North Atlantic

Simulation Facility Certification

for the

Seabrook Station

Unit 1 Simulator

INTRODUCTION

This is the second certification of the Seabrook Station simulator. It is being submitted to the Nuclear Regulatory Commission in accordance with the requirements of 10 CFR 55.45. The certification document has been organized as outlined in Appendix A of ANSI/ANS 3.5, "Guide for Documenting Simulator Performance." Abstracts for each performance test conducted are included in Appendix A.

Certification of the Seabrook Station Unit 1 Simulator

1.0 Simulator Information

1.1 General

1.1.1 Owner/Operator/Manufacturer

Owner:	Joint Owners of Seabrook Station
Operator:	North Atlantic Energy Service Company
Manufacturer:	Link Simulation Systems Division of The Singer Company

1.1.2 Reference Plant/Type/Rating

Reference Plant:	Seabrook Station
Plant Type:	Westinghouse Four Loop Pressurized Water Reactor
Plant Rating:	1150 MWe

1.1.3 Date Available for Training

The Seabrook Station simulator was first used for training in 1980.

1.1.4 Type of Report

This is the second certification of the Seabrook Station unit 1 simulator.

1.2 Control Room

1.2.1 Control Room Physical Arrangement.

Figure 1, "Control Room Arrangement", and Figure 2, "Simulator Room Arrangement", provide a comparison of the control room and simulator. The control panel arrangement is identical with the following exceptions which the Simulator Review Committee has found not to detract from training:

1) The rear console is six inches further back from panels A - I.
2) CP-16 is 1.5 feet closer to panels A - I.
3) CP-65 is located three feet above the floor facing south in the control room but is at eye level facing west.
4) CP-180A and CP-180B are shifted laterally four feet in the direction of CP-16.
5) The support columns just behind the rear console are missing.
6) The ceiling is six inches higher.

1.2.2 Panels/Equipment

The panels identified in Figure 2 are fully simulated. All instrumentation, except as noted in the abstract for the simulator physical fidelity audit, has been verified to be identical in appearance and location to its control room counterpart. The Simulator Review Committee has found that the

following panels, which are called for in operating procedures, but are not simulated, do not detract from training:

1) Seismic Monitoring Cabinet (CP-58).
2) BOP Process Control Cabinets (CP-152A, 152B, 153, 175, 244, 297A, 297B).
3) I&C Process Control Cabinets (CP-1, 2, 3, 4, 5, 6, 7, 8).
4) ATWS Mitigation Panel (SP519).
5) Vibration Monitoring Panel (299).
6) Solid State Protection System Train A (CP-12, 14).

The initial certification of the simulator identified the train B Safeguards Test Cabinet (CP-15) as not simulated but required. This panel was received from the vendor on 1/2/95 and the simulation software to perform the required surveillances will be completed by 12/31/95.

1.2.3 Systems

1.2.3.1 Simulated Systems

All systems that the operators interact with via the Main Control Board (MCB) in the control room are simulated, without exception.

1.2.3.2 Main Plant Computer System

The Main Plant Computer System (MPCS) is stimulated by the simulation computer. The original MPCS was replaced in 1993 with a new system developed by SAIC. The Safety Parameter Display System (SPDS) is a subset of the MPCS. All displays available to the operator in the control room are available on the simulator.

1.2.4 Simulator Control Room Environment

1.2.4.1 Communications

All control room communications systems are available on the simulator with the following exceptions. The Simulator Review Committee has determined these exceptions do not detract from training.

1) The keypad on each of the telephone sets has been disabled.
2) The Motorola radio system is configured as an intercom.
3) The power fail phone does not switch over to an outside line upon loss of power.

1.2.4.2 Lighting

The lighting in the simulator room matches that in the control room with the following exceptions which the Simulator Review Committee has determined to not detract from training.

1) The level of illumination in the control room and simulator differ because the control room lighting is attached to dimmers which are adjusted based upon crew preference.
2) The battery powered emergency lights are not installed on the simulator.

1.2.4.3 Aural Simulation

Aural simulation of the annunciator alarms, steam noise and rod step counters are the same as the control room. The Simulator Review Committee has determined the difference in ventilation noise does not detract for training.

1.3 Instructor Interface

1.3.1 Initial Conditions

The simulator is capable of storing 100 initial conditions (ICs). The number in use for training varies from 10 to 20 depending upon lesson plan requirements. The current set of initial conditions in use for training is:

IC Number	Description
1	BOL, 100% power
2	MOL, 100% power, rods at 228 steps, AFD -4.2
3	EOL, 100% power
5	MOL, 75% power, xenon near equilibrium, downpower in progress
6	MOL, 55% power, 2 main feed pumps, 2 heater drain pumps
12	MOL, Shutdown at 228 steps, FW heating, condensate cleanup to the startup feed pump, FW-V172 cracked
13	MOL, Critical @ 10 E-8, bank D @ 70 steps
14	MOL, 2.5% power, step 7.1.13 of OS1002.02
15	MOL, 8%, feedwater heating off, extraction steam on, step 7.2.3 of OS1002.02
19	MOL, 50% power

1.3.2 Malfunctions

Up to 60 simultaneous, nonconflicting malfunctions may be inserted at one time. The simulator has sufficient memory and processor time to implement new malfunctions identified for training through the Training System Development process. All required FSAR malfunctions, with the exception of those listed below, are simulated. The Simulator Review Committee has determined that their omission does not detract from training.

1) Control rod misalignment - dropped full length assembly bank (FSAR section 15.0.1.2[m]).
2) Control rod misalignment - single rod cluster control assembly withdrawal at full power (FSAR section 15.0.1.3[c]).
3) Inadvertent loading and operation of a fuel assembly in an improper position (FSAR section 15.0.1.3[d]).
4) Spent fuel cask drop accidents (FSAR section 15.0.1.3[i]).
5) Fuel handling accidents (FSAR section 15.0.1.4[h]).

6) Startup of an inactive reactor coolant pump at power (FSAR section 15.0.1.2[n]).

1.3.3 Controls Provided for Items Outside the Control Room

The adequacy of controls provided for items outside the control room (remote functions) is evaluated by the simulator performance testing program which uses controlled copies of plant procedures. Simulator Change Requests are initiated for those steps which can not be performed and impact training. Specific details are included within the applicable test abstract.

1.3.4 Additional Special Instructor/Training Features Available

1.3.4.1 Simulator Operating Limits

Operating limits are implemented for RCS pressure high/low, core exit temperature high/low, containment pressure high/low, subcooling margin high/low and reverse flow in the core region. When a simulator operating limit is reached, an audible and visual alarm is activated at the instructor station and the simulator is placed in freeze. The instructor then determines if the operating limit will affect the scenario in progress and whether to terminate the scenario.

1.3.4.2 Input/Output (I/O) Override

The instructor station has the capability to override the status of meters, switches and indicator lights on the simulator. Overriding the status of meters and lights provides only an erroneous indication at the control board, the mathematical modeling is unaffected. Overriding the position of a switch causes the system model to respond as if the switch had actually been repositioned.

1.4 Operating Procedures for Reference Plant

Simulator training is conducted using controlled copies of Seabrook Station procedures. All controlled copies are maintained up to date in accordance with station procedures. Performance testing of the simulator is conducted using controlled copies of these procedures. All steps that can not be performed are identified and evaluated for training impact. Specific details are described in the individual test abstracts.

1.5 Changes Since Last Report

The following major simulator improvements have occurred since the initial certification of the Seabrook Station simulator.

1) Installation of enhanced models utilizing matrix solution techniques for the main steam, condensate, heater drains and feedwater systems.
2) Installation of Westinghouse's 2,316 node Adcore core model.
3) Installation of S3 Technologies' Third Generation Instructor Station.
4) Replacement of the Modcomp main plant computer system with one developed by SAIC.
5) Installation of an enhanced reactor coolant system model featuring density driven natural

circulation.

2.0 Simulator Design Data

A database listing simulator design data is maintained on the Simulator Information Management System (SIMS).

3.0 Simulator Tests

The simulator certification test abstracts are in Appendix A. One performance test failure was identified in 1994, the instrument air malfunction (IA001) does not work. This will be corrected by 6/30/95. Discrepancies were identified for a number of tests, these are described in the individual test abstracts. The abstracts are organized by year performed and are further subdivided by the procedure governing the test. The subdivisions are:

1) Simulator Hardware Comparison

- Checks physical fidelity of the simulator.
- Performed quadrennially.

2) Simulator Instructor Interface

- Checks functionality of the instructor interface.
- Reviews set of available malfunctions and remote functions.
- Performed annually.

3) Simulator Computer Tests

- Computer real time test.
- Performed biannually.

4) Simulator core performance test.

- Verifies core response.
- Performed quadrennially.

5) Major Plant Evolutions Tests

- Evaluates simulator response to startup from cold iron to 100% power, shutdown from 100% power to cold iron, reactor trip and startup to 100% power and reactor shutdown with less than full coolant flow.
- Partially performed each year to be completed in a four year period.

6) Annual Operability Test

- Steady state tests.

- Transient tests.
- Performed annually.

7) Malfunction Tests

- Verifies malfunction response.
- Performed each year on approximately 25% of the malfunctions so that the entire set is tested over a four year period.

4.0 Simulator Discrepancy Resolution and Upgrading

4.1 Identifying, logging, correcting and testing reported simulator discrepancies.

Nuclear Training Procedure NT-3734 establishes the requirements for logging, correcting and testing simulator discrepancies. Any simulator user may document a simulator problem using a Simulator Change Request (SCR). The Simulator Support Instructor reviews each SCR and determines its priority. SCR information is entered into the tracking database and the SCR is placed in the work queue based upon its priority. The engineer first changes and tests the corrected software on the development computer system. Once the engineer is satisfied with the corrected response, the change is tested by the Simulator Support Instructor. When the Simulator Support Instructor is satisfied the response is correct, the development software is installed on the training computer system for use. Applicable documentation is then updated and the SCR is closed.

4.2 Tracking design changes incorporated into the reference plant.

All plant design changes are reviewed for simulator impact by the Simulator Support Instructor. If the design change has simulator impact, a simulator change request is initiated.

4.3 Overdue Plant Design Changes

One plant design change, 91 MMOD 000650, "Rod Control Cluster Assembly Repositioning", has exceeded the time limit for implementation on the simulator. The Simulator Review Committee has evaluated the impact of this design change and assigned an implementation date of 12/31/95.

5.0 Miscellaneous

5.1 Schedule for Testing

Table 5.1-1 details the testing plan for the next four years.

5.2 Simulator Review Committee

The Simulator Review Committee is responsible for defining the capabilities of the Seabrook Station simulator based on identified training objectives. The Simulator Review Committee includes representatives from the Operations Department, Operations Training Department and Simulator Systems Department.

5.3 Operating Experience Review Program

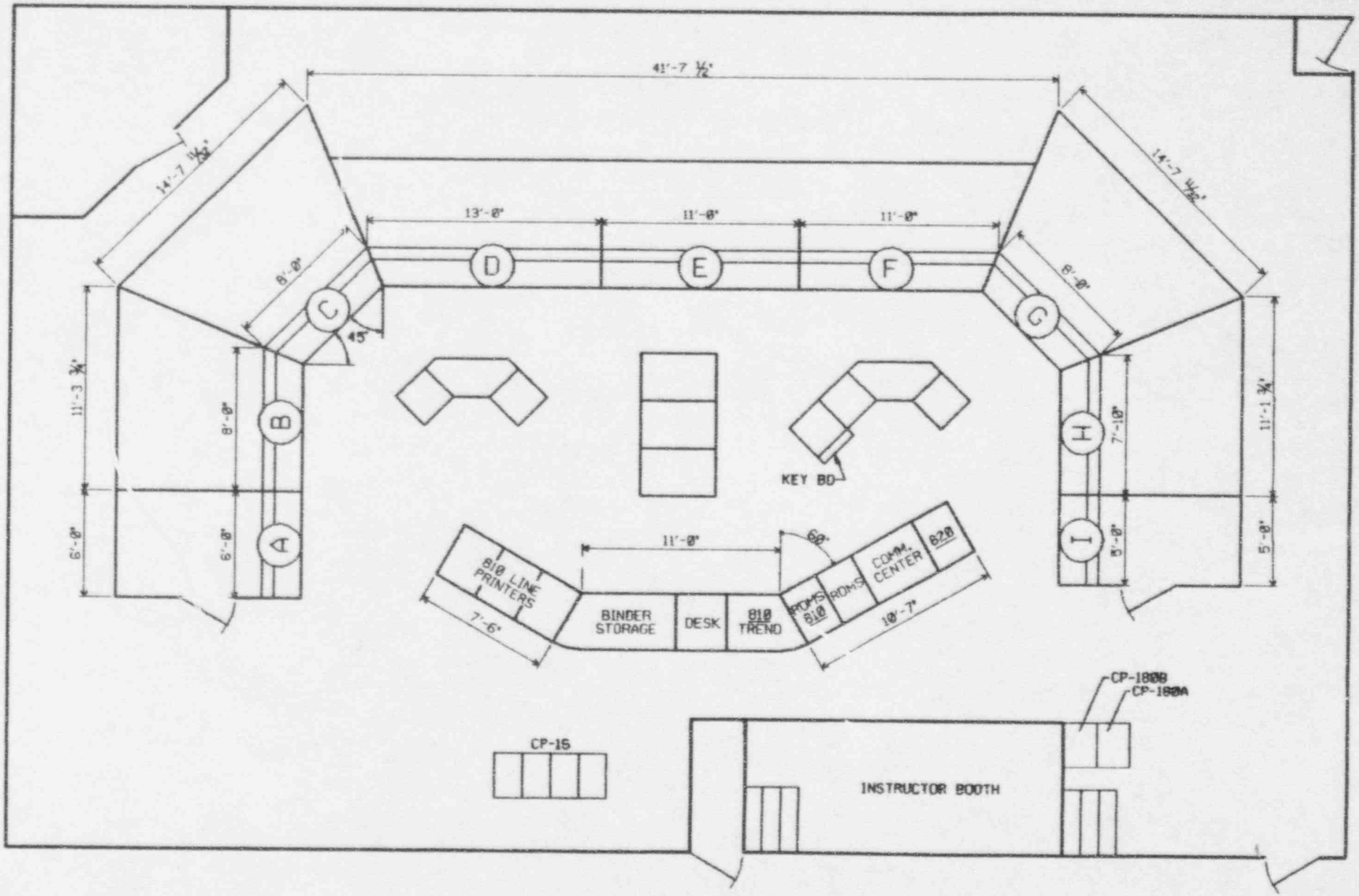
North Atlantic has established an Operating Experience Review Program (OERP) which provides a method for evaluating regulatory correspondence, industry operating experience, and Seabrook Station operating experience (North Atlantic Management Manual 12910). If an event is identified which has potential training impact, a Training Development Recommendation (TDR) is initiated (North Atlantic Management Manual 18700). The TDR is forwarded to the Training Group where it is logged into a database and evaluated by the cognizant manager(s). Items identified which affect the simulator result in the initiation of a Simulator Change Request. The implementation of the change is then tracked in accordance with procedure NT-3734, "Simulator Change Control".

