The Vogtle simulator is initialized to 1E-8% power, BOL, 557 Deg F, RCCA bank D not fully inserted or withdrawn. A stuck RCCA H8 (malf #24I) is inserted one minute after the simulator is placed in run. RCCA bank CD is withdrawn and then inserted 10 steps. The rod is verified to remain stationary. The lift coils for all rods except H8 in bank CD are opened. Again an attempt to withdraw/insert H8 is made. This is followed by a manual reactor trip. The exercise is terminated after the rod is verified stuck following a reactor trip.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Inability to Drive Control Rods
(05-20)

The Vogtle simulator is initialized to 50% power, BOL, Equilibrium Xe, rod control in Manual. A control banks fail to move on auto or manual demand (malf RD08) is inserted. The rods are verified unmovable in Manual. Rod control is shifted to Auto. This is followed by adjusting turbine load $\pm 10\%$. After the rods are verified stationary, the reactor is tripped. The exercise is terminated after all the rods are verified on the bottom.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Fuel Cladding Failure (05-21)

The Vogtle simulator is initialized to 50% power, BOL, Equilibrium Xe. A #2 SG tube rupture (malf #86) is inserted @ 1% severity one minute after the simulator is placed in run. This is followed by inserting a fuel failure (malf 60B) @ 50% severity 4 minutes after the simulator is placed in run. The exercise is terminated after radiation levels are verified.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Generator Trip (05-22)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A main generator trip (malf #116) is inserted one minute after the simulator is placed in run. The malfunction is removed after it is verified that LOR 386-G9 will not reset. The exercise is terminated at 6 minutes after the start of the run which is after LOR 386-G9 is reset.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Failure in Auto Control Sys That Affect
Reactivity & Core Heat Removal (05-23)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A spurious train B safety injection signal (malf #168) is inserted one minute after the simulator is placed in run. This is followed by verifying selected SI signals can be reset after the block/reset time delay has timed out. The exercise is terminated after the SI signals are reset.

The Vogtle simulator is initialized to 100% power, MOL, Equilibrium Xe, control rods in AUTO, one BATP running. A RCS boration (malf #82) is inserted @ 100% severity one minute after the simulator is placed in run. The malfunction is removed 11 minutes after the simulator is placed in run. This is followed by manually closing valve HV-8104. The exercise is terminated 5 minutes after valve HV-8104 is closed.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
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SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Failure in Reactor Coolant Pressure and
Volume Control System (05-24)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A pressurizer pressure transmitter PT-455 failure (malf PR02A) is inserted @ 100% severity one minute after the simulator is placed in run. The malfunction is removed after 6 additional minutes. The exercise is terminated after 10 minutes.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A pressurizer pressure transmitter PT-459 failure (malf PR03A) is inserted @ 0% severity one minute after the simulator is placed in run. The malfunction is removed after 6 additional minutes. The exercise is terminated after 10 minutes.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REV. 1.0

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Main Steam Line Break Outside
Containment (05-25)

The Vogtle simulator is initialized to 48% power, BOL, Equilibrium Xe. A main steam safety valve PSV-300A leak (malf #94A) is inserted @ 100% severity one minute after the simulator is placed in run. The exercise is terminated 6 minutes after the simulator is placed in run.

The Vogtle simulator is initialized to 48% power, BOL, Equilibrium Xe. A main steam bypass valve header rupture (malf #92) is inserted @ 100% severity one minute after the simulator is placed in run. The exercise is terminated 11 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Main Feedwater Line Break Inside
Containment (05-26)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A feedwater line #2 rupture inside containment (malf #153) is inserted @ 50% severity one minute after the simulator is placed in run. The exercise is terminated 10 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Main Feed Line Break Outside Containment
(05-27)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A feedwater line #1 rupture outside containment (malf #154) is inserted @ 100% severity one minute after the simulator is placed in run. The exercise is terminated 10 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Nuclear Instrument Failures (05-28)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. Power range chan 42 upper detector failure (malf NI07B) is inserted @ 50% severity one minute after the simulator is placed in run. Four minutes after the simulator is placed in run, reactor/turbine load is reduced 10%. The malfunction is then removed. The exercise is terminated 1 minute after malfunction removal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. Power range chan 44 high voltage failure (malf NI08D) is inserted @ 30% severity one minute after the simulator is placed in run. Four minutes after the simulator is placed in run, reactor/turbine load is reduced 10%. The malfunction is then removed. The exercise is terminated 1 minute after malfunction removal.

The Vogtle simulator is initialized to 50% power, BOL, Equilibrium Xe. A power range output oscillation (malf NI11A) is inserted @ 25% severity one minute after the simulator is placed in run. Four minutes after the simulator is placed in run, reactor/turbine load is increased 10%. The malfunction is then removed. The exercise is terminated 1 minute after malfunction removal.

The simulator response is evaluated against best estimate judgement.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Process Instrument Failures (05-29)

The Vogtle simulator is initialized to 0% power, BOL, cold shutdown, solid pressurizer, RHR train A in operation. A loop pressure transmitter PT-438 failing high (malf #38A) is inserted one minute after the simulator is placed in run. The RHR pump for loop 1 is secured and an attempt to open RHR valve HV-8701A is made. The malfunction is removed 5 minutes after the simulator is placed in run. The exercise is terminated 5 minutes after malfunction removal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A hot leg RTD TE-411A failure (malf #40A) is inserted @ 0% severity one minute after the simulator is placed in run. After 5 additional minutes, the malfunction is removed. The exercise is terminated 1 minute after malfunction removal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A cold leg RTD TE-413B failure (malf #41A) is inserted @ 90% severity one minute after the simulator is placed in run. After 2 additional minutes, the malfunction is removed. The exercise is terminated 1 minute after malfunction removal.

The Vogtle simulator is initialized to 30% power, BOL, Equilibrium Xe. A channel 1 RCS flow elements failure (malf #44C) is inserted @ 50% severity one minute after the simulator is placed in run. After 2 additional minutes, the malfunction severity is reduced to 0%. The malfunction is removed 6 minutes after the simulator is placed in run. The exercise is terminated 1 minute after malfunction removal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe, LT 459 selected for control. A pressurizer level transmitter LT-459 failure (malf #61A) is inserted @ 100% severity one minute after the simulator is placed in run. After 2 additional minutes, the malfunction is removed. The exercise is terminated 1 minute after malfunction removal.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Process Instrument Failures (05-29)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A steam generator level transmitter LT-519 failure (malf #88A) is inserted @ 90% severity one minute after the simulator is placed in run. Eleven minutes after the simulator is placed in run, the malfunction is removed. The exercise is terminated 1 minute after malfunction removal.