5.4 Panel of Experts

The panel of experts is responsible to perform a table top analysis of those transients which plant reference data is not available. The acceptance criteria of Section 4.2 of ANSI/ANS-3.5 is used. The panel of experts consists of the Simulator Systems Supervisor, Simulator Support Instructor and Senior Simulator Specialist.

Certification of the Seabrook Station Unit 1 Simulator

Simulator Performance and Certification Program Schedule						
Procedure Number	Procedure Title	Test	Four Year Test Plan			
			1995	1996	1997	1998
NT-3732	Simulator Hardware Comparison	Physical Fidelity Audit			X	
NT-3735	Simulator Computer Tests	Verify real time simulation	X	X	X	X
NT-3736	Core Performance	Verify reactor core response	X			
NT-3737	Major Plant Evolutions Tests	Plant startup from cold to 100% power	X			
		Plant shutdown from 100% power to cold		X		
		Reactor trip and plant recovery to 100% power			X	
		Shutdown with less than full reactor coolant flow				X
NT-3738	Annual Operability	60 Minute Stability	X	X	X	X
		Steady State Value Comparison	X	X	X	X
		Transients	X	X	X	X
NT-3739	Malfunction Tests	25% per year	X	X	X	X



SIMULATOR FLOOR PLAN

FIGURE 2

Appendix A

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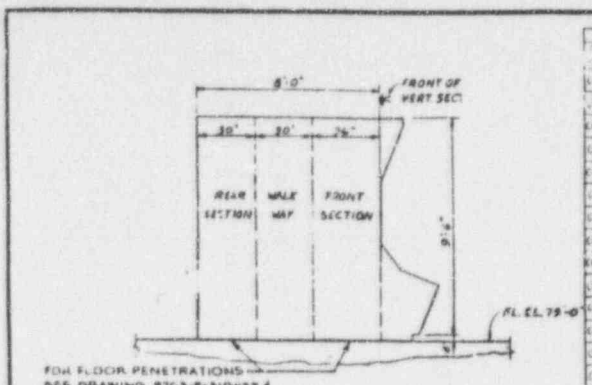
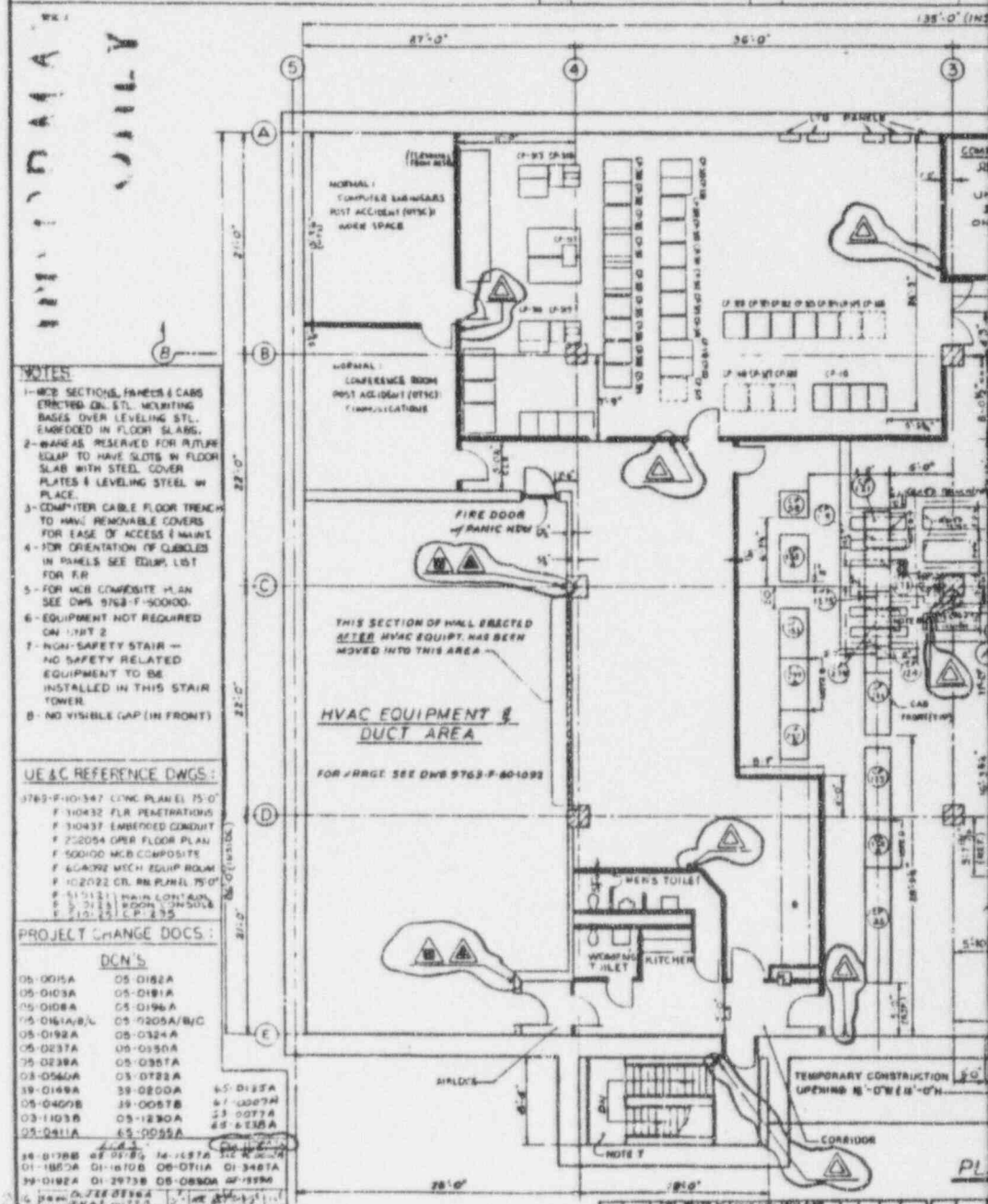


SECTION "A-A"

SCALE: 0 1 2 3 4 5 FT.

COMPUTER ROOM CONTROL PANEL LIST

TAG NO.	DESCRIPTION	TAG NO.	DESCRIPTION	TAG NO.
CP-300	MPCS RACK 1	CP-321	IRIU ID CPU	
CP-301	MPCS HOST A CPU	CP-322	IRIU ID I/O	
CP-302	MPCS RACK 2	CP-323	IRIU ID DRIVES	
CP-303	MPCS RACK 3	CP-324	IRIU ID MODAC	
CP-304	MPCS RACK 4	CP-325	IRIU ID TERMINATION CABINET	
CP-305	MPCS RACK 5	CP-326	SPARE RACK #1	
CP-306	MPCS RACK 6	CP-327	SPARE RACK #2	
CP-307	MPCS HOST B CPU	CP-328	SPARE RACK #3	
CP-308	[illegible]	CP-329	SPARE RACK #4	
CP-309	[illegible]	CP-18	FLUX MAPPING CABINET 1	
CP-310	[illegible]	CP-18	FLUX MAPPING CABINET 2	
CP-311	MPCS RACK 10	CP-18	FLUX MAPPING CABINET 3	
CP-312	MPCS RACK 11	CP-18	FLUX MAPPING CABINET 4	
CP-313	MPCS RACK 12	CP-329	MPCS DISC 80	
CP-314	MPCS RACK 13	CP-330	MPCS DISC 81	
CP-315	MPCS LINE PRINTER 1	CP-331	MPCS DISC 80	
CP-316	MPCS LINE PRINTER 2	CP-332	MPCS DISC 81	
CP-317	MPCS CARD READER			
CP-318	MPCS CRT CONSOLE 1			
CP-319	MPCS CRT CONSOLE 2			



NOTES

1 - MCB SECTIONS, PANELS & CABS ERECTED ON STL. MOUNTING BASES OVER LEVELING STL. EMBEDDED IN FLOOR SLABS.
2 - AREAS RESERVED FOR FUTURE EQUIP TO HAVE SLOTS IN FLOOR SLAB WITH STEEL COVER PLATES & LEVELING STEEL IN PLACE.
3 - COMPUTER CABLE FLOOR TRENCH TO HAVE REMOVABLE COVERS FOR EASE OF ACCESS & MAINT.
4 - FOR ORIENTATION OF CUBICLES IN PANELS SEE EQUIP. LIST FOR F.R.
5 - FOR MCB COMPOSITE PLAN SEE DWG. 9763-F-500100.
6 - EQUIPMENT NOT REQUIRED ON UNIT 2
7 - NON-SAFETY STAIR — NO SAFETY RELATED EQUIPMENT TO BE INSTALLED IN THIS STAIR TOWER.
8 - NO VISIBLE GAP (IN FRONT)

UE&C REFERENCE DWGS:

9763-F-510347 CONC. PLAN EL 75'-0"
F-510432 FLR. PENETRATIONS
F-510437 EMBEDDED CONDUIT
F-252054 OPER FLOOR PLAN
F-500100 MCB COMPOSITE
F-604092 MECH EQUIP ROOM
F-102022 CB. RN PLAN EL 75'-0"
F-[illegible] MAIN CONTROL
F-[illegible] ROOM CONSOLE
F-[illegible] CP-235

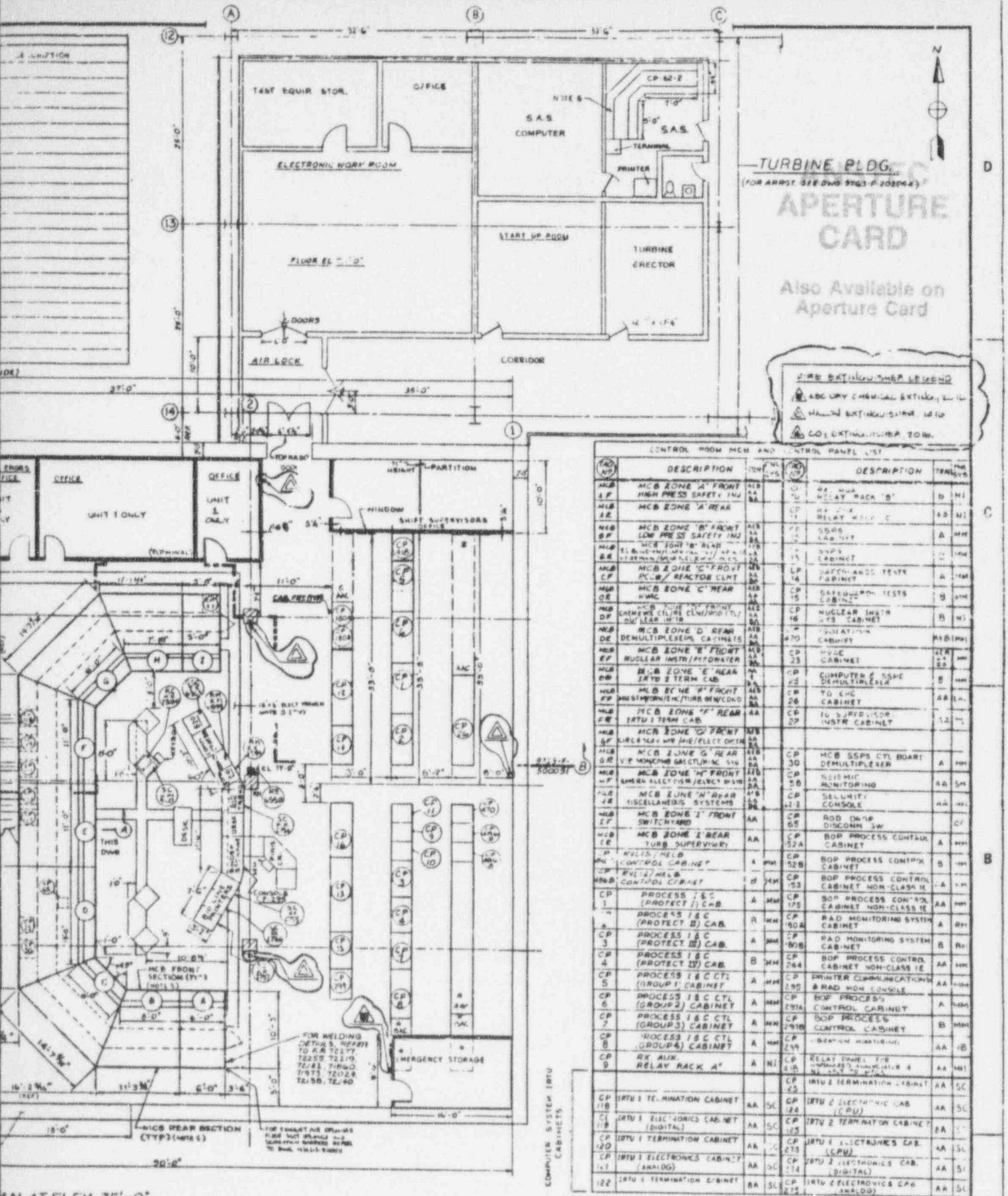
PROJECT CHANGE DOCS:

DCN'S

05-0015A	05-0182A	
05-0103A	05-0191A	
05-0108A	05-0196A	
05-0161A/B/C	05-0205A/B/C	
05-0192A	05-0324A	
05-0237A	05-0550A	
05-0239A	05-0557A	
05-0560A	05-0782A	
39-0199A	39-0200A	65-0123A
05-0409B	39-0057B	61-0007A
05-1103B	05-1230A	23-0077A
05-0411A	65-0055A	65-0338A
39-0178B	05-0178A	14-1657A
01-1860A	01-1670B	05-0711A
39-0192A	01-2973B	05-0860A

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION
9					
8					
7		GENERAL REVISION			
6		REVISION			

4 3



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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Simulator Instructor Interface
Certification Procedure No.	NT-3733
ANSI/ANS 3.5 Section	3.4
Date Scheduled	1/94 - 6/94
Data Tested	7/28/94, 8/8/94, 8/9/94, 8/12/94, 11/1/94
Test Performed By (Initials)	CS
Signature	CSwinton
Test Type	NA
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	None
Initial Conditions	NA
Final Conditions	NA
Test Duration	NA
Procedures Used	NA
Baseline Data	NA
Deficiencies	See attached page.
Exceptions	See attached page.
Comments	See attached page.