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe, control rods in AUTO. A main turbine impulse pressure transmitter PT-505 failure (malf #62A) is inserted @ 10% severity one minute after the simulator is placed in run. The malfunction severity is increased to 85% after 2 additional minutes. Five minutes after the simulator is placed in run, the malfunction is removed. The exercise is terminated 1 minute after malfunction removal.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Passive Malfunctions in ESF (05-30)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A train A main steam line isolation automatic actuation failure (malf #164) is inserted. A main steam line #3 rupture inside containment (malf #91) is inserted at 100% severity one minute after the simulator is placed in run. After 3 additional minutes the train A MSIV handswitch is placed to close. The exercise is terminated 6 minutes after the simulator is placed in run.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A train A containment spray automatic actuation failure (malf #166) is inserted. A RCS loop 3 cold leg rupture (malf #35) is inserted one minute after the simulator is placed in run. After 3 additional minutes the containment spray pump #1 handswitch is placed to start. Five minutes after the simulator is placed in run valves HV-9001A & HV- 8994A handswitches are placed to open. The exercise is terminated 6 minutes after the simulator is placed in run.

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A train B safety injection manual actuation failure (malf #170) is inserted. Three minutes after the simulator is placed in run an attempt to manually initiate safety injection. The exercise is terminated 6 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. PETRAK DATE: 11/4/94 REVIEWED BY: M. GIBSON DATE: 11/4/94
APPROVED BY: R. DORMAN MANAGER TRAINING & EP DATE: 01/13/92

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE: Failure in Auto Reactor Trip (05-31)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe, control rods in manual. A failure of automatic reactor trip (malf #12) is inserted. A main turbine trip (malf #98) is inserted one minute after the simulator is placed in run. After 11 additional minutes, the reactor is manually tripped. The exercise is terminated 16 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Plant Startup to Hot Standby (06-01)

The Vogtle simulator is initialized to 0% power, BOL, < 140 Deg F, Mode 5. A plant startup is performed from cold shutdown to Hot Standby. The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written. This scenario includes coming off Shutdown Cooling (i.e., RHR), starting the reactor coolant pumps, forming a bubble in the pressurizer, warmup of the secondary side, forming a condenser vacuum, maintaining steam generator levels with auxiliary feedwater, and performing boron dilution. The exercise is terminated when the plant is stable at 557 Deg F.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Nuclear Startup from Hot Standby to
Rated Power (06-02)

The Vogtle simulator is initialized to 0% power, BOL, 557 Deg F. A nuclear startup is performed from Hot Standby to rated power. The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written.

This scenario includes conducting a 1/M plot during rod withdrawal, transferring steam generator level control from the auxiliary feedwater system to the main feedwater system, rolling the turbine up to speed, synchronizing the main generator to the grid, and performing boron dilution to 100% power. The exercise is terminated when the plant is stable at 100% power.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Load Changes (06-03)

The Vogtle simulator is initialized to 100% power, BOL. A plant load change is performed from 100% to 80% and back to 90%. The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written.

This scenario includes a load reduction of 20% at a rate of 1% per minute. The plant is allowed to stabilize for 5 minutes. This is followed by a load increase of 10% at a rate of 8% per hour. The exercise is terminated when the plant is stable at 90% power.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Plant Shutdown from Rated Power
to Hot Standby (06-04)

The Vogtle simulator is initialized to 100% power, BOL. A plant shutdown is performed from rated power to Hot Standby. The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written.

This scenario includes commencing a power descent to 1-3% at a rate of 1% per minute, inserting all control rods, transferring steam generator level control from the main feedwater system to the auxiliary feedwater system, and tripping the main turbine. The exercise is terminated when the plant is stable at Hot Standby.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Cooldown to Cold Shutdown Conditions
(06-05)

The Vogtle simulator is initialized to 0% power, BOL, Hot Standby. A plant shutdown is performed from Hot Standby to cold shutdown conditions. The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written.

This scenario includes commencing a plant shutdown to < 140 Deg F, verifying an adequate shutdown margin exists, borating the RCS, securing the reactor coolant pumps, going on shutdown cooling, and collapsing the pressurizer bubble. The exercise is terminated when the plant is stable at < 140 Deg F.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Reactor Trip With Recovery to Rated Power
(06-06)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A reactor trip is performed with a recovery to rated power. The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written.

This scenario includes initiating a reactor trip 1 minute after the simulator is placed in run, stabilizing the plant at Hot Standby, utilizing "Fast Time" to accelerate the Xe concentration at 60Xs normal for 20 minutes (equates to 20 Hrs real time), and commencing a power ascension to 100%. The exercise is terminated when the plant is stable at 100% power.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Core Performance Tests (06-07)

The following tests makeup the Core Performance Test:

Critical Boron Concentration & 100% Power Delta I
Rod Worth Measurement
Shutdown Bank B Worth Measurement/Most Reactive Rod
Overlap Rod Worth Measurement
ITC Measurement
Differential Boron Worth Measurement
HFP EQ Xenon Worth Measurement
HFP EQ Samarium Measurement
Transient Xe and Sm Following Rx Trip from 100% Power
50% EQ Xe Worth Measurement
50% EQ Sm Worth Measurement
Transient Xe and Sm Following Rx Trip form 50% Power
Reactor Kinetic Response
Power Defect Measurement

For certification, the test results are compared to the acceptance criteria outlined in the procedure. The criteria is based on the Unit 1, Cycle 5 NDR. If the simulator response does not meet the acceptance criteria, a discrepancy report is written.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Surveillance Testing on Safety
Equipment or Systems (06-08)

The exercise is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written.

The Vogtle simulator is initialized to conditions required to perform each of the following surveillance tests:

- 1) 14980-1 DG operability test
- 2) 14423-1 Source range NIS channel operability test
- 3) 14424-1 Intermediate range NIS analog channel operability test
- 4) 14425-1 Power range quarterly analog channel operational test
- 5) 14510-1 Control room emergency filtration system operability test
- 6) 14490-1 Containment cooling system operability test
- 7) 14705-1 Boron injection flow rate verification test
- 8) 14406-1 Boron injection flow path verification - shutdown
- 9) 14405-1 Boron injection flow path verification during operation
- 10) 14805-1 Residual heat removal pump and check valve IST
- 11) 14220-1 Main turbine valves weekly stroke test
- 12) 14410-1 Control rod operability test
- 13) 14725-1 Reactor vessel head vent path operational flow test
- 14) 14842-1 Main steam isolation valves partial stroke inservice test
- 15) 14505-1 Main feed isolation valves partial stroke inservice test
- 16) 14230-1 A. C. source verification

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Steady State Test @ 35% Power
(06-09)

The Vogtle simulator is initialized to 35% power, BOL, Equilibrium Xe. The simulator is placed in run and allowed to operate for 60 minutes. A heat balance calculation is performed 10 minutes after the simulator is placed in run. The calorimetric is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written. The exercise is terminated after 60 minutes.

The simulator response is evaluated against the acceptance criteria specified in the plant procedures and in Section 4.1, Steady State Operation, of ANSI/ANS-3.5-1985.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Steady State Test @ 75% Power
(06-10)

The Vogtle simulator is initialized to 75% power, BOL, Equilibrium Xe. The simulator is placed in run and allowed to operate for 60 minutes. A heat balance calculation is performed 10 minutes after the simulator is placed in run. The calorimetric is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written. The exercise is terminated after 60 minutes.