CERTIFICATION TEST 8/94
Malfunctions NT-3733

FSAR/ANSI-ANS 3.5 Required Malfunctions

The following deficiencies did not meet the acceptance criteria of section 3.4.2 of certification test NT-3733 conducted on 11/1/94.

1. The following FSAR analyzed transients are not simulated:

   None.

2. The following FSAR required malfunctions are not simulated. They have been determined by the SRC to be not appropriate for simulator training or training could be achieved through other means. They are exceptions to ANSI/ANS-3.5:

   a. Control Rod Misalignment,dropped full length RCCA. FSAR section 15.0.1.2(m)

   b. Start of an Inactive RCP at Power. FSAR section 15.0.1.2(h)

   c. Control Rod Misalignment, single RCCA withdrawal at power. FSAR Section 15.0.1.3(c).

   d. Inadvertent loading and operation of a fuel assembly in an improper position. FSAR section 15.0.1.3(d).

   e. Spent fuel cask drop accidents. FSAR section 15.0.1.3(i).

   f. Fuel handling accidents. FSAR section 15.0.1.4(h).

3. The following deficiencies did not meet the acceptance criteria of section 3.4.4 (ANSI/ANS-3.5 required malfunctions).

   a. **Loss of Instument Air** to the extent that the whole system or individual headers can lose pressure and affect the plant's static or dynamic performance. ANSI/ANS-3.5 section 3.1.2(2). SCR#90-100.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Simulator Computer Tests
Certification Procedure No.	NT-3735
ANSI/ANS 3.5 Section	A.3.1
Date Scheduled	1/94-6/94
Data Tested	6/15/94
Test Performed By (Initials)	MBP MPB
Signature	Marlin P. Boyle Marlin P Boyle
Test Type	Simulator Computer Test
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	IC-21, 100%, MOL, Steady State
Final Conditions	100%, MOL, Steady State
Test Duration	1 Hr 30 Min
Procedures Used	NA
Baseline Data	NA
Deficiencies	None
Exceptions	None
Comments	Used current Training Load, built 1/18/94

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	SIMULATOR COMPUTER TESTS
Certification Procedure No.	NT-3735
ANSI/ANS 3.5 Section	A 3.1
Date Scheduled	7/94 - 12/94
Date Tested	12/01/94
Test Performed By (Initials)	MPB, Marlin P. Boyle
Signature	Marlin P. Boyle
Test Type	SIMULATOR COMPUTER
Title	N/A
Number	N/A
Severity Option	N/A
Malfunctions Tested	NONE
Initial Conditions	100% POWER, STEADY STATE
Final Conditions	100% POWER, STEADY STATE
Test Duration	2.5 HOURS
Procedures Used	NT-3735
Baseline Data	N/A
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Major Plant Evolutions
Certification Procedure No.	NT-3737
ANSI/ANS 3.5 Section	3.1.1 (7)
Date Scheduled	7/94 - 12/94
Data Tested	12/02/94
Test Performed By (Initials)	RFW
Signature	a7 Wlle
Test Type	Normal Operations
Title	Plant Shutdown with Les than Full Reactor Coolant Flow
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	50% Power, Steady State
Final Conditions	Reactor Shutdown in Hot Standby
Test Duration	2.5 hr
Procedures Used	OS1201.01 RCP Malfunction Abnormal OS1000.06 Power Decrease OS1000.03 Plant Shutdown From Minimum Load to Hot Standby
Baseline Data	NA
Deficiencies	1. Steam Generator Level Control unstable at 18%; stable in plant to 15% - SCR 94-334. 2. Turbine load control unstable between 140 MWe and 30 MWe; SCR 94-267.
Exceptions	Locally operated main steam drain valves not in scope of simulation. SCCW auxiliary heat exchangers not in scope of simulation.
Comments	OS1201.01 step 6 RNO guidance used to establish conditions to stop RC-P-1A.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Major Plant Evolution Tests
Certification Procedure No.	NT-3737, Section 6.1, Surveillance Procedures
ANSI/ANS 3.5 Section	3.1.1
Date Scheduled	7/94 - 12/94
Date Tested	11/29/94
Test Performed By (Initials)	MPB, Marlin P. Boyle MPB
Signature	Marlin P. Boyle
Test Type	Surveillance Test
Title	SAFETY INJECTION QUARTERLY AND 18 MONTH PUMP FLOW AND VALVE TEST
Number	OX1405.07
Severity Option	N/A
Malfunctions Tested	NONE
Initial Conditions	100% POWER, STEADY STATE
Final Conditions	100% POWER, STEADY STATE
Test Duration	1.5 HOURS
Procedures Used	OX1405.07, SAFETY INJECTION QUARTERLY AND 18 MONTH PUMP FLOW AND VALVE TEST
Baseline Data	1SI-OT005 1SI-OT006
Deficiencies	SCR 94-325 was written because several simulator SI valves' stroke times differed from actual plant surveillance test results by more than one second.
Exceptions	NONE
Comments	NONE

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Rev. No. 3

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Major Plant Evolution Tests
Certification Procedure No.	NT-3737, Section 6.1, Surveillance Procedures
ANSI/ANS 3.5 Section	3.1.1
Date Scheduled	7/94 - 12/94
Date Tested	11/29/94
Test Performed By (Initials)	MPB, Marlin P. Boyle MPB
Signature	Marlin P Boyle
Test Type	Surveillance Test
Title	SI CONTAINMENT ISOLATION VALVE QUARTERLY STROKE TESTS
Number	OX1405.11
Severity Option	N/A
Malfunctions Tested	NONE
Initial Conditions	100% POWER, STEADY STATE
Final Conditions	100% POWER, STEADY STATE
Test Duration	1.5 HOURS
Procedures Used	OX1405.11,SI CONTAINMENT ISOLATION VALVE QUARTERLY STROKE TESTS
Baseline Data	1SI-OT005 1SI-OT006
Deficiencies	SCR 94-325 was written because several simulator SI valves' stroke times differed from actual plant surveillance test results by more than one second.
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Major Plant Evolution Tests
Certification Procedure No.	NT-3737, Section 6.1, Surveillance Procedures
ANSI/ANS 3.5 Section	3.1.1
Date Scheduled	7/94 - 12/94
Date Tested	11/29/94
Test Performed By (Initials)	MPB, Marlin P. Boyle
Signature	Marlin P Boyle
Test Type	Surveillance Test
Title	PCCW TRAIN A QUARTERLY OPERABILITY TEST AND 18 MONTH VALVE POSITION INDICATION TEST
Number	OX1412.01
Severity Option	N/A
Malfunctions Tested	NONE
Initial Conditions	100% POWER, STEADY STATE
Final Conditions	100% POWER, STEADY STATE
Test Duration	2 HOURS
Procedures Used	OX1412.01, PCCW TRAIN A QUARTERLY OPERABILITY TEST AND 18 MONTH VALVE POSITION INDICATION TEST
Baseline Data	1CC-OT005 1CC-OT007 1CC-OT013
Deficiencies	(1) SCR 94-324 was written because several simulator PCCW valves' stroke times did not meet in-plant acceptance criteria and differed from actual plant surveillance test results by more than one second. (2) SCR-94-323 was written because simulator PCCW pumps' suction pressures and differential pressures did not meet in-plant acceptance criteria.
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILITY TEST (SECTION 6.3, VALUE STABILITY)
Certification Procedure No.	NT-3738, Section 6.3
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94 - 12/94
Date Tested	11/30/94
Test Performed By (Initials)	MPB, Marlin P. Boyle
Signature	Marlin P Boyle
Test Type	VALUE STABILITY
Title	N/A
Number	N/A
Severity Option	N/A
Malfunctions Tested	NONE
Initial Conditions	100% POWER, STEADY STATE
Final Conditions	100% POWER, STEADY STATE
Test Duration	1.5 HOURS
Procedures Used	NT-3738 ,Section 6.3, Value Stability
Baseline Data	N/A
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILIY TEST
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94-12/94
Date Tested	12/12/94
Test Performed By (Initials)	MPB MPB
Signature	Marlin P. Boyle Marlin P Boyle
Test Type	Section 6.1, Compare Steady State Values, 30%
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	~ 30% MOL
Final Conditions	~ 30% MOL
Test Duration	5 HOURS
Procedures Used	NA
Baseline Data	30% POWER PLATEAU MPCS PLANT SNAPSHOT(MISC-015),10/18/91
Deficiencies	SCR 94-348: Various simulator critical & non-critical parameters exceed the 2% & 10% tolerance criteria at 30% plateau
Exceptions	None
Comments	(1) Had Computer Enginering transfer the plant MPCS snapshot nine track tape data to an ASCII format file. (2) Drove the simulator from a training snapshot that was close to the plant snapshot condition to a condition with the boundary conditions (Th, Tavg, SG pressure, CW condenser inlet temperature) and major running equipment lineup very close to those in the snapshot. (3) Ran the simulator for a period long enough (over a real time hour) to build an Archive file on the simulator's MPCS. (4) Used the simulators MPCS's ARCREP feature to copy the archieve file to a numbered work file that was then copied to a named ASCII file. (5) This file was the transferred to a PC compatible 3.5" floppy disk as was the plant MPCS snapshot file [See (1) above] (6) Then computer Engineering used Microsoft ACCESS to create a set of comparisons and accompanying printouts to identify the "A" points that had less than 2% of point deviation between the plant snapshot and the simulator. Another set of outputs contained the "A" points that had more than 2% deviation. In both comparisons, the plant was used as the reference.

File: SCW:[SCW_OPS.SIM]ABSTRACT_30PCTCOMP_DEC94

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILIY TEST
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94-12/94
Data Tested	12/19/94
Test Performed By (Initials)	MPB MPB
Signature	Marlin P. Boyle Marlin P Boyle
Test Type	Section 6.1, Compare Steady State Values, 50%
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	~ 50% MOL
Final Conditions	~ 50% MOL
Test Duration	5 HOURS
Procedures Used	NA
Baseline Data	49% POWER PLATEAU MPCS PLANT SNAPSHOT(MISC-016),10/21/91
Deficiencies	SCR 94-347, Various simulator critical & non-critical parameters exceed the 2% & 10% tolerance criteria at 50% plateau
Exceptions	None
Comments	(1) Had Computer Enginering transfer the plant MPCS snapshot nine track tape data to an ASCII format file. (2) Drove the simulator from a training snapshot that was close to the plant snapshot condition to a condition with the boundary conditions (Th, Tavg, SG pressure, CW condenser inlet temperature) and major running equipment lineup very close to those in the snapshot. (3) Ran the simulator for a period long enough (over a real time hour) to build an Archive file on the simulator's MPCS. (4) Used the simulators MPCS's ARCREP feature to copy the archieve file to a numbered work file that was then copied to a named ASCII file. (5) This file was the transferred to a PC compatible 3.5" floppy disk as was the plant MPCS snapshot file [See (1) above] (6) Then computer Engineering used Microsoft ACCESS to create a set of comparisons and accompanying printouts to identify the "A" point that had less than 2% of point deviation between the plant snapshot and the simulator. Another set of outputs contained the "A" points that had more than 2% deviation. In both comparisons, the plant was used as the reference.