The simulator response is evaluated against the acceptance criteria specified in the plant procedures and in Section 4.1, Steady State Operation, of ANSI/ANS-3.5-1985.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 4

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Steady State Test @ 100% Power
(06-11)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. The simulator is placed in run and allowed to operate for 60 minutes. A heat balance calculation is performed 10 minutes after the simulator is placed in run. The calorimetric is conducted using controlled copies of the Vogtle plant procedures. If a step is performed and the response of the simulator does not meet the startup test criteria, or if a step can not be performed, or if an alarm annunciates but shouldn't or doesn't annunciate but should, then a discrepancy report is written. The exercise is terminated after 60 minutes.

The simulator response is evaluated against the acceptance criteria specified in the plant procedures and in Section 4.1, Steady State Operation, of ANSI/ANS-3.5-1985.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Manual Reactor Trip (07-01)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A manual reactor trip is performed one minute after the simulator is placed in run. The simulator is allowed to run with no operator actions except to control RCS temperature at no-load Tavg by throttling Auxiliary Feedwater Flow and by tripping both Main Feedwater Pumps. The exercise is terminated 16 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Simultaneous Trip of All Feedwater Pumps (07-02)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A trip of both turbine driven Main Feedwater pumps (malfunctions FW01A and FW01B) is inserted one minute after the simulator is placed in run. The operator shall only perform the following actions:

- o Reduce TDAFW flow to minimum after AFW pumps start
- o Modulate the motor driven auxiliary feedwater pump throttle valves to establish 200 gpm per SG

The exercise is terminated 11 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Simultaneous Closure of All Main Stm Isol Valves
(07-03)

The Vogtle simulator is initialized to 100% power, BOL, Equilibrium Xe. A simultaneous closure of all main steam isolation valves malfunction (malfunctions MS10A, B, C & D) is inserted one minute after the simulator is placed in run. The operator shall perform only the following actions:

- o Reduce TDAFW flow to minimum after AFW starts
- o Modulate the motor driven auxiliary feedwater pump throttle valves to establish 200 gpm per SG

The exercise is terminated 11 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Simultaneous Trip of All Reactor Coolant Pumps
(07-04)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A simultaneous trip of all reactor coolant pumps malfunction (malfunctions EL06A & EL06B, Loss of NAA and NAB) is inserted one minute after the simulator is placed in run. The operator shall perform only the following actions:

- o Reduce TDAFW flow to minimum after AFW starts
- o Modulate the motor driven auxiliary feedwater pump throttle valves establish 200 gpm per SG

The exercise is terminated 16 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Single Reactor Coolant Pump Trip (07-05)

The Vogtle simulator is initialized to 13% power, BOL, Equilibrium Xe. Place the simulator in run and shift the rod control system to manual. A trip of a single reactor coolant pump malfunction (malfunction RP01) is inserted one minute after the simulator is placed in run. The simulator is allowed to run with NO OPERATOR ACTION for the remainder of the exercise.

The exercise is terminated 6 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Main Turbine Trip w/o a Reactor Trip (07-06)

The Vogtle simulator is initialized to 30% power, MOL, Equilibrium Xe. A main turbine trip w/o a reactor trip malfunction (malfunction TU01) is inserted one minute after the simulator is placed in run. Once the simulator is placed in run, the rod control system is switched to manual. The simulator is allowed to run with NO OPERATOR ACTION for the remainder of the exercise. The exercise is terminated 11 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Maximum Rate Power Ramp (100% to 75%,
Back to 100%) (07-07)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. The rod control system is placed (verified) in automatic operation after the simulator is placed in run. After a one minute time delay, the operator shall manually reduce turbine load to approximately 75% (900 MW) over a 5 minute period. Five minutes after the load reduction, the operator shall raise turbine load to 100% (1200 MW) over a 5 minute period.

The exercise is terminated 5 minutes after reaching 100% power.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : LOCA with Loss of Offsite Power (07-08)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A LOCA with a loss of offsite power is initiated by insertion of the following malfunctions:

- o RC03C (RCS Loop 3 Cold Leg Rupture)
- o EL02 & EL03 (loss of reserve auxiliary transformers 1NXRA/B)
- o EL04 & EL05 (loss of unit auxiliary transformers 1NXAA/B)

The simulator is placed in run and allowed to operate with NO OPERATOR ACTION for 20 minutes. The operator then places the ECCS in the recirculation mode. The exercise is terminated 25 minutes after the simulator is placed in run or 2 minutes after recirc flow is established (whichever is later).

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Unisolable Main Steam Line Rupture
Inside Containment (07-09)

The Vogtle simulator is initialized to 10E-8 amps, EOL, Hot Zero Power. A steam line rupture inside containment (malfunction MS04C) is inserted at 100% severity one minute after the simulator is placed in run. The simulator is allowed to run with no operator action other than to isolate the faulted SG and to isolate all Auxiliary Feedwater to the intact SG's after the ruptured SG dries out. The exercise is terminated 10 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

FORM TITLE: PERFORMANCE TEST ABSTRACT

REVISION 5

PREPARED BY: T. Petrak DATE: 11/04/94 REVIEWED BY: M. GIBSON DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Slow Primary Sys Depressurization to Sat Cond
w/Stuck SV (07-10)

The Vogtle simulator is initialized to 100% power, EOL, Equilibrium Xe. A pressurizer safety valve, PSV-8010A leakage (PR01A) is inserted at 20% severity along with SI Channel A&B failures (malf's ES08 and ES16) one minute after the simulator is placed in run. These malfunctions establish a slow depressurization of the RCS to saturation. The operator shall only perform the following actions:

- o Throttle AFW flow to 200 gpm per SG
- o Trip both Main Feedwater Pumps

The exercise is terminated 40 minutes after the simulator is placed in run.

The simulator response is evaluated against best estimate judgement where Vogtle plant data is not available.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

TITLE: PERFORMANCE TEST ABSTRACT

REVISION 1

PREPARED BY: P. Rubin DATE: 9/20/90 REVIEWED BY: M. Gibson DATE: 11/04/94
APPROVED BY: R. Dorman MANAGER TRAINING & EP DATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Computer Real Time Test
(08-01)

The Computer Real Time Test consists of 3 tests.

In the first test the simulator is initialized to any full power initial condition (IC) and placed in run. The simulator is allowed to run for 30 minutes at steady state conditions. During the 30 minutes, the minimum spare time of the CPU and the IPU are recorded. If either of the spare times show less than adequate spare time a discrepancy report is generated.

In the second test three malfunctions are selected which will exercise the major models of the simulator (i.e., LOCA, Reactor Trip and MSIV Closure). For each malfunction, the simulator is initialized to the IC used in the first test and placed in run. The simulator is allowed to run for 10 minutes with the malfunction active. During the 10 minutes, the minimum spare time of the CPU and the IPU are recorded. If either of the spare times show less than adequate spare time, a discrepancy report is generated.