File: SCW:[SCW_OPS.SIM]ABSTRACT_50PCTCOMP_DEC94

Form No. NT-3730-1
Rev. No. 3

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILIY TEST
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94-12/94
Data Tested	12/20/94
Test Performed By (Initials)	MPB MPB
Signature	Marlin P. Boyle Marlin P. Boyle
Test Type	Section 6.1, Compare Steady State Values, 100%
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	5 HOURS
Procedures Used	NA
Baseline Data	100% POWER PLATEAU MPCS PLANT Current Value Table Archive
Deficiencies	SCR 94-354, Various simulator critical & non-critical parameters exceed the 2% & 10% tolerance criteria at 100% plateau
Exceptions	None
Comments	(1) Had Computer Enginering make a file of "A" points in the plant MPCS archive file On 12/12/94, port that file to an ASCII text file that was printable and usable by Micrsoft ACCESS. (2) Drove the simulator from a training snapshot that was close to the plant snapshot condition to a condition with the boundary conditions (Th, Tavg, SG pressure, CW condenser inlet temperature) and major running equipment lineup very close to those in the snapshot. (3) Ran the simulator for a period long enough (over a real time hour) to build an Archive file on the simulator's MPCS. (4) Used the simulators MPCS's ARCREP feature to copy the archieve file to a numbered work file that was then copied to a named ASCII file. (5) This file was the transferred to a PC compatible 3.5" floppy disk as was the plant MPCS snapshot file [See (1) above] (6) Then computer Engineering used Microsoft ACCESS to create a set of comparisons and accompanying printouts to identify the "A" point that had less than 2% of point deviation between the plant snapshot and the simulator. Another set of outputs contained the "A" points that had more than 2% deviation. In both comparisons, the plant was used as the reference.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILITY TEST
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94-12/94
Data Tested	12/21/94
Test Performed By (Initials)	MPB MPB
Signature	Marlin P. Boyle Marlin P Boyle
Test Type	Section 6.2, Secondary Heat Balance - 30%
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	30% MOL
Final Conditions	30% MOL
Test Duration	4 hrs
Procedures Used	RN-1731, Rev 02,2/23/90
Baseline Data	NA
Deficiencies	None
Exceptions	None
Comments	Used the hand calculation method of RN-1731 to calculate core thermal output in lieu of the Reactor Engineering PC program because no RE's were available to run the PC program. Satisfactory correlation between the simulator's MPCS calculated core heat output MCB display and the hand calculated core heat output.

file SCW:[SCW_OPS.SIM]ABSTRACT_2NDRYQBAL30PCT_DEC94

Form No. NT-3730-1
Rev. No. 3

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILITY TEST
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94-12/94
Data Tested	12/21/94
Test Performed By (Initials)	MPB MPB
Signature	Marlin P. Boyle Marlin P. Boyle
Test Type	Section 6.2, Secondary Heat Balance - 50%
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	Na
Initial Conditions	50% MOL
Final Conditions	50% MOL
Test Duration	4 hrs
Procedures Used	RN-1731, Rev 02,2/23/90
Baseline Data	NA
Deficiencies	None
Exceptions	None
Comments	Used the hand calculation method of RN-1731 to calculate core thermal output in lieu of the Reactor Engineering PC program because no RE's were available to run the PC program. Satisfactory correlation between the simulator's MPCS calculated core heat output MCB display and the hand calculated core heat output.

file SCW:[SCW_OPS.SIM]ABSTRACT_2NDRYQBAL50PCT_DEC94

Form No. NT-3730-1
Rev. No. 3

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	ANNUAL OPERABILITY TEST
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	4.1
Date Scheduled	7/94-12/94
Data Tested	12/20/94
Test Performed By (Initials)	MPB MPB
Signature	Marlin P. Boyle Marlin P Boyle
Test Type	Section 6.2, Secondary Heat Balance - 100%
Title	NA
Number	NA
Severity Option	NA
Malfunctions Tested	NA
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	4 hrs
Procedures Used	RN-1731, Rev 02,2/23/90
Baseline Data	NA
Deficiencies	None
Exceptions	None
Comments	Used the hand calculation method of RN-1731 to calculate core thermal output in lieu of the Reactor Engineering PC program because no RE's were available to run the PC program. Satisfactory correlation between the simulator's MPCS calculated core heat output MCB display and the hand calculated core heat output.

file SCW:[SCW_OPS.SIM]ABSTRACT_2NDRYQBALI00PCT_DEC94

Form No. NT-3730-1
Rev. No. 3

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	10/20/94
Test Performed By (Initials)	CS
Signature	
Test Type	Transient
Title	Manual Reactor Trip
Number	T1
Severity Option	NA
Malfunctions Tested	RPS006
Initial Conditions	Full Power, Steady State
Final Conditions	Reactor Tripped
Test Duration	15 minutes
Procedures Used	None
Baseline Data	1-ST-38: Plant trip test on 7/29/90 LER 91-006: Plant trip on 6/2/91
Deficiencies	SCR 94-310: S/G wide range response following a reactor trip differs from the plant. SCR 94-309: PZR level and pressure response following a reactor trip differ from the plant. SCR 94-022: RCS response following a reactor trip SCR 94-021: EFW flow rates and S/G response.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	11/2/94
Test Performed By (Initials)	CS
Signature	
Test Type	Transient
Title	Simultaneous Trip of Main Feedwater Pumps
Number	T2
Severity Option	NA
Malfunctions Tested	FW036
Initial Conditions	Full Power, Steady State
Final Conditions	Reactor tripped, EFW feeding S/Gs
Test Duration	15 minutes
Procedures Used	None
Baseline Data	Panel of experts
Deficiencies	SCR 94-143: Steam flow should not drop to zero, condenser dump controls should react more quickly to minimize primary temperature and pressure excursion.
Exceptions	None
Comments	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability Test
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	10/20/94
Test Performed By (Initials)	CS
Signature	CSwinton
Test Type	Transient
Title	Simultaneous Closure of all MSIVs
Number	T3
Severity Option	NA
Malfunctions Tested	MS040
Initial Conditions	Full Power, Steady State
Final Conditions	Reactor Shutdown
Test Duration	15 minutes
Procedures Used	None
Baseline Data	MISC 006, Closure of all MSIV event at Calloway
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Date Tested	11/2/94
Test Performed By (Initials)	CS
Signature	CSwinton
Test Type	Transient
Title	Simultaneous Trip of All Reactor Coolant Pumps
Number	T4
Severity Option	NA
Malfunctions Tested	RC002, RC028, RC004, RC030
Initial Conditions	Full Power, Steady State
Final Conditions	Reactor tripped, natural circulation established
Test Duration	15 minutes
Procedures Used	None
Baseline Data	Panel of experts
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability Test
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	11/2/94
Test Performed By (Initials)	CS
Signature	CSwinton
Test Type	Transient
Title	Trip of RCP C
Number	T5
Severity Option	NA
Malfunctions Tested	RC004
Initial Conditions	Full Power, Steady State
Final Conditions	Reactor Shutdown
Test Duration	20 minutes
Procedures Used	None
Baseline Data	LER 91-009 (Trip of RCP C)
Deficiencies	SCR 94-318: The response of the affected loop and PZR level/temperature following the trip of RCP C do not match plant response.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	11/2/94 and 11/29/94
Test Performed By (Initials)	CS
Signature	
Test Type	Transient
Title	Turbine Trip
Number	T6
Severity Option	0 - 18 mils
Malfunctions Tested	TH002 at 100% severity
Initial Conditions	Full Power, Steady State
Final Conditions	Turbine tripped
Test Duration	15 minutes
Procedures Used	None
Baseline Data	Panel of experts
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	11/21/94
Test Performed By (Initials)	CS
Signature	CSwinter
Test Type	Transient
Title	Maximum Rate Power Ramp
Number	T7
Severity Option	NA
Malfunctions Tested	None
Initial Conditions	Full Power, Steady State
Final Conditions	Full Power, Steady State
Test Duration	40 minutes
Procedures Used	None
Baseline Data	1-ST-35
Deficiencies	SCR 94-316: On load reduction from 100% to 75%, reactor power has an oscillation not seen in the plant.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	11/21/94
Test Performed By (Initials)	CS
Signature	CSwinton
Test Type	Transient
Title	RCS Rupture with Loss of Offsite Power
Number	T8
Severity Option	NA
Malfunctions Tested	RC024 RCS Cold leg LOCA (Double ended shear) SY001 Total Loss of Offsite Power External to the Switchyard.
Initial Conditions	Full Power, Steady State
Final Conditions	Core partially covered, saturation conditions. EDGs supplying emergency busses.
Test Duration	20 minutes.
Procedures Used	None
Baseline Data	Panel of experts
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Data Tested	11/2/94
Test Performed By (Initials)	CS
Signature	
Test Type	Transient
Title	Main Steam Line Rupture Inside Containment
Number	T9
Severity Option	NA
Malfunctions Tested	MS032 @ 25% severity
Initial Conditions	Full Power, Steady State
Final Conditions	Reactor tripped, main steam isolated.
Test Duration	15 minutes
Procedures Used	None
Baseline Data	Panel of experts
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Annual Operability
Certification Procedure No.	NT-3738
ANSI/ANS 3.5 Section	B.2.2
Date Scheduled	1/94 - 6/94
Date Tested	11/30/94
Test Performed By (Initials)	CS
Signature	CSwinter
Test Type	Transient
Title	Slow Primary Depressurization
Number	T10
Severity Option	NA
Malfunctions Tested	None
Initial Conditions	Full Power, Steady State
Final Conditions	Core partially uncovered, saturation conditions
Test Duration	70 minutes
Procedures Used	None
Baseline Data	Panel of experts
Deficiencies	SCR 94-353: several pressurizer level spikes occurred.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	MALFUNCTION TEST
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/25/94
Test Performed By (Initials)	DJN
Signature	
Test Type	NA
Title	Loss of UAT Feed to 13.8 KV Bus 1
Number	ED001
Severity Option	NA
Malfunctions Tested	UAT trip causing a fast transfer to the RAT
Initial Conditions	IC-02; 100%; Steady State; MOL
Final Conditions	IC-02; 100%; Steady State; MOL
Test Duration	5 minutes
Procedures Used	VAS F7335
Baseline Data	1-NHY-310101 SH A13a-e, SH A02a-i; SH A03a-c 1-NHY-310231
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	MALFUNCTION TEST
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94-12/94
Data Tested	11/25/94
Test Performed By (Initials)	DJN
Signature	Donald Jewicki
Test Type	NA
Title	Loss of 125 VDC Bus 11A
Number	ED002
Severity Option	NA
Malfunctions Tested	Power to 11A is lost
Initial Conditions	IC02; 100%
Final Conditions	MODE 3
Test Duration	30 minutes
Procedures Used	OS1248.01 "Loss of a Vital 125VDC Bus" E-O "Reactor Trip or Safety Injection"
Baseline Data	Bus Failure Analysis and Cicuit Failure Analysis for: EDE-SWG-11A; EDE-PP-111A; EDE-PP-112A; EDE-PP-113A 1-NHY-310107 SH 4b, DB1a, E2Ta, E2T/20, E87a, E87/20 E93a-b, E93/20 1-NHY-310102 SH 5e-h; 1-NHY-310944 SH HD3a; 1-NHY-310844 SH E87/6a-d
Deficiencies	None
Exceptions	None
Comments	Assumed bus failure analysis and circuit failure analysis to be correct. Sampled selected electrical drawings above to verify analysis and found no errors.

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Rev. No. 3

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Date Tested	12/9/94
Test Performed By (Initials)	SMD
Signature	Stephen M. Dean
Test Type	NA
Title	Emergency Diesel Generator "A" Auto Start Failure
Number	ED003
Severity Option	None
Malfunctions Tested	ED003, Emergency Diesel Generator "A" Auto Start Failure
Initial Conditions	100%; Steady State; MOL
Final Conditions	Reactor Tripped, SI and LOP on Bus E5
Test Duration	1 Hour
Procedures Used	NA
Baseline Data	1-NHY-503491,2 & 6, DG Logic Diagrams 1-NHY-310857 SH-E93, EDG 1A Schematic Diagrams 1-NHY-310102 SH-E39, EDG 1A Annunciator Schematic Diagrams
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Date Tested	12/9/94
Test Performed By (Initials)	SMD
Signature	Stephen M. Dee
Test Type	NA
Title	Emergency Diesel Generator "B" Low Lube Oil Pressure Trip
Number	ED004
Severity Option	None
Malfunctions Tested	ED004, Emergency Diesel Generator "B" Low Lube Oil Pressure Trip
Initial Conditions	100%; Steady State; MOL
Final Conditions	100%; Steady State: MOL; EDG "B" tripped
Test Duration	1 Hour
Procedures Used	N/A
Baseline Data	1-NHY-503491,2 & 6, DG Logic Diagrams 1-NHY-310102 SH-E47, EDG 1B Annunciator Schematic Diagrams 1-NHY-310857 SH-E94, EDG 1B Start & Stop Circuit Schematic Diagrams
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	MALFUNCTION TEST
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/25/94
Test Performed By (Initials)	DJN
Signature	Donald Nezich
Test Type	NA
Title	Loss of MCC-231
Number	ED005
Severity Option	NA
Malfunctions Tested	MCC-231 loses power
Initial Conditions	IC-02; 100%; Steady State; MOL
Final Conditions	IC-02; 100%; Steady State; MOL
Test Duration	30 minutes
Procedures Used	VAS PROCEDURE F5751, "Control Room Normal Makeup Air Off" VAS PROCEDURE F7010, "Control Room Exhaust Fan Trip" OS1023.51, "Control Room Ventilation and Air Conditioning System Operation"
Baseline Data	1-NHY-310044; 310056; 503742; 506738; 503864; 506494; 506495 1-NHY-503598; 503239; 506156 1-NHY-310926 SH BK2a-e; 1-NHY-310844 SH DG8a-c, DG9a-c 1-NHY-310844 SH E87/6m-n, q-t, u, dd-ee 1-NHY-310882 SH BA3a-c, BA4a-c, D54, D71
Deficiencies see SCR 94-344	Hydraulic pumps for FW isolation valves V-39 and V-48 are deenergized. Should V-39 and V-48 flutter as hydraulic pressure bleeds off and N_2 remains isolated? Options: 1. Valve fails AS IS (Open). 2. Valves flutter after X amount of time. 3. Valves drift shut after X amount of time.
Exceptions	None
Comments	All major MCC-231 loads correct response verified; however, response of V-39 and V-48 unknown.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	MALFUNCTION TEST
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/19/94
Test Performed By (Initials)	DJN
Signature	Donald Nowicki
Test Type	NA
Title	Loss of MCC-111
Number	ED006
Severity Option	NA
Malfunctions Tested	MCC-111 loses power
Initial Conditions	IC-02; 100%; Steady State; MOL
Final Conditions	IC-02; 100%; Steady State; MOL
Test Duration	30 minutes
Procedures Used	None
Baseline Data	1-NHY-503275; 1-NHY-503742; 1-NHY-506192; 1-NHY-506738 1-NHY-503864; 1-NHY-506493; 1-NHY-503598; 1-NHY-506496 1-NHY-310882 SH-D55, D70, BA1a-c,BA2a-c 1-NHY-310844 SHDG7a-c, DG0a-c, SHE87/6l,p,q,r,s, 1-NHY-310884 SHE88/6g,k,l,m,n
Deficiencies See SCR 94-345	Hydraulic Pumps for FW isolation valves V-30 and V-57 are deenergized. Should the V-30 and V-57 flutter as hydraulic pressure bleeds off and N_2 pressure remains isolated? Options: 1. Valve fails AS IS (Open) 2. Valves flutter after X amount of time. 3. Vlaves drift shut after X amount of time.
Exceptions	None
Comments	All major MCC-111 loads correct response verified; however, response of V-30 and V-57 unknown.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12-29-94
Test Performed By (Initials)	KGD
Signature	Kenneth G Dogl
Test Type	N/A
Title	UPS Inverter 1B Fails
Number	ED008
Severity Option	N/A
Malfunctions Tested	LOSS OF UPS INVERTER 1B
Initial Conditions	100% MOL
Final Conditions	100% MOL with operator action per OS1247.01 MODE 3 with no operator action
Test Duration	60 min
Procedures Used	OS1247.01 1-NHY-350014, 120 VAC (Vital UPS) Bus Failure Analysis
Baseline Data	OS1247.01 1-NHY-350014, 120 VAC (Vital UPS) Bus Failure Analysis
Deficiencies	minor indicator/recorder and alarm inaccuracies SCR submitted SCR 94-355
Exceptions	none
Comments	Performed both with operator action (per OS1247.01) and without operator action

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/07/94
Test Performed By (Initials)	SWK
Signature	
Test Type	NA
Title	Turbine Load Control Set Output Fails AS-IS
Number	EHC001
Severity Option	NA
Malfunctions Tested	EHC001
Initial Conditions	75 % MOL steady state
Final Conditions	75% steady state
Test Duration	30 Min
Procedures Used	ON1031.11 MAIN TURBINE STANDBY CONTROL SYSTEM OPERATION
Baseline Data	Chapter 9 LOAD CONTROL FP#21998
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS 3.5 SECTION:	4.2.1
DATE SCHEDULED:	7/94 - 12/94
DATE TESTED:	12/21/94
TEST PERFORMED BY (INITIALS):	GEK GEK
SIGNATURE:	Grant E Kingsley Grant E Kingsley
TEST TYPE:	NA
TITLE:	Loss of Heater Drain Pump "B"
NUMBER:	HD028
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	HD028
INITIAL CONDITIONS:	100% Power, MOL
FINAL CONDITIONS:	99%
TEST DURATION:	1 hour
PROCEDURES USED:	ON1290.02, Response To Condensate Or Feedwater Heater System Transient
BASELINE DATA:	1-NHY-503623, HD-Heater Drain Pumps Control Block Logic Diagram; 1-NHY-310847, SH.A44a-g Heater Drain Pump 1-P-31B; LY2-MAIN.M5P, Fortran Program for HD-LV-4508B; 1-NHY-B20338, Heater Drains Detail P&ID
DEFICIENCIES:	**SCR No. 94-340**, Discharge valve fails to shut on pump trip and no discharge check valve is modeled causing significant reverse flow.
EXCEPTIONS:	None
COMMENTS:	Test data taken using assumed operator action of manually failing open all 22 heater dump valves within ~1¾ minutes after pump trip.

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS 3.5 SECTION:	4.2.1
DATE SCHEDULED:	7/94 - 12/94
DATE TESTED:	12/21/94
TEST PERFORMED BY (INITIALS):	GEK GEK
SIGNATURE:	Grant E Kingsley Grant E Kingsley
TEST TYPE:	NA
TITLE:	Loss of Heater Drain Pump "A"
NUMBER:	HD027
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	HD027
INITIAL CONDITIONS:	100% Power, MOL
FINAL CONDITIONS:	99%
TEST DURATION:	1 hour
PROCEDURES USED:	ON1290.02, Response To Condensate Or Feedwater Heater System Transient
BASELINE DATA:	1-NHY-503622, HD-Heater Drain Pumps Control Block Logic Diagram; 1-NHY-310847, SH.A34a-g Heater Drain Pump 1-P-31A; LY1-MAIN.M5P, Fortran Program for HD-LV-4508A; 1-NHY-B20338, Heater Drains Detail P&ID
DEFICIENCIES:	**SCR No. 94-339**, Discharge valve fails to shut on pump trip and no discharge check valve is modeled causing significant reverse flow.
EXCEPTIONS:	None
COMMENTS:	Test data taken using assumed operator action of manually failing open all 22 heater dump valves within ~1¾ minutes after pump trip.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	RFW
Signature	RFWlte
Test Type	NA
Title	Instrument Air Header Leak
Number	IA001
Severity Option	NA
Malfunctions Tested	IA001
Initial Conditions	1. 100% MOL steady state, 2 compressors 2. 100% MOL steady state, 1 compressor
Final Conditions	1. Reactor trip on low SG level 2. Reactor trip on low SG level
Test Duration	5.0 hr.
Procedures Used	ON1242.01 Loss of Instrument Air
Baseline Data	N/A
Deficiencies	Numerous valves did NOT reposition as required, SCR 94-335 submitted.
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	RFW
Signature	RFWolte
Test Type	NA
Title	Power Range Channel N-41 Fails High
Number	NI001
Severity Option	NA
Malfunctions Tested	NI001
Initial Conditions	1. 100% MOL steady state 2. 100% MOL steady state 3. 45% MOL steady state
Final Conditions	1. 100% steady state - operator actions taken 2. 90% steady state - no operator actions 3. Reactor tripped - no operator actions
Test Duration	1.5 hr.
Procedures Used	OS1211.04 POWER RANGE NI INSTRUMENT FAILURE
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	SWK
Signature	Steven Kessinger
Test Type	NA
Title	Power Range Channel N-42 Fails High
Number	NI002
Severity Option	NA
Malfunctions Tested	NI002
Initial Conditions	1. 100% MOL steady state 2. 45% MOL steady state
Final Conditions	1. 90% steady state - no operator actions 2. Reactor tripped - no operator actions
Test Duration	30 Min
Procedures Used	OS1211.04 POWER RANGE NI INSTRUMENT FAILURE
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	SWK
Signature	Steven Kornegay
Test Type	NA
Title	Power Range Channel N-43 Fails High
Number	NI003
Severity Option	NA
Malfunctions Tested	NI003
Initial Conditions	1. 100% MOL steady state 2. 45% MOL steady state 3. 8% MOL Steady state
Final Conditions	1. 90% steady state - no operator actions 2. Reactor tripped - no operator actions 3. 8% power - steady state
Test Duration	30 Min
Procedures Used	OS1211.04 POWER RANGE NI INSTRUMENT FAILURE
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	SWK
Signature	
Test Type	NA
Title	Power Range Channel N-44 Fails High
Number	NI004
Severity Option	NA
Malfunctions Tested	NI004
Initial Conditions	1. 100% MOL steady state 2. 45% MOL steady state 3. 8% MOL Steady state
Final Conditions	1. 90% steady state - no operator actions 2. Reactor tripped - no operator actions 3. 8% power - steady state
Test Duration	30 Min
Procedures Used	OS1211.04 POWER RANGE NI INSTRUMENT FAILURE
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/9/94
Test Performed By (Initials)	SMD
Signature	Stephen M. Dean
Test Type	N/A
Title	Source Range N-31 Discrimination Excessive
Number	NI005
Severity Option	N/A
Malfunctions Tested	NI005, SR Channel N-31 Discrimination Excessive
Initial Conditions	IC with S/D rod withdrawn & Control rods inserted
Final Conditions	approx. 1 x 10E-11 amps
Test Duration	1 Hour
Procedures Used	OS1000.07, Approach to Criticality
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentation Tech Manual
Deficiencies	SCR# 94-336, Audio Count Rate Drawer connected to only one Source Range Drawer
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/18/94
Test Performed By (Initials)	RFW
Signature	RFWille
Test Type	NA
Title	Source Range N32 Loses Instrument and Control Power
Number	NI006
Severity Option	NA
Malfunctions Tested	NI006
Initial Conditions	1. 100% MOL steady state 2. 100 CPS, ready for reactor startup, SBs withdrawn
Final Conditions	1. 100% steady state 2. Reactor tripped, all rods inserted
Test Duration	1.5 hr.
Procedures Used	OS1000.07 APPROACH TO CRITICALITY
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	SCR-94-325 Fuse indicators do not light to indicate blown fuses
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Date Tested	11/11/94
Test Performed By (Initials)	RFW
Signature	RFWalte
Test Type	NA
Title	Power Range Channel N41 Upper Detector Fails Low
Number	NI007
Severity Option	NA
Malfunctions Tested	NI007
Initial Conditions	100% MOL steady state
Final Conditions	100% steady state
Test Duration	1.5 hr.
Procedures Used	OS1200.04 Power Range NI Instrument Failure
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	RFW
Signature	RFW
Test Type	NA
Title	Power Range Channel N42 Upper Detector Fails Low
Number	NI008
Severity Option	NA
Malfunctions Tested	NI008
Initial Conditions	100% MOL steady state
Final Conditions	100% steady state
Test Duration	1.5 hr.
Procedures Used	OS1200.04 Power Range NI Instrument Failure
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	RFW
Signature	R Fulk
Test Type	NA
Title	Power Range Channel N43 Upper Detector Fails Low
Number	NI009
Severity Option	NA
Malfunctions Tested	NI009
Initial Conditions	100% MOL steady state
Final Conditions	100% steady state
Test Duration	1.5 hr.
Procedures Used	OS1200.04 Power Range NI Instrument Failure
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/11/94
Test Performed By (Initials)	RFW
Signature	RFW
Test Type	NA
Title	Power Range Channel N44 Upper Detector Fails Low
Number	NI010
Severity Option	NA
Malfunctions Tested	NI010
Initial Conditions	100% MOL steady state
Final Conditions	100% steady state
Test Duration	1.5 hr.
Procedures Used	OS1200.04 Power Range NI Instrument Failure
Baseline Data	W-120-32 Westinghouse Nuclear Instrumentaion Tech Manual
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/22/94
Test Performed By (Initials)	JCD
Signature	JCDesmond
Test Type	N/A
Title	NI-35 OVERCOMPENSATED
Number	NI-011
Severity Option	N/A
Malfunctions Tested	IMF NI011
Initial Conditions	1 X 10^{-8} AMPS
Final Conditions	1 X 10^{-11} AMPS
Test Duration	1.5 HOUR
Procedures Used	OS1000.07/OS1000.03
Baseline Data	W-120-32
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/22/94
Test Performed By (Initials)	JCD
Signature	JCDesmond
Test Tyr	N/A
Title	NI-36 OVERCOMPENSATED
Number	NI-012
Severity Option	N/A
Malfunctions Tested	IMF NI012
Initial Conditions	1×10^{-8} AMPS
Final Conditions	1×10^{-11} AMPS
Test Duration	1.5 HOUR
Procedures Used	OS1000.07/OS1000.03
Baseline Data	W-120-32
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/22/94
Test Performed By (Initials)	JCD
Signature	JCDiamond
Test Type	N/A
Title	NI-35 UNDERCOMPENSATED
Number	NI-013
Severity Option	N/A
Malfunctions Tested	IMF NI013
Initial Conditions	1×10^{-8} AMPS
Final Conditions	1×10^{-11} AMPS
Test Duration	1 HOUR
Procedures Used	OS1000.07/OS1000.03
Baseline Data	W-120-32
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/22/94
Test Performed By (Initials)	JCD
Signature	JCDesmond
Test Type	N/A
Title	NI-36 UNDERCOMPENSATED
Number	NI-014
Severity Option	N/A
Malfunctions Tested	IMF NI014
Initial Conditions	1×10^{-8} AMPS
Final Conditions	1×10^{-11} AMPS
Test Duration	1 HOUR
Procedures Used	OS1000.07/OS1000.03
Baseline Data	W-120-32
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/09/94
Test Performed By (Initials)	JCD
Signature	JCDesmond
Test Type	N/A
Title	NI-35 LOSS OF DETECTOR VOLTAGE
Number	NI-015
Severity Option	N/A
Malfunctions Tested	IMF NI015
Initial Conditions	1 X 10^{-8} AMPS
Final Conditions	<10% POWER
Test Duration	1.0 HOUR
Procedures Used	OS1000.07/OS1000.03
Baseline Data	W-120-32
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/09/94
Test Performed By (Initials)	JCD
Signature	JCDiamond
Test Type	N/A
Title	NI-36 LOSS OF DETECTOR VOLTAGE
Number	NI-016
Severity Option	N/A
Malfunctions Tested	IMF NI016
Initial Conditions	1 X 10^{-8} AMPS
Final Conditions	<10% POWER
Test Duration	1.0 HOUR
Procedures Used	OS1000.07/OS1000.03
Baseline Data	W-120-32
Deficiencies	NONE
Exceptions	NONE
Comments	NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12-29-94
Test Performed By (Initials)	KGD
Signature	Kenneth G Dayl
Test Type	N/A
Title	Power Failure to Waste Gas Compressors Outlet Rad Monitor
Number	RM001
Severity Option	N/A
Malfunctions Tested	RM001
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	40 min
Procedures Used	SRDMS Reference Manual T.S. 3.3.3.10 Table 3.3-13 item 3a
Baseline Data	OIR 94-036, RM-6504 Communications Failure
Deficiencies	Activity of RM-6504 channels should not have failed to 0. LOSS OF COMM results in CP-295 channel activity frozen at previous value. Status of RM-6504 channels on MPCS should not remain GOOD - after maximum of 30 minutes should become OLD. SCR submitted. SCR: 94-357
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/06/94
Test Performed By (Initials)	SWK
Signature	
Test Type	N/A
Title	Containment Atmosphere RM-6526-1 & 2 Failure (Sample Pump Seizes)
Number	RM002
Severity Option	N/A
Malfunctions Tested	RM002
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	15 Minutes
Procedures Used	Station Radiation Data Management System Reference Manual Sections 4.17 and 4.18
Baseline Data	1-NHY-506135
Deficiencies	RDMS logger does not print status messages correctly - function of the program, not the printer itself. **SCR# 94-350**
Exceptions	None
Comments	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/06/94
Test Performed By (Initials)	SWK
Signature	Steven Kessinger
Test Type	N/A
Title	CP-180 Unit A Fails
Number	RM003
Severity Option	N/A
Malfunctions Tested	RM003
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	15 Minutes
Procedures Used	Station Radiation Data Management System Reference Manual.
Baseline Data	GA Technologies Equipment Manual - Safety Cabinets for Seabrook Units 1 and 2 (E-115-1152)
Deficiencies	RDMS logger does not print status messages correctly - function of the program, not the printer itself. **SCR# 94-350** The response of the strip recorders on the Seismic Racks (CP-180 A&B) is not consistent with failure mode in the plant. **SCR# 94-349** Modifications to CP-180A that have been completed in the plant have not been completed on the simulator. See SCR# 94-142.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/20/94
Test Performed By (Initials)	DVW
Signature	
Test Type	N/A
Title	CP-180 Unit B Fails
Number	RM004
Severity Option	N/A
Malfunctions Tested	RM004
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	15 Minutes
Procedures Used	Station Radiation Data Management System Reference Manual.
Baseline Data	GA Technologies Equipment Manual - Safety Cabinets for Seabrook Units 1 and 2 (E-115-1152)
Deficiencies	RDMS logger does not print status messages correctly - function of the program, not the printer itself. **SCR# 94-350** The response of the strip recorders on the Seismic Racks (CP-180 A&B) is not consistent with failure mode in the plant. **SCR# 94-349**
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/20/94
Test Performed By (Initials)	DVW
Signature	Don V Weller
Test Type	N/A
Title	Loss of RM-11 Master Computer
Number	RM005
Severity Option	N/A
Malfunctions Tested	RM005
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	15 Minutes
Procedures Used	Station Radiation Data Management System Reference Manual.
Baseline Data	RM-11 Control/Display System for Seabrook Units 1 and 2 Equipment Manual
Deficiencies	When the Console was manually swapped to System 2 using the selector switch on CP-295, the PWR FAIL red lite extinguished and the green lites for POLLING and STATUS lit up. This is incorrect, the PWR FAIL lite should remain lit and the POLLING and STATUS should remain extinguished. SCR# 94-35
Exceptions	None
Comments	The Malfunction is not specific as to what causes the loss of RM-11 computer. If the computer loses its processing capability, then CP-295 must be manually swapped to System 2using the selector switch on CP-295. However, if power is lost to the RM-11 computer (PP-169 off of MCC 523), then a relay which checks for loss of power to RM-11 will automatically swap CP-295 console to System 2.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12-29-94
Test Performed By (Initials)	KGD
Signature	Kenneth G Dagh
Test Type	N/A
Title	Plant Vent Low Range Gas Channel 1NG222 Reduced Sample Flow
Number	RM006
Severity Option	100%
Malfunctions Tested	WIDE RANGE GAS MONITOR LOSS OF NORMAL PATH SAMPLE FLOW
Initial Conditions	100% MOL
Final Conditions	100% MOL
Test Duration	40 min
Procedures Used	SRDMS Reference Manual T.S. 3.3.3.10 Table 3.3-13 items 2a, 2b, and 2c.
Baseline Data	Seabrook Station operating experience per RM system engineer
Deficiencies	Loss of normal path sample flow should not affect mid and high range channel STATUS - SCR submitted. SCR. 94-356
Exceptions	none
Comments	none