In the third test 5 valves are selected for valve stroking. The valves selected are from different systems and have a minimum of 15 second stroke time. The valves are stroked on the simulator and the times recorded. If any actual valve stroke time exceeds its calculated value by more than $\pm 2\%$, a discrepancy report is generated.

This testing was satisfactorily completed. Any discrepancies are identified on Form 12-01.

TITLE: PERFORMANCE TEST ABSTRACT

REVISION 1

PREPARED BY: P. Rubin DATE: 9/20/90 REVIEWED BY: M. Gibson DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Simulator Limits Exceeded
(08-02)

The "Simulator Limits Exceeded" light in the Instructor's Booth will be illuminated when certain model limits are exceeded. These limits were chosen to cover instances in which either:

1) The simulated conditions are outside the bounds imposed by modeling assumptions. (for example, gross voiding of the RCS)

2) The simulated conditions are outside the design limits of plant equipment (for example, the containment pressure exceeds the design limit).

Simulator instructors monitor the "Simulator Limits Exceeded" light to see if their scenario has exceeded these limits. If the light is illuminated, the instructor addresses whether the training is being impacted by the simulation and, if so, steps are taken to correct any negative training that might occur.

The parameters which are monitored for the "Simulator Limits Exceeded" light are:

Parameter	Setpoint
Containment Pressure	> 66.7 psia
RCS Pressure	> 2700 psia
Core Voiding	> 100%
Fuel Temperature	> 4000 Degf

To test the limits requires the simulator models to be frozen because the limits are intentionally set at values that the simulation can not normally achieve.

TITLE: PERFORMANCE TEST ABSTRACT

REVISION 1

PREPARED BY: P. Rubin DATE: 9/20/90 REVIEWED BY: M. Gibson DATE: 11/04/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

SIMULATOR PERFORMANCE TEST ABSTRACT

TITLE : Simulator Limits Exceeded
(08-02)

To test the operation of the light, all models are frozen except the operating limits program. Each of the inputs to the program are set to create an out of limits input and then set to clear the alarm.

The "Simulator Limits Exceeded" light performed as required.

FORM TITLE: SIMULATOR PERFORMANCE TEST DATES

REVISION 1

PERFORMED BY: T.Petrak DATE: 01/03/94 REVIEWED BY: M.Gibson DATE: 01/03/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

The first year's tests were completed on the following dates:

Certification Test Procedure Tested	Date
5-01	5/19/91
5-05	3/24/91
5-09A	6/06/91
5-09B	6/06/91
5-13A	11/13/91
5-13B	11/13/91
5-13C	11/13/91
5-13D	11/13/91
5-17A	8/17/91
5-17B	8/17/91
5-17C	8/17/91
5-21	5/19/91
5-25A	5/19/91
5-25B	5/19/91
5-29A	3/24/91
5-29B	3/24/91
5-29C	3/24/91
5-29D	3/24/91
5-29E	3/24/91
5-29F	5/19/91
5-29G	3/24/91
6-01	7/12/91
6-05	6/09/91
6-09	5/19/91
6-10	5/31/91
6-11	5/19/91
7-01	5/19/91
7-02	5/19/91
7-03	5/31/91
7-04	5/31/91
7-05	5/31/91
7-06	5/31/91
7-07	5/31/91
7-08	5/31/91
7-09	5/31/91
7-10	5/31/91
8-2	8/17/91

FORM TITLE: SIMULATOR PERFORMANCE TEST DATES

REVISION 1

PERFORMED BY: T.Petrak DATE: 01/03/94 REVIEWED BY: M.Gibson DATE: 01/03/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

The second year's tests were completed on the following dates:

Certification Test Procedure Tested	Date
5-02	03/12/92
5-06A	03/12/92
5-06B	03/12/92
5-10	03/12/92
5-14A	03/12/92
5-14B	03/12/92
5-18	12/01/92
5-22	03/16/92
5-26	03/16/92
5-30A	11/29/92
5-30B	03/16/92
5-30C	03/16/92
6-02	02/26/92
6-06	02/27/92
6-09	03/19/92
6-10	08/29/92
6-11	03/31/92
7-01	03/03/92
7-02	03/03/92
7-03	03/03/92
7-04	03/03/92
7-05	03/06/92
7-06	03/16/92
7-07	03/03/92
7-08	03/16/92
7-09	03/16/92
7-10	03/16/92
8-2	04/10/92

FORM TITLE: SIMULATOR PERFORMANCE TEST DATES

REVISION 1

PERFORMED BY: T.Petrak DATE: 01/03/94 REVIEWED BY: M.Gibson DATE: 01/03/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

The third year's tests were completed on the following dates:

Certification Test Procedure Tested	Date
5-03	03/18/93
5-07	03/18/93
5-11A	03/19/93
5-11B	03/19/93
5-11C	03/19/93
5-11D	03/19/93
5-11E	03/19/93
5-11F	03/19/93
5-15A	03/18/93
5-15B	03/18/93
5-15C	03/18/93
5-19A	03/18/93
5-19B	03/18/93
5-23A	03/18/93
5-23B	03/19/93
5-27	03/19/93
5-31	03/19/93
6-03	03/15/93
6-07	08/09/93
6-09	03/15/93
6-10	04/10/93
6-11	04/01/93
7-01	04/10/93
7-02	03/16/93
7-03	03/16/93
7-04	03/18/93
7-05	03/19/93
7-06	03/16/93
7-07	03/19/93
7-08	03/19/93
7-09	03/19/93
7-10	03/19/93
8-2	12/15/93

FORM TITLE: SIMULATOR PERFORMANCE TEST DATES

REVISION 1

PERFORMED BY: T.Petrak DATE: 01/03/94 REVIEWED BY: M.Gibson DATE: 01/03/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

The fourth year's tests were completed on the following dates:

Certification Test Procedure Tested	Date
5-04	11/03/94
5-08	11/03/94
5-12A	09/22/94
5-12B	09/26/94
5-16	09/23/94
5-20	09/23/94
5-24	09/23/94
5-28	09/23/94
6-04	09/23/94
6-09	11/03/94
6-10	12/05/94
6-11	12/05/94
7-01	09/02/94
7-02	09/20/94
7-03	09/20/94
7-04	09/20/94
7-05	09/20/94
7-06	01/02/95
7-07	09/20/94
7-08	09/21/94
7-09	09/20/94
7-10	09/20/94
8-2	11/04/94

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95

Form 12-01's are available for each individual year's testing at the time of the tests. A review of these forms shows that there are no discrepancies that remain open that would impact the training or examination process. The open discrepancies are minor in nature such that the student would not see them or they would not impact his actions. Enclosed is a consolidation of the discrepancies that are still open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 05-04,05-08,05-23A,05-24AInterval: Malfunction to Termination DR Number: 1 (9304013)

Parameter	Comparison Measure	Comparison Value
SG NR & WR LVL	NA	Table Top

Problem Description:

Cause:

There is an oscillation in the SG NR & WR level immediately following a reactor trip.