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/20/94
Test Performed By (Initials)	DVW
Signature	Dan V Willing
Test Type	N/A
Title	Source Range Channel 31 Failure to Deenergize/Block at P-6
Number	RPS001
Severity Option	N/A
Malfunctions Tested	RPS001
Initial Conditions	Mode 3, NOT, NOP, All Shutdown Bank Control Rods withdrawn
Final Conditions	Mode 2, greater than 1e-10 amps on IR NIs
Test Duration	30 Minutes
Procedures Used	OS1000.07, Approach to Criticality.
Baseline Data	1-NHY-509043, NI & MANUAL TRIP SIGNALS W FUNCTIONAL DIAGRAM
Deficiencies	None
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/6/94
Test Performed By (Initials)	LSH
Signature	B Hubbard
Test Type	NA
Title	Loss of Service Air Backup Compressor
Number	SA001
Severity Option	10%, 50%, 75%, 90%, 100%
Malfunctions Tested	SA001
Initial Conditions	IC2 100% MOL, SA-C-8000, Centac was placed in service. IA SKD 137A & 137B were defeated by opening their supply breakers via remote functions. The Atlas-Copco was verified to be out of service.
Final Conditions	No change in SA pressure. Malfunction did not work.
Test Duration	25 minutes
Procedures Used	None
Baseline Data	NA
Deficiencies	The malfunction did not work. It was tried at several severity levels both after insertion and then after deleting and reinserting the malfunction. No change in Service Air pressure was noted. It was verified that the Atlas Copco was out of service as was the SKDs 137A and 137B. SCR 94-331 was submitted.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/5/94
Test Performed By (Initials)	LSH
Signature	B Hubbard
Test Type	Insert Malfunction SCS001
Title	Main plant Computer System Fails
Number	SCS001
Severity Option	N/A
Malfunctions Tested	SCS001
Initial Conditions	100% MOL IC2 MPCS Running
Final Conditions	Same
Test Duration	2 min
Procedures Used	N/A
Baseline Data	N/A
Deficiencies	Malfunction did not initiate. TGIS does not communicate to the MPCS at this time. TGIS command not functional.
Exceptions	N/A
Comments	Test not completed. SCR 93-431 has been scheduled to correct the problem of SCS001 failure.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	MALFUNCTION TEST
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	11/19/94
Test Performed By (Initials)	DJN
Signature	Donald Nowicki
Test Type	NA
Title	Loss of Flow to Spent Fuel Pump 'A'
Number	SF001
Severity Option	NA
Malfunctions Tested	Suction valve V-2 closes, causing a loss of suction flow to SFP 'A'
Initial Conditions	IC-02; 100%; Steady State; MOL
Final Conditions	IC-02; 100%; Steady State; MOL
Test Duration	13 minutes
Procedures Used	OS1215.07 "Loss of SPent Fuel Pool Cooling or Level" OS1014.02 "Spent Fuel Pool Cooling and Purification" VAS Procedures: F5197 SF PUMPS A AND B DISCH FLOW LO-LO B6905 SPENT FUEL PMP A THR BRG TEMP HIGH B6906 SPENT FUEL PMP A RADL BRG TEMP HIGH F5196 SF PUMP A OR B DISCH FLOW LOW
Baseline Data	1-SF-D20482; 1-NHY-310894 SH-BB8; 1-NHY-503881; 1-NHY-506774; 1-NHY-506773
Deficiencies	Pump radial and thrust bearings appear to be artifically limited to 300°F (see VAS printout). Also expected a pump trip, but none occurred. **SCR 94-315 submitted**.
Exceptions	None.
Comments	Need data for centrifugal pump parameters with no suction flow to model the SFP pump trip.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/6/94
Test Performed By (Initials)	LSH
Signature	Leonard S. Hubbard
Test Type	NA
Title	Total Loss of Offsite Power
Number	SY001
Severity Option	NA
Malfunctions Tested	SY001 Total Loss of Offsite Power
Initial Conditions	IC2 100% MOL No Equipment out of service
Final Conditions	Plant Shutdown No RCPs, Busses E5 and E6 Powered By EDG, with Natural Circulation Established in the RCS. Procedures E-0 and ES-0.1 Had been executed.
Test Duration	20 minutes
Procedures Used	E-0, Reactor Trip or Safety Injection & ES-0.1 Reactor Trip Response
Baseline Data	NA
Deficiencies	No VAS Alarms on 345 KV System were initiated. The following D-Points ahould be activated: D6661, 345 KV Bus 3 or 4 Voltage Loss; D6667, 345 KV Line Sys 2 Trouble; D6670, 345 KV Line Voltage Loss; and D6688, SWYD Oscillograph Operated. SCR 94-333 was submitted as a result of testing to include these alarms.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Data Tested	12/6/94
Test Performed By (Initials)	LSH
Signature	
Test Type	NA
Title	SY002 345 KV Bus 2 Fault (Loss of RAT Supply)
Number	SY002
Severity Option	NA
Malfunctions Tested	SY002 Inserted at 100% Power MOL IC2
Initial Conditions	100% Power MOL IC2 Normal Electrical Bus Line Up
Final Conditions	345 KV Bus 2 de-energized with Bus E5 & E6 RAT Breakers prevented from closing.
Test Duration	10 minutes
Procedures Used	VAS Procedures for D-Points: D6650; D6654; D6659; D6671; D6677; D6688; D6337 and D6360
Baseline Data	NA
Deficiencies	The following D-Points are not activated by this malfunction and should be: D6650; D6654; D6659; D6671; D6677; D6688. SCR 94-332 was submitted to document this deficiency.
Exceptions	NA
Comments	NA

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Title	Malfunction Test
Certification Procedure No.	NT-3739
ANSI/ANS 3.5 Section	4.2.1
Date Scheduled	7/94 - 12/94
Date Tested	12/17/94
Test Performed By (Initials)	SMD
Signature	Stephen M. Dean
Test Type	N/A
Title	VG-V-50 Fails Open
Number	VG001
Severity Option	None
Malfunctions Tested	VG001, VG-V-50 Fails Open
Initial Conditions	100%; Steady State; MOL
Final Conditions	100%; Steady State; MOL
Test Duration	1 Hour
Procedures Used	N/A
Baseline Data	1-NHY-504014, GG-PAB Hydrogenated Hdr Vent Control Logic Diagram 1-NHY-506873, VG-Hydrogenated Vent Hdr Isolation & Control Vlvs Control Loop Diagram 1-NHY-310872 SH-E25/27a, VG System A Train Non-Vital Control Schematic Diagram
Deficiencies	SCR# 94-337, Plant Vent WRGM Concentraion Recorder 1-RR-6528-1 on CP-180A does not track channel value by LED or CRT.
Exceptions	None
Comments	None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: NT-3732
Certification Procedure Number: SIMULATOR HARDWARE COMPARISON
ANSI/ANS-3.5 Section: 3.2.2
Date Scheduled: 6/93 - 12/93
Date Tested: 2/7/94 - 2/9/94
Test Performed By (initials): CS
Signature: CSwinton

Test Type: NA
Title: NA
Number: NA
Severity Option: NA
Malfunctions Tested: NONE

Initial Conditions: NA

Final Conditions: NA

Test Duration: NA
Procedures Used: NA

Baseline Data: PLANT PHOTOGRAPHS TAKEN DECEMBER 1993

Deficiencies: ATTACHED; SCR 94-072

Exceptions: A LIST OF THOSE PREVIOUSLY APPROVED BY THE SIMULATOR REVIEW COMMITTEE IS ATTACHED.

Comments: NONE

Form No. NT-3730-1
Rev. No. 2

RECORD OF HARDWARE DIFFERENCES

ITEM NO.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
1	AF-E REV 3 12/16/93	RONAN 6E		WLD-V82 RCDT TO PDT CLOSED	WLD-V-82 RCDT TO PDT CLOSED
2	"	RONAN ~~8D~~ 9D		PAH-DP-36A EAH ISO DAMP CLOSED	PAH-DP 36A EAH ISO DAMP CLOSED
3	"	RONAN ~~9D~~ 8D		PAH-DP-35A EAH ISO DAMP CLOSED	PAH-DP 35A EAH ISO DAMP CLOSED
4	"	RONAN 9A		CAP-FN-9 CONTM VENTL STOP	CAP-FN 9 CONTM VENTL STOP
5	"	RONAN 10A		CAP-FN-34 CONTM VENTL STOP	CAP-FN CONTM VENTL STOP
6	BF-E REV 3 12/11/93	RONAN 8E		VG-FV-1712 RCTD TO VG CLOSED	VG-FV 1712 RCTD TO VG CLOSED
7	CF-D REV 3 12/17/93	DOT		RC-PI-455A RED DOT	RC-PI-455A WHITE DOT
8	BR-A 1 REV 3 12/13/93	MIMIC		MIMIC ON SIMULATOR IS DIFFERENT	
9	BR-A 2 REV 3 12/13/93	LABEL		MSD-V44 (MOV) MS DRAIN ISO VLV UPSTREAM OF MS-V86	MSD-V44 (MOV) EFW STM UPSTREAM MS DRN (MSI-CLOSE)

Date 2/7/94 Initials BS Page 1 of 6

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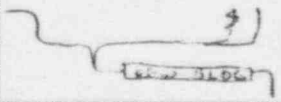
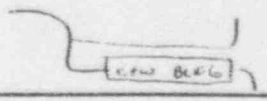
Rev. No. 2