Model problem.

Corrective Action:

Impact if not Corrected:

Correct model.

Minor impact. Overall trend is correct and the oscillations are damped. They only last for a few seconds and probably would not be seen by the student.

Resolution:

Results:

DR 9304013 was written.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. ~~ATRAK~~ DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94

APPROVED BY: R. DORIAN MANAGER TRAINING & EP

DATE: 01/04/95

Performance Test Procedures: 05-04

Interval: Malfunction to Termination DR Number: 2 (9501001)

Parameter	Comparison Measure	Comparison Value
SG Pressure	NA	Table Top

Problem Description:

Cause:

Need to evaluate SG2 vs SG3
pressure response looking at steam
flows

Model problem.

Corrective Action:

Impact if not Corrected:

Correct model.

Minor impact. Overall trend is
correct but the values were
questioned during the analysis.
Will review to determine if there
is a problem.

Resolution:

Results:

DR 9501001 was opened.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94

APPROVED BY: R. DORMAN MANAGER TRAINING & EP

DATE: 01/04/95

Performance Test Procedures: 05-04

Interval: Malfunction to Termination DR Number: 4 (9501002)

Parameter	Comparison Measure	Comparison Value
Containment Pressure	NA	Table Top

Problem Description:

Cause:

The response of containment pressure vs containment spray actuation was questioned during the testing analysis.

Model problem.

Corrective Action:

Impact if not Corrected:

Correct model.

Minor impact. The response is in the correct direction. Will review response to determine if there is a problem.

Resolution:

Results:

DR 9501002 was written.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 05-24AInterval: Rx Trip to Termination DR Number: 7 (9501004)

Parameter	Comparison Measure	Comparison Value
TDAFW Pressure	NA	Table Top

Problem Description:

Cause:

The response of the TDAFW pressure
as the ramp circuit was questioned
during the test analysis.

Model problem.

Corrective Action:

Impact if not Corrected:

Correct model.

Minor impact. Will verify response.
Response is in the proper direction
and reasonable for training.
Response has not been evaluated. It
may be correct.

Resolution:

Results:

DR 9501004 was written.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 06-08Interval: Surveillance Test DR Number: 9 (9501007)

Parameter	Comparison Measure	Comparison Value
Source Range Hi Flux at Shutdown	NA	Table Top

Problem Description:

Cause:

The Hi Flux at Shutdown setpoint did not meet the acceptance criteria of Procedure 14432-1.

IC's snapped with wrong setpoint.

Corrective Action:

Impact if not Corrected:

Resnap IC's with proper setpoint.

Minor impact. Surveillance can be performed.

Resolution:

Results:

DR 9501007 was written.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 07-01,05-11A,05-23A,05-27Interval: Malfunction to Termination DR Number: 10 (9304007)

Parameter	Comparison Measure	Comparison Value
SG PRESS	NA	TABLE TOP

Problem Description:

Cause:

SG Pressure response following a Reactor Trip does not match plant data. Response is too slow.

Model problem

Corrective Action:

Impact if not Corrected:

Tune steamline model to match plant trip data.

Minor training impact. The pre and post trip SG pressures are correct. It is unlikely that the operator would notice that the pressure response is a little slow following a trip.

Resolution:

Results:

DR 9304007 was written

DR is open

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 07-09Interval: Malfunction to Termination DR Number: 12 (9501005)

Parameter	Comparison Measure	Comparison Value
Feed Flow	NA	Table Top

Problem Description:

Cause:

Feed Flow goes to a very small value after the event.

Model problem.

Corrective Action:

Impact if not Corrected:

Correct model.

Minor impact. Overall trend is correct. The value is very small and would probably not be noticed by the operator.

Resolution:

Results:

DR 9501005 was written.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 05-12AInterval: Malfunction to Termination DR Number: 14 (9501006)

Parameter	Comparison Measure	Comparison Value
Pressurizer Pressure	NA	Table Top

Problem Description:

Cause:

Pressurizer Pressure has a slight overshoot after power is restored.

Model problem.

Corrective Action:

Impact if not Corrected:

Correct model.

Minor impact. Student is very unlikely to notice the small change in pressure. It has not been analyzed. It may be correct.

Resolution:

Results:

DR 9501006 was opened.

DR is open.

FORM TITLE: DISCREPANCY RESOLUTION WORKSHEET

REVISION 4

PERFORMED BY: T. PETRAK DATE: 01/03/94 REVIEWED BY: M. GIBSON DATE: 01/03/94APPROVED BY: R. DORMAN MANAGER TRAINING & EPDATE: 01/04/95Performance Test Procedures: 05-31Interval: Malfunction to SI DR Number: 8 (9304015)

Parameter	Comparison Measure	Comparison Value
PR FLUX, PRZR LVL, PRZR PRESS, WR PRESS, SG NR & WR LVL, SG PRESS, FEED FLOW & STEAM FLOW	NA	Table Top

Problem Description:

Cause:

There is an oscillation in all the above parameters from just after the turbine trip and continues until the feed pumps trip.

Model problem.

Corrective Action:

Impact if not Corrected:

Correct models to remove the oscillation.

Minor impact. The overall trends are correct.

Resolution:

Results:

DR 9304015 was written.

DR is open.

The "1994 Simulator Certification Committee" was set up to review the steady state, normal operations and transient testing of the Vogtle simulator.

The "Committee" met on 12/20/94. It consisted of four individuals with the following credentials:

Steve Dyer:

RO and SRO licenses at Plant Vogtle. One year education at Floyd Junior College and two years at Coosa Vocational Technical School.

Plant Vogtle: 7 years operational experience as a Plant Equipment Operator, Assistant Plant Operator, and Plant Operator (RO licensed). Duties included Preop Testing, Startup and Commercial Operation

Plant Vogtle: Attended SRO License Upgrade school. Has taught Regual and Initial Operator Training classes since February 1992.

Plant Hatch: 2 years BWR Preop Testing, Startup and Commercial Operation.

George Gunn:

RO and SRO licenses at Plant Vogtle (#OP-20475 and #SOP-20863) Bachelor of Science degree from Clemson University majoring in Wood Science.

Plant Vogtle: 5.5 years operational experience as a Plant Equipment Operator and Reactor Operator. Duties included the operation of various plant equipment, fuel loading, power ascension testing and commercial operation of Units 1 & 2 in the control room.

Plant Vogtle: 4 years Operations Instructor experience. Duties have included hot license class instruction, regual instruction and simulator certification.

Thad Thompson:

SRO license at Plant Vogtle (#SOP-20865): RO license at Plant Vogtle

Plant Vogtle: 6.5 years operational experience as a Reactor Operator. Duties included the operation of various plant equipment, refueling operations, initial energization, hot functional testing, power ascension testing, and commercial operation of Units 1 and 2 in the control room.

Plant Vogtle: 4 years Operations Instructor experience. Duties have included 3 hot license classes instruction in classroom, plant, and simulator. Other duties related to training include simulator certification and Shift Superintendent course development.

Plant Hatch: 2 years as a Plant Equipment Operator and as Radwaste Operator. Duties included mostly various plant equipment operation as a Plant Equipment Operator. As a Radwaste Operator performed mostly plant equipment operation and Radwaste Control Room operations of various equipment.

Thomas G. Petrak

SRO license at Plant Vogtle (# SOP-20765) M.S. degree from Ohio State University in Mechanical Engineering. B.S. from University of Cincinnati in Nuclear Engineering.

Zion, Plant Vogtle - 4.5 years Operational Engineering experience. Duties included reactivity management, reactor trip reviews, Systems Engineer, start-up testing and refueling.

Plant Vogtle: 5.5 years Senior Nuclear Instructor experience. Duties have been equal instruction, maintenance and testing of simulator software, simulator acceptance testing and simulator certification.

The committee used plant data, FSAR data, and owner's group guidelines as available and needed. If no data was available, then the best judgement of the committee based on their various backgrounds and plant experiences was used.

All tests were determined to be satisfactory with the exception of those items identified on Form 1201 of the report.

The committee was in full agreement for all tests.

Test analysis was completed in the same manner utilizing individuals with similar backgrounds for each of the previous years.

Attachment 4

PERFORMANCE TEST PLAN CHANGES

01/04/95

Plant A.W. Vogtle, Unit 1
Docket #50-424
Georgia Power Company

FORM TITLE: PERFORMANCE TEST PLAN CHANGES

REVISION 1

PERFORMED BY: T. Petrak DATE: 01/02/94 REVIEWED BY: M. Gibson DATE: 01/02/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95

Changes have been made to the test plan to cover plant changes, plant procedure changes, and minor errors in the test guides, testing procedures and abstracts. The testing procedures were also changed to better define the testing and thereby improve test consistency from year to year. Many minor changes were made to cover the above situations. Other test changes that were made are:

- 1) A new instructor station was added to the simulator. It uses an improved naming scheme for malfunctions and remote functions. The test procedures and abstracts are being changed to reflect the new scheme as the tests are run each year.
- 2) A new CCW model was written. The location of the CCW system leak (test 05-17) was moved to the pump discharge vs being somewhere down the CCW system piping. This change made no difference in operator action but made more sense for model development.
- 3) The IC used for Test 05-19A (dropped rod) was changed to 100% power since Plant Vogtle no longer has a negative rate trip circuit.
- 4) Test 05-23B (RCS Boration) was changed to be run from an MOL core vs a BOL. Core reloads now yield a greater cooldown at BOL. Utilizing MOL makes the test more consistent with previous tests.
- 5) Test 05-25 (MSLB ORC) is changed to utilize a 48% BOL IC. We no longer maintain a 49% EOL IC.
- 6) A new form was added (Form 12-03) to track testing problems.

SIMULATION FACILITY CERTIFICATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 120 HOURS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBR 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0138), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

INSTRUCTIONS: This form is to be filed for initial certification, recertification (if required), and for any change to a simulation facility performance testing plan made after initial submittal of such a plan. Provide the following information and check the appropriate box to indicate reason for submittal.

FACILITY

A. W. Vogtle Unit 2 Nuclear Power Plant

DOCKET NUMBER

50-425

LICENSEE

Georgia Power Company

DATE

1-4-1995

This is to certify that:

1. The above named facility licensee is using a simulation facility consisting solely of a plant-referenced simulator that meets the requirements of 10 CFR 55.45.
2. Documentation is available for NRC review in accordance with 10 CFR 55.45(b).
3. This simulation facility meets the guidance contained in ANSI/ANS 3.5, 1985, as endorsed by NRC Regulatory Guide 1.149.

If there are any **EXCEPTIONS** to the certification of this item, **CHECK HERE [X]** and describe fully on additional pages as necessary. **See Attachment 1: Exceptions**

NAME (or other identification) AND LOCATION OF SIMULATION FACILITY.

A. W. Vogtle Simulator, River Rd., Approx. 5 mi. NE, Hwy. 23, Waynesboro, GA 30830

☒

SIMULATION FACILITY PERFORMANCE TEST ABSTRACTS ATTACHED. (For performance tests conducted in the period ending with the date of this certification.)

DESCRIPTION OF PERFORMANCE TESTING COMPLETED. (Attach additional pages as necessary and identify the item description being continued.)

Plant A. W. Vogtle, Unit 2 Simulator Training will be performed using the Unit 1 Training simulator. The performance tests were run per the Unit 1 certification. Operational characteristics of Unit 2 were considered and difference which may result in negative training are identified as exceptions in Attachment 1 to this form.

☒

SIMULATION FACILITY PERFORMANCE TESTING SCHEDULE ATTACHED. (For the conduct of approximately 25% of performance tests per year for the four-year period commencing with the date of this certification.)

DESCRIPTION OF PERFORMANCE TESTING TO BE CONDUCTED. (Attach additional pages as necessary and identify the item description being continued.)

Plant A. W. Vogtle, Unit 2 Simulator Training will be performed using the Unit 1 Training simulator. The performance tests will be run per the Unit 1 certification. The operational characteristics of Unit 2 have been considered and differences which result in negative training identified and resolved as described in Attachment 1.

☒

PERFORMANCE TESTING PLAN CHANGE. (For any modification to a performance testing plan submitted on a previous certification.)

DESCRIPTION OF PERFORMANCE TESTING PLAN CHANGE. (Attach additional pages as necessary and identify the item description being continued.)

Unit 2 test plan changes are the same as Unit 1.

RE-CERTIFICATION (Describe corrective actions taken, attach results of completed performance testing in accordance with 10 CFR 55.45(b)(5)(iv). (Attach additional pages as necessary and identify the item description being continued.)

Any false statement or omission in this document, including attachments, may be subject to civil and criminal sanctions. I certify under penalty of perjury that the information in this document and attachments is true and correct.

SIGNATURE AUTHORIZED REPRESENTATIVE

TITLE

DATE

General Manager

1/13/95

In accordance with 10 CFR 55.5, Communications, this form shall be submitted to the NRC as follows:

BY MAIL ADDRESSED TO: DIRECTOR, OFFICE OF NUCLEAR REACTOR REGULATION
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

BY DELIVERY IN PERSON
TO THE NRC OFFICE AT:

ONE WHITE FLINT NORTH
11555 ROCKVILLE PIKE
ROCKVILLE, MD

Attachment 1

EXCEPTIONS

01/04/95

Plant A.W. Vogtle, Unit 2
Docket # 50-425
Georgia Power Company

Exceptions to ANSI/ANS3.5-1985 for Unit 2 are the same as those specified for Unit 1.

Georgia Power Company has researched the differences between Unit 1 and Unit 2. The differences between the two units are very minor. Georgia Power Company feels that the Unit 1 simulator is acceptable for training of Unit 2 operators. This report is made a part of the attachment and serves to document compliance with Regulatory Guide 1.149.