RECORD OF HARDWARE DIFFERENCES

ITEM NO.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
10	BR-A 2 REV 3 12/13/93	LABEL		MSD-V45 (MOV) MAIN ISO VLV UPSTREAM OF MS V88	MSD-V45 (MOV) EFW STM. UPSTREAM MS DRN (MSI-CLOSE)
11	BR-B 3 REV 3 12/13/93	HANDLE	REPAINT HANDLES FOR SB-V9, V10, V11 & V12		
12	BR-C 2 REV 3 12/13/93	METER SCALE	SF-LI-2607	SIMULATOR HAS BLACK LINE @ 23, PLANT DOES NOT	
13	CR-B 2 REV 3 12/13/93	ESCUTCHEON	CBA-FN-15	AUTO OFF	OFF AUTO RUN
14	CR-B 4 REV 3 12/13/93	DEMARCATION	EAH-FN-31B		
15	GR-A 1 REV 3 12/14/93	PANEL DIVISIONS	RECOMBINER A	NO SUBPANELS	
16	"	LABEL	"	NO LABEL IN UPPER LEFT CORNER	
17	GR-A 3 REV 3 12/14/93	PANEL DIVISIONS	RECOMBINER A	NO SUBPANELS	
18	"	LABEL	"	NO LABEL IN UPPER LEFT CORNER	

Date 2/7/94 Initials BS Page 2 of 6

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RECORD OF HARDWARE DIFFERENCES

ITEM NO.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
19	GRA6 REV3 12/14/93	MSIV TEST	PUSHBUTTON ~~COVER~~ CS COVERS	THE "VALVE TEST OR TRAIN B OPEN" PUSHBUTTONS DO NOT HAVE COVERS	
20	CRA2 REV 3 12/13/93	SBM HANDLE	CBA-FV-LLS 1,2,3,4	Handle IS BLACK	HANDLE IS RED
21	CRA4 REV 3 12/13/93	SBM HANDLE	CBA-FV-LLS 1,2,3,4	HANDLE IS BLACK	HANDLE IS ~~RED~~ CS WHITE
22	DF-B REV 3 12/19/93	SBM	Blender Mode Start Switch	OFF ~~STOP~~ CS ALL ON	AUTO STOP START
23	DF-~~B~~ 1 REV 3 12/19/93	LABEL	CS-TI-126	~~LABEL~~ CS LABEL MISSING	
24	DF-C REV 3 12/19/93	RECORDER	RC-P1-43	BLUE SCALE MISSING	
25	DF-D4 REV 3 12/19/93	METER	N1 32B	WHITE DOT MISSING	
26	DF D-4 REV 3 12/19/94	METER	N1-44B	YELLOW DOT MISSING	
27	"	METERS	N1-31D, N1-32D, N1-35D, N1-36D N1-31B, 32B, 35B, 36B, N1-41C, 42C, 43C, 44C, N1-41B, 42B, 43B, 44B	FONT USED ON SCALES DIFFERS FROM PLANT	

Date 2/7/94 Initials CS Page 3 of 6

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RECORD OF HARDWARE DIFFERENCES

ITEM NO.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
28	EF-B2 REV 3 12/19/93	RECORDER	SC-UDR-9120	NO LABEL	4 Min AVE = red 1 Hr AVE = blue
29	"	"	SC-UDR-9121	"	8 Hr AVG = red AFD = blue
30	EF-B3 REV 3 12/19/93	"	PR 3	Labeled: SC-UDR-9123	SC-VDR-9122
31	"	"	"	NO LABEL	Dryer out = red Comp. out = blue
32	"	"	PR4	Labeled: SC-UDR-9122	SC-VDR-9121
33	"	"	"	NO LABEL	Wind Dir = red Temp. = blue
34	FF A 1 REV 3 12/22/93	MIMIC	MS-V129	NO MIMIC BETWEEN LIGHTS	MIMIC BETWEEN LIGHTS
35	FF C6 REV 3 12/20/93	LABEL		HTR DRN TK LEVEL HD-LI-4507	HTR DRN TK LEVEL HD-LI-4508-A
36	FF D5 REV 3 12/20/93	SCALE	CO-FI-4042	SCALE IS DIFFERENT	

Date 2/8/94 Initials CB Page 4 of 6

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Rev. No. 2

RECORD OF HARDWARE DIFFERENCES

ITEM NO.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
37	GF-A-1 REV 3 12/22/93	LABEL		CW-V38 (MOV) DISCH STRU ISO FRM UNIT 1 CW (HT CLOSE)	CW-V38 (MOV) DISCH STRU ISO FROM UNIT 1 CW (HT-CLOSE)
38	HF-D-1 REV 3 12/20/93	METER	DG-LI-9581	GREEN BAND 60-76	GREEN BAND 65-76
39	IF-A-2 REV 3 12/22/93	MIMIC		GD8 below hole plugs	GD8 above hole plugs
40	CP 295-1 REV 3 12/22/93	LABEL	F.P KEYBOARD	DO LABEL IN UPPER RIGHT	LABEL IN UPPER RIGHT
41	CP 295-3 REV 3 12/22/93	LABEL		DIGITAL PAGING SYSTEM LABEL IS DIFFERENT	
42	CP 295-3 REV 3 12/22/93	LABEL		NUCLEAR ALERT SYSTEM LABEL IS DIFFERENT	
43	CP 295-8 REV 3 12/22/93	KEYBOARD		NO KEY - BLANK	KEY LABELED " UNIT 2 " PRESS
44	CP 180A-2 REV 3 12/15/93		1-RK-6506-A	INDICATOR LABELED "GAS" MISSING	
45	"		1-RK-6507-A	INDICATOR LABELED "GAS" MISSING	

Date 2/9/94 Initials [illegible] Page 5 of 6

Form No. NT-3732-1
Rev. No. 2

RECORD OF HARDWARE DIFFERENCES

ITEM NO.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
46	CP18DA-2 REV 3 12/15/93		1-RK-~~6527-A~~ 6528	INDICATOR LABELED 'FLOW' MISSING	
47	CP18DB-2 REV 3 12/15/93		1-RK-6506-B	INDICATOR LABELED "GAS" IS MISSING	
48	"		1-RK-6507-B	INDICATOR LABELED "GAS" IS MISSING	

Date 2/9/94 Initials _____ Page 6 of 6

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Physical Fidelity Exceptions

The Simulator Review Committee has determined the below listed physical fidelity exceptions do not detract from training.

1.	CP-180A	The spacing of the letters on the cabinet label for CP-180A is different. The label has four screws on the simulator, it has two in the control room.
2.	CP-180A	A filler strip on the simulator's CP-180A does not have notches.
3.	CP-180A	The lettering of the simulator label 1-RR-6528-1 is larger than that of the control room.
4.	CP-180A	The lettering of the simulator label 1-RR-6528-2 is larger than that of the control room.
5.	CP-180A	The lettering of the simulator label 1-RR-6530 is larger than that of the control room.
6.	CP-180A	The lettering of the simulator label 1-RR-6506-A is larger than that of the control room.
7.	CP-180B	The spacing of the letters on the cabinet label for CP-180B is different. The label has four screws on the simulator, it has two in the control room.
8.	CP-180B	A filler strip on the simulator's CP-180B does not have notches.
9.	CP-180A	The lettering of the simulator label RM-RK-6576-B is larger than that of the control room.
10.	CP-180A	The lettering of the simulator label 1-RR-6507-B is larger than that of the control room.
11.	CP-16	The spacing between SR and N31 on the channel selector escutcheon is closer on the simulator than in the control room.
12.	H Rear	The vendor name engraving i the lower left corner of the shaft voltage monitor is missing on the simulator.
13.	H Rear	The shaft voltage monitoring panel in located about two inches lower on the simulator than in the control room.
14.	H Rear	The demarcation for ground detection and vital DC is about one inch closer together than in the plant.
15.	H Rear	The ground detection meters are closer together in the vertical direction in the simulator than in the control room.
16.	G Rear	The recombiner A panel on the simulator is a single panel, with no vendor information plate in the upper left corner. The panel in the control room is comprised of three panels and has a vendor information plate.
17.	G Rear	The lettering on the RCP vibration panel on the simulator is larger than that in the control room.
18.	G Rear	The recombiner B panel on the simulator is a single panel, with no vendor information plate in the upper left corner. The panel in the control room is comprised of three panels and has a vendor information plate.
19.	G Rear	Hydrogen analyzer 173A on the simulator has three screws on the sides; the one in the control room has four.
20.	G Rear	The scales for recorder CS-LR-102 on the simulator have "GAL 10^3" at the top; in the control room it is "KGAL".
21.	G Rear	Hydrogen analyzer 174A on the simulator has three screws on the sides; the one in the control room has four.

Physical Fidelity Exceptions

22. C Rear	The control room has a hole cover plate between the lights for FAH-F-41; the simulator does not.
23. C Rear	The lettering for CAH-DP-314 is larger in the simulator than in the control room.
24. C Rear	The instruments along the left side of panel C rear are closer together in the simulator than in the control room.
25. C Rear	The control room has a hole cover between the lights for FAH-F-74; the simulator does not.
26. B Rear	The mimic along the bottom of panel B rear is closer together than in the plant.
27. B Rear	The hole cover plates above PCV-126 are square in the simulator; in the control room they are round.
28. B Front	The location of panel UA50 & 51 is slightly different.
29. B Front	The lettering on label CBS-LR-2385 on the simulator is smaller.
30. E Front	The label for VL-1 is immediately below the cutout on the simulator vice one inch below the cutout in the control room.
31. E Front	The label for VR-1 is immediately below the cutout in the control room.
32. E Front	The label for VL-2 is immediately below the cutout on the simulator vice one inch below the cutout in the control room.
33. E Front	The label for VR-2 is immediately below the cutout on the simulator vice one inch below the cutout in the control room.
34. G Front	The mimic at the bottom of panel G front on the simulator is compressed.
35. H Rear	The manufacturer's label is missing from the generator shaft voltage monitor on the simulator.
36.A Front	The simulator has a bezel around the CRT opening; the control room does not.
37. C Front	The simulator has mimic going over a blank; in the control room the mimic is above the blank.
38. D Front	The lettering on the NI meters on the simulator is larger than in the control room.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Simulator Instructor Interface
Certification Procedure Number: NT-3733
ANSI/ANS-3.5 Section: 3.4
Date Scheduled: 1/1/93 - 6/93
Date Tested: 9/30/93, 12/1/93
Test Performed By (initials): CB
Signature: CBarnitz

Test Type: NA
Title: NA
Number: NA
Severity Option: NONE
Malfunctions Tested: NONE

Initial Conditions: NA

Final Conditions: NA

Test Duration: NA
Procedures Used: NA

Baseline Data: NA

Deficiencies: SEE ATTACHED PAGE

Exceptions: SEE ATTACHED PAGE

Comments: SEE ATTACHED PAGE

CERTIFICATION TEST 9/93
Malfunctions NT-3733

FSAR/ANSI-ANS 3.5 Required Malfunctions

The following deficiencies did not meet the acceptance criteria of section 3.4.2 of certification test NT-3733 conducted on 6/3/92.

The following FSAR analyzed transients are not simulated;

1. Uncontrolled rod cluster control assembly bank withdrawal from a subcritical or low power startup condition. FSAR section 15.0.1.2(k).
   SCR 90-104.

2. Reactor Coolant Pump Shaft Break. FSAR section 15.0.1.4(d)
   SCR 90-186.

3. Radioactive liquid tank failure. FSAR section 15.0.1.3 (h).
   SCR 90-185.

The following FSAR required malfunctions are not simulated. They have been determined by the SRC to be not appropriate for simulator training or training could be achieved through other means. They are exceptions to ANSI/ANS-3.5:

1. Inadvertent loading and operation of a fuel assembly in an improper position. FSAR section 15.0.1.3(d).

2. Spent fuel cask drop accidents. FSAR section 15.0.1.3(i).

3. Fuel handling accidents. FSAR section 15.0.1.4(g).

4. Control Rod Misalignment,dropped full length RCCA. FSAR section 15.0.1.2(m)

5. Control Rod Misalignment, single RCCA withdrawal at power. FSAR Section 15.0.1.3(c).

6. Start of an Inactive RCP at Power. FSAR section 15.0.1.2(h)

The following deficiencies did not meet the acceptance criteria of section 3.4.4 (ANSI/ANS-3.5 required malfunctions).

1. **Loss of Instument Air** to the extent that the whole system or individual headers can lose pressure and affect the plant's static or dynamic performance. ANSI/ANS-3.5 section 3.1.2(2).
   SCR 90-100.

2. **Control Rod Failures** including uncoupled rods. ANSI/ANS-3.5 section 3.1.2(12).
   SCR 90-101.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Simulator Computer Tests
Certification Procedure Number: NT-3735
ANSI/ANS-3.5 Section: A 3.1
Date Scheduled: 1st half of 1993
Date Tested: 6/29/93
Test Performed By (initials): MPB
Signature: Marlen P Bayle

Test Type: See above
Title:
Number:
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: NA

Final Conditions: NA

Test Duration: 90 minutes (including setup & restoration)
Procedures Used: NT-3735

Baseline Data: NA

Deficiencies:
Exceptions:
Comments:

Existing procedure NT-3735 REV2 did not reflect the newly installed instructor station hardware & software nor the four processor configuration nor a revised stroke time for FW-V-28. Marked up the existing procedure's body & acceptance criteria for this run of the test. Submitted a procedure change request to update the procedure.

MPBayle 6/29/93

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Simulator Computer Tests

Certification Procedure Number: NT-3735 Rev 3 10/13/93

ANSI/ANS-3.5 Section: A3.1

Date Scheduled: 7/93 - 12/93

Date Tested: 12/23/93

Test Performed By (initials): MPB

Signature: Merlin P Boyle [Merlin P. Boyle]

Test Type: NA

Title: NA

Number: NA

Severity Option: NA

Malfunctions Tested: None

Initial Conditions: IC #17 100% FPSS
LOAD Built 11/12/93

Final Conditions: Restored to IC #17

Test Duration: 90 minutes

Procedures Used: NT-3735 Rev 3

Baseline Data: NA

Deficiencies: None

Exceptions: Marked up procedure & form to correct editorial errors.