UNIT 1 VS UNIT 2 DIFFERENCES

Plant Vogtle has made a concerted effort to make Unit 1 and Unit 2 as identical as possible. The controls in both units are essentially identical with minor differences as described below.

The Unit 2 Main Control Board is a rotated image of the Unit 1 Main Control Board. A left-right relationship exists for all controls on the Main Control boards except for one small panel (section D). Section D is on the left side of the Unit 1 panels and on the right side of Unit 2 panels. This panel contains RVLIS, PSMS, and the Main Steam Bypass Isolation valves on each unit. This difference has no noticeable impact on operation of the units.

The rest of the Unit 2 control boards appear as if the Unit 1 boards were moved west. Their appearance on Unit 2 will be the same on either unit. This requires a slightly different scanning pattern but has no noticeable impact on unit operation.

All common or shared equipment is located on Unit 1 so some of the Unit 2 panels have slightly less equipment. The Unit 2 plant computer systems have no common equipment inputs.

The differences listed below are identified based on the May 11, 1988 letter to the NRC requesting dual unit licenses for Vogtle operators, a review of the Design Change Packages for each unit, and operator experience.

There are very few differences that will affect operation of the units and these are very minor. Vogtle operators receive classroom training on plant differences that may affect operation.

The intent is not to identify every minor difference in the units but to show that they are alike to the extent that the Vogtle simulator can be used for Unit 2 operators with basically no training impact.

1. Boron Injection Tank

Unit 1 BIT inlet valves are installed with power removed and locked open

Unit 2 BIT is not piped into the system flowpath and the BIT inlet valves were never installed.

2. Diesel Generator

Unit 2 Train B Fuel Oil Transfer system has local/remote handswitch located on 2BBF-27

Unit 2 DG Day Tanks can be drained back to the Fuel Oil Storage Tank.

Unit 2 DG Sync Mode Selector Switch turns in the opposite direction of Unit 1's.

Unit 1 DG has added a Jacket Water Chem Add system.

Unit 1 DG has a digital governor which allows both "slow" and "fast" starts.

Unit 1 DG has generator loading control (GLC) which is used whenever the diesel is paralleled to the grid. A ten turn pot is used to control generator load during parallel operation.

Unit 1 DG has removed the manual backup voltage regulator and has added a second automatic voltage regulator.

3. QMCB Annunciator Power Supplies

If the normal power supply (AC) is lost to the QMCB annunciators, the backup supply (DC) will keep the annunciators powered on each Unit. When AC power is restored on Unit 1, the annunciators must be manually transferred/reset to return to the normal supply. (Auto transfer on Unit 2).

4. NSCW

Unit 2 Aux Containment Cooler isolation valves are interlocked so that the outlet valves must be opened first. When opening the outlet valves, they will stroke open for 3 seconds, and then stop for 60 seconds before stroking full open.

Unit 2 also has high point vacuum breakers located at the ESF chillers and the CCW heat exchangers.

5. Aux Feedwater

Unit 1 has installed handswitches to allow blocking of the AFW actuation circuitry when needed.

Unit 1 has replaced the AFW pump shaft seals with mechanical seals.

6. HVAC & Freeze Protection

Unit 1 SGBD Hx room now has a room cooler supplied with normal chilled water. This lessens the chances of an inadvertent actuation of the HELBA system on high room temperature during normal operation.

Unit 1 MSIV HVAC routes air directly onto the MSIV valve bodies to keep them relatively cool. This reduces the chances of temperature-related equipment failures.

Unit 1 utilizes heat tracing for freeze protection in outside areas. Unit 2 uses area heaters.

7. Nuclear Sampling

Unit 1 sample system has pressure reduction and relief valves.

8. Waste Systems

Unit 2 Waste Evaporator Package not completed.

Unit 2 has two additional Waste Monitor Tanks (designated as common). Each tank has a 20,000 gallon capacity.

9. Main Feed Pumps

Unit 2 MFP seal injection filters have DP gauges.

10. Tech Specs

Any differences in Tech Spec requirements between the units are designated by the use of parentheses, separate listings and/or diagrams, etc.

11. Spent Fuel Pool storage capacity

Unit 1(East) - 288 storage locations

Unit 2(West) - 2098 storage locations

12. RHR Venting

Unit 2 RHR high-point vents (10465 & 10466) have drain lines routed outside the cubicles.

13. Human Factors

Floor colors

Unit 1 and common areas have cream/tan colored floors. Unit 2 has powder blue floors.

Component labeling

Unit 1 and common equipment have white rectangular labels. Unit 2 has round blue labels.

14. Plant Computer

Unit 1 has replaced the Proteus/ERF/ATSI computers with the Integrated Plant Computer (IPC).

15. EHC Pressure Turbine Trip

Unit 1 has added a 3 second delay to the Low EHC pressure turbine trip.

16. EHC Filters

Unit 1 EHC Filters has been modified as follows:

- a. Addition of a second parallel EHC filter.
- b. Fines filter changed to a one micron filter.
- c. High filter delta P indicating light remains on when delta P is normal.

17. Turbine Control

Unit 1 has added a speed error signal filter card.

Unit 1 has updated the Load Set and Load meter scales.

18. Pressurizer Pressure Control Loop

Unit 1 has removed the setpoint potentiometers for controllers 455A, 455B, 455C, 455D and 455E.

19. Standby Auxiliary Transformer

Unit 1 has added the Standby Auxiliary Transformer.

Attachment 3

PERFORMANCE TEST SCHEDULE

01/04/95

Plant A.W. Vogtle, Unit 1
Docket #50-424
Georgia Power Company

FORM TITLE: UNIT 1/UNIT 2 PROCEDURE DIFFERENCES

REVISION 1

PERFORMED BY: T.Petrak DATE: 1216/94 REVIEWED BY: M.Gibson DATE: 12/16/94

UNIT 1 PROCEDURE	UNIT 2 PROCEDURE	TRAINING IMPACT DESCRIPTION	REQUIRED ACTION
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NOTE:

The Vogtle EOPs, AOPs, and UOPs exist in procedures common to both units. Any differences in steps will be identified in a two column (Unit 1 - Unit 2) format. These differences will generally only exist from one outage to the next. Plant Vogtle has made a major effort to make the units identical.

1. The unit designator is not used in the procedures for mechanical components such as valves, pumps, tanks, fans, etc. when they are the same for both units.
2. If mechanical equipment does not have the same number on both units then the procedure gives the entire component description including the unit designator and the equipment number.
3. If electrical equipment is referred to in common procedures, then the entire component description including the unit designator and equipment number is given.
4. When referencing unit particular operation procedures in common procedures, the unit designator is not mentioned. The unit designator will be left off and the user should refer to the applicable unit procedure.
5. When referencing common procedures in unit procedures the designator "C" will be used.

With a limited review no difference in component numbers have been identified when comparing the two units. No operational differences, except for setpoints normally, exist in the EOPs and AOPs.

FORM TITLE: PERFORMANCE TEST SCHEDULE

REVISION 1

PERFORMED BY: T. Petrak DATE: 11/02/94 REVIEWED BY: M. Gibson DATE: 11/02/94

APPROVED BY: R. Dorman MANAGER TRAINING & EP

DATE: 01/04/95

Annual Operability Test

The following operability tests will be conducted annually (Computer Testing and Appendix B - Steady State and Transient Performance Tests):

- o COMPUTER REAL TIME TEST (08-01)
- o SIMULATOR LIMITS EXCEEDED TEST (03-02)
- o STEADY STATE PERFORMANCE AT 35% POWER FOR 60 MINUTES (06-09)
- o STEADY STATE PERFORMANCE AT 75% FOR 60 MINUTES (06-10)
- o STEADY STATE PERFORMANCE AT 100% POWER FOR 60 MINUTES (06-11)
- o MANUAL REACTOR TRIP (07-01)
- o SIMULTANEOUS TRIP OF ALL FEEDWATER PUMPS (07-02)
- o SIMULTANEOUS CLOSURE OF ALL MAIN STEAM ISOL VALVES (07-03)
- o SIMULTANEOUS TRIP OF ALL REACTOR COOLANT PUMPS (07-04)
- o SINGLE REACTOR COOLANT PUMP TRIP (07-05)
- o MAIN TURBINE TRIP W/O REACTOR TRIP (07-06)
- o MAXIMUM RATE POWER RAMP (07-07)
- o MAXIMUM SIZE RCS RUPTURE W/ LOSS OF OFFSITE POWER (07-08)
- o MAXIMUM SIZE UNISOLABLE MAIN STEAM LINE RUPTURE (07-09)
- o SLOW PRIMARY SYS DEPRESSURIZATION TO SATURATED CONDITION (07-10)

FORM TITLE: PERFORMANCE TEST SCHEDULE

REVISION 1

PERFORMED BY: T. Petrak DATE: 11/02/94 REVIEWED BY: M. Gibson DATE: 11/02/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95**Performance Tests**

The following performance tests will be conducted (in addition to the annual operability tests) in the first year following certification (Normal Operation Tests, Malfunction Tests, and Transient Tests not tested as Annual Operability Tests):

- o LOSS OF COOLANT- SIGNIFICANT PWR STEAM GENERATOR LEAKS (05-01)
- o LOSS OF COOLANT- SMALL RCS BREAKS (05-05)
- o LOSS OF EMERGENCY POWER (05-09)
- o LOSS OF POWER TO INDIVIDUAL INSTRUMENT DC BUSES (05-13)
- o LOSS OF COMPONENT COOLING SYS OR COOLING TO INDIVIDUAL COMPONENTS (05-17)
- o FUEL CLADDING FAILURE (05-21)
- o MAIN STEAM LINE BREAK OUTSIDE CONTAINMENT (05-25)
- o PROCESS INSTRUMENT, ALARMS, AND CONTROL SYSTEM FAILURES (05-29)
- o PLANT STARTUP FROM COLD TO HOT STANDBY (06-01)
- o COOLDOWN FROM HOT STANDBY TO COLD SHUTDOWN CONDITIONS (06-05)

FORM TITLE: PERFORMANCE TEST SCHEDULE

REVISION 1

PERFORMED BY: T. Petrak DATE: 11/02/94 REVIEWED BY: M. Gibson DATE: 11/02/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95**Performance Tests**

The following performance tests will be conducted (in addition to the annual operability tests) in the second year following certification (Normal Operation Tests, Malfunction Tests, and Transient Tests not tested as Annual Operability Tests):

- o LOSS OF COOLANT- INSIDE PRIMARY CONTAINMENT (05-02)
- o FAILURE OF SAFETY AND RELIEF VALVES (05-06)
- o LOSS OF EMERGENCY GENERATORS (05-10)
- o LOSS OF CONDENSER VACUUM INCLUDING LOSS OF CONDENSER LEVEL CONTROL (05-14)
- o LOSS OF ALL FEEDWATER- NORMAL AND EMERGENCY (05-18)
- o GENERATOR TRIP (05-22)
- o MAIN FEED LINE BREAK INSIDE CONTAINMENT (05-26)
- o PASSIVE MALFUNCTIONS IN SYSTEMS (05-30)
- o NUCLEAR STARTUP FROM HOT STANDBY TO RATED POWER (06-02)
- o REACTOR TRIP FOLLOWED BY RECOVERY TO RATED POWER (06-06)

FORM TITLE: PERFORMANCE TEST SCHEDULE

REVISION 1

PERFORMED BY: T. Petrak DATE: 11/02/94 REVIEWED BY: M. Gibson DATE: 11/02/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95**Performance Tests**

The following performance tests will be conducted (in addition to the annual operability tests) in the third year following certification (Normal Operation Tests, Malfunction Tests, and Transient Tests not tested as Annual Operability Tests):

- o LOSS OF COOLANT- OUTSIDE PRIMARY CONTAINMENT (05-03)
- o LOSS OF INSTRUMENT AIR (05-07)
- o LOSS OF POWER TO THE PLANT'S ELECTRICAL BUSES (05-11)
- o LOSS OF SERVICE WATER OR COOLING TO INDIVIDUAL COMPONENTS (05-15)
- o CONTROL ROD FAILURES (05-19)
- o FAILURE IN AUTOMATIC CONTROL SYSTEMS (05-23)
- o MAIN FEED LINE BREAK OUTSIDE CONTAINMENT (05-27)
- o FAILURE OF AUTOMATIC REACTOR TRIP SYSTEM (05-31)
- o LOAD CHANGES (06-03)
- o CORE PERFORMANCE TESTING (06-07)

FORM TITLE: PERFORMANCE TEST SCHEDULE

REVISION 1

PERFORMED BY: T. Petrak DATE: 11/02/94 REVIEWED BY: M. Gibson DATE: 11/02/94APPROVED BY: R. Dorman MANAGER TRAINING & EPDATE: 01/04/95**Performance Tests**

The following performance tests will be conducted (in addition to the annual operability tests) in the fourth year following certification (Normal Operation Tests, Malfunction Tests, and Transient Tests not tested as Annual Operability Tests):

- o LOSS OF COOLANT- LARGE RCS BREAKS (05-04)
- o LOSS OF OFFSITE POWER (05-08)
- o LOSS OF POWER TO INSTRUMENT AC BUSES (05-12)
- o LOSS OF SHUTDOWN COOLING (05-16)
- o INABILITY TO DRIVE CONTROL RODS (05-20)
- o FAILURE OF RCS PRESSURE & VOLUME CONTROL SYSTEMS (05-24)
- o NUCLEAR INSTRUMENTATION FAILURES (05-28)
- o PLANT SHUTDOWN FROM RATED POWER TO HOT STANDBY (06-04)
- o OPERATOR CONDUCTED SURVEILLANCE TESTING ON SAFETY RELATED SYSTEMS (06-08)