Comments: Procedure revisions needed
1) Step 6.1.5: Change "Bank B" to "Bank A"
2) Step 6.3.3: Change to read ".... Malfunctions SY001 and RE018 (at 10,000 gpm) on a 1-minute delay
3) Form NT-3735-1 change "64.0 to 66.0" to "65.666 to 67.666" in 4 locations.

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	MAJOR PLANT EVOLUTIONS TESTS
CERTIFICATION PROCEDURE NO.:	NT-3737
ANSI/ANS-3.5 SECTION:	3.1.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/14-12/17/93
TEST PERFORMED BY (INITIALS):	RFW/CED/RM
SIGNATURE:	RFW/CED
TEST TYPE:	Major Plant Evolution
TITLE:	REACTOR TRIP AND RECOVERY
NUMBER:	6.8
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	None
INITIAL CONDITIONS:	100% steady state
FINAL CONDITIONS:	20% steady state
TEST DURATION:	12 hours
PROCEDURES USED:	See attached list
BASELINE DATA:	N/A
DEFICIENCIES:	see attached list
EXCEPTIONS:	None
COMMENTS:	None

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REACTOR TRIP AND RECOVERY MPE TEST

PROCEDURES USED:

1. E-0 REACTOR TRIP OR SAFETY INJECTION
2. ES-0.1 REACTOR TRIP RESPONSE
3. OS1000.02 PLANT STARTUP FROM HOT STANDBY TO MINIMUM LOAD
4. OS1000.07 APPROACH TO CRITICALITY
5. OS1000.11 POST TRIP TO HOT STANDBY
6. ON1031.02 STARTING AND PHASING THE TURBINE GENERATOR
7. ON1035.10 MAIN FEED PUMP STANDBY AND STARTUP OPERATION
8. ON1035.06 AUXILIARY STEAM TO 26A AND 26B HEATERS
9. ON1030.03 MOISTURE SEPARATOR/REHEATER OPERATION
10. ON1031.03 TURBINE GENERATOR SHUTDOWN
11. OS1035.02 STARTUP FEED PUMP OPERATION
12. ON1040.04 OPERATION OF THE HEATER DRAIN PUMPS
13. ON1033.02 TURBINE STEAM SEAL SYSTEM OPERATION
14. OS1030.01 MAIN STEAM SYSTEM OPERATION
15. ON1032.01 EXTRACTION STEAM SYSTEM OPERATION
16. OS1021.01 STEAM GENERATOR BLOWDOWN SYSTEM OPERATION
17. ON1034.09 CONDENSATE CLEANUP SYSTEM OPERATION
18. ON1034.03 CONDENSATE SYSTEM OPERATION
19. ON1035.11 MAIN FEED PUMP RETURN TO STANDBY AND SHUTDOWN
20. OS1036.02 RESTORATION OF EMERGENCY FEEDWATER SYSTEM TO STANDBY AFTER AUTO INITIATION
21. OS1011.02 NIS VISUAL/AUDIO COUNT RATE SYSTEM OPERATION
22. OS1056.01 RESETTING FEEDWATER ISOLATION SIGNAL

DEFICIENCIES:

1. Remote functions have components in wrong system indices
   SCR 93-423
2. Unable to synchronize the turbine generator
   SCR 93-424
3. EX non-return check valves do not unlatch on turbine trip
   SCR 93-422
4. CO-PCV-4175 remote function (FW004G) designation/operation
   SCR 93-421
5. SUFP and CST valve models not correct
   SCR 92-144
6. Auxiliary steam model incorrect
   SCR 93-425
7. MFP B did not trip following turbine trip
   93-416
8. Pressurizer level did not trend to 25% post-trip
   93-411
9. Standby CO pump auto started when starting SUFP
   93-426
10. No increased SR count rate when all SD banks pulled
    SCR 93-419

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	MAJOR PLANT EVOLUTIONS TEST
CERTIFICATION PROCEDURE NO.:	NT-3737
ANSI/ANS-3.5 SECTION:	3.1.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	11/30/93
TEST PERFORMED BY (INITIALS):	RFW RW
SIGNATURE:	RFWille
TEST TYPE:	SURVEILLANCE
TITLE:	18 MONTH EMERGENCY BORATION FLOW TEST SURVEILLANCE
NUMBER:	OX1408.01
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	N/A
INITIAL CONDITIONS:	MODE 3
FINAL CONDITIONS:	MODE 3
TEST DURATION:	1 MINUTE
PROCEDURES USED:	OX1408.01
BASELINE DATA:	OX1401.02 RCS STEADY STATE LEAK RATE CALCULATION
DEFICIENCIES:	SCR 93-036 Boric acid pump B is aligned to the A BAT. Plant configuration has each BA pump aligned to associated BAT.
EXCEPTIONS:	NONE
COMMENTS:	Test schedule modified due to TGIS and MPCS upgrades.

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	MAJOR PLANT EVOLUTIONS TESTS
CERTIFICATION PROCEDURE NO.:	NT-3737
ANSI/ANS-3.5 SECTION:	3.1.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/5/93
TEST PERFORMED BY (INITIALS):	RFW RW
SIGNATURE:	R F Wilte
TEST TYPE:	SURVEILLANCE
TITLE:	CBS PUMP AND VALVE QTRLY SURV
NUMBER:	N/A
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	N/A
INITIAL CONDITIONS:	MODE 1, 100%
FINAL CONDITIONS:	MODE 1, 100%
TEST DURATION:	1 HOUR
PROCEDURES USED:	OX1406.02, OX1456.81, OGP-002
BASELINE DATA:	OX1456.81
DEFICIENCIES:	SCR(~~LATER~~ 93-398) - stroke times OOS, SCR(LATER) 93-399 TGIS database faults, SCR(LATER) 93-400 CBS recirc flowrates OOS
EXCEPTIONS:	NONE
COMMENTS:	NONE

Form No. NT-3730-1
Rev. No. _____

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	MAJOR PLANT EVOLUTIONS TESTS
CERTIFICATION PROCEDURE NO.:	NT-3737
ANSI/ANS-3.5 SECTION:	3.1.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/14/93
TEST PERFORMED BY (INITIALS):	RFW
SIGNATURE:	
TEST TYPE:	SURVEILLANCE
TITLE:	SW VALVE QTRLY TEST
NUMBER:	OX1416.06
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	N/A
INITIAL CONDITIONS:	Mode 1, 100%
FINAL CONDITIONS:	Mode 1, 100%
TEST DURATION:	1 hour
PROCEDURES USED:	OX1416.06, OX1456.81
BASELINE DATA:	OX1456.81
DEFICIENCIES:	SCR-93-~~93~~-415 SW Cooling Tower level is low in ICs. SCR-89-045 PCCW high temp alarms actuate during test
EXCEPTIONS:	None
COMMENTS:	None

Form No. NT-3730-1
Rev. No. _____

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Date Scheduled: 1/93 - 6/93
Date Tested: 10/13/93
Test Performed By (initials): CB
Signature: [signature]

Test Type: STEADY STATE
Title: 60 MINUTE STABILITY
Number: NA
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: FPSS

Final Conditions: FPSS

Test Duration: 1 HOUR
Procedures Used: NONE

Baseline Data: NA

Deficiencies: NONE

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY TEST

Certification Procedure Number: NT-3738

ANSI/ANS-3.5 Section: 5.4.2

Date Scheduled: 1/93 - 6/93

Date Tested: 10/20/93

Test Performed By (initials): CS

Signature: [signature]

Test Type: STEADY STATE

Title: SECONDARY HEAT BALANCE

Number: NA

Severity Option: NA

Malfunctions Tested: NA

Initial Conditions: 100%, 75% AND 50%

Final Conditions: 100%, 75% AND 50%

Test Duration: CONDUCTED IN CONJUNCTION WITH STEADY STATE VALUE COMPARISON

Procedures Used: NONE

Baseline Data: NONE

Deficiencies: NONE

Exceptions: NONE

Comments: THE REACTOR ENGINEERING PC PROGRAM USES A DEFAULT VALUE OF 1050 PSIG FOR FEEDWATER PRESSURE.

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY

Certification Procedure Number: NT-3738

ANSI/ANS-3.5 Section: 4.1

Date Scheduled: 1/93-6/93

Date Tested: 10/20/93

Test Performed By (initials): CS

Signature: CSwinton

Test Type: STEADY STATE

Title: 100% POWER COMPARISON

Number: NA

Severity Option: NA

Malfunctions Tested: NA

Initial Conditions: FPSS

Final Conditions: FPSS

Test Duration: 30 MINUTES

Procedures Used: NA

Baseline Data: PLANT VALUES AT 100% STEADY STATE RECORDED ON 8/18/93

Deficiencies:
93-366: IR LEVELS DIFFER BY > 2%
93-367: LOOP FLOW VALUES DIFFER BY > 2%
93-368: WR PZR PRESSURE DIFFER BY > 2%
93-369: S/G C WR LEVEL DIFFER BY > 2%

Exceptions: NONE

Comments:

PLANT VALUES FOR CORE THERMAL POWER AND GENERATOR OUTPUT NOT RECORDED.

BORONOMETER IS NO LONGER IN SERVICE.

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Date Scheduled: 1/93 - 6/93
Date Tested: 10/20/93
Test Performed By (initials): CB
Signature: C Swinton

Test Type: STEADY STATE
Title: 75% POWER COMPARISON
Number: NA
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: 75%, STEADY STATE

Final Conditions: 75% STEADY STATE

Test Duration: 30 MINUTES
Procedures Used: NONE

Baseline Data: PLANT VALUES AT 75% RECORDED ON 11/20/92

Deficiencies: SCR 93-370: IR LEVELS DIFFER BY >2%
SCR 93-371: LOOP 1&2 FLOW VALUES DIFFER BY >2%
SCR 93-372: PZR WR PRESSURE AND HOT CAL LEVEL DIFFER BY >2%

Exceptions: NONE

Comments: PLANT VALUES FOR CORE THERMAL POWER AND GENERATOR OUTPUT NOT RECORDED.

BORONOMETER IS NO LONGER IN SERVICE.

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Date Scheduled: 1/93 - 6/93
Date Tested: 10/20/93
Test Performed By (initials): CB
Signature: [signature]

Test Type: STEADY STATE
Title: 47% POWER COMPARISON
Number: NA
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: 47% POWER

Final Conditions: 47% POWER

Test Duration: 30 MINUTES
Procedures Used: NONE

Baseline Data: PLANT VALUES AT 47% POWER ON 11/17/92

Deficiencies:
SCR 93-373: IR VALUES DIFFER > 2%
SCR 93-374: LOOP FLOWS DIFFER > 2%
SCR 93-375: PZR NR PRESSURE DIFFERS > 2%
SCR 93-376: SGA STM PRESSURE DIFFERS > 2%
SCR 93-377: S/G MS FLOW DIFFERS > 2%
SCR 93-378: S/G FW FLOW DIFFERS > 2%

Exceptions:
NONE

Comments:
PLANT VALUES FOR CORE THERMAL POWER AND GENERATOR OUTPUT NOT RECORDED

BORONOMETER IS NO LONGER IN SERVICE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY

Certification Procedure Number: NT-3738

ANSI/ANS-3.5 Section: 3.2.2

Date Scheduled: 1/93 - 6/93

Date Tested: 12/14/93

Test Performed By (initials): [illegible]

Signature: [illegible]

Test Type: TRANSIENT

Title: MANUAL REACTOR TRIP

Number: 1

Severity Option: NA

Malfunctions Tested:

Initial Conditions: FPSS

Final Conditions: REACTOR TRIPPED

Test Duration: 30 MINUTES

Procedures Used: NONE

Baseline Data: PLANT TRIP DATA

Deficiencies: EFW flow rates and S/G response SCR 94-021
RCS response following Rx Trip SCR 94-022

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY

Certification Procedure Number: NT-3738

ANSI/ANS-3.5 Section: B.2.2

Date Scheduled: 1/93-6/93

Date Tested: 2/1/94

Test Performed By (initials): CB

Signature: [signature]

Test Type: TRANSIENT

Title: TRIP OF BOTH MAIN FEED PUMPS

Number: 2

Severity Option: NA

Malfunctions Tested: FW036: TRIP OF BOTH MFPs

Initial Conditions: FPSS

Final Conditions: REACTOR TRIPPED, EFW FEEDING SGs

Test Duration: 20

Procedures Used: NONE

Baseline Data: PANEL OF EXPERTS

Deficiencies: steam flow should not drop to 0, condenser dump controls should react more quickly to minimize primary temp & press excursion. (SCR 94-143)

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability Test
Certification Procedure Number: 3738
ANSI/ANS-3.5 Section: 5.4.2
Date Scheduled: 1993
Date Tested: 9/19/93
Test Performed By (initials): BB
Signature: Dunter

Test Type: Transient
Title: Simultaneous Closure of all MSIVs
Number: ~~NA~~ T3
Severity Option: NA
Malfunctions Tested: MS044

Initial Conditions: 100%

Final Conditions: Reactor shutdown

Test Duration: 10 minutes
Procedures Used: E-0, ES0.1

Baseline Data: Calloway

Deficiencies: Steam flow oscillations SCR 93-242

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: 1/93 - 6/93
Date Tested: 2/1/94
Test Performed By (initials): CB
Signature: CBunton

Test Type: TRANSIENT
Title: SIMULTANEOUS TRIP OF ALL RCPs
Number: 4
Severity Option: NA
Malfunctions Tested: NONE

Initial Conditions: FPSS

Final Conditions: REACTOR TRIPPED, NATURAL CIRCULATION ESTABLISHED

Test Duration: 15 MINUTES
Procedures Used: NONE

Baseline Data: PANEL OF EXPERTS

Deficiencies: NONE

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY TEST
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 5.4.2
Date Scheduled: 1/93-6/93
Date Tested: 9/28/93
Test Performed By (initials): CB
Signature: CBrinton

Test Type: TRANSIENT
Title: TRIP OF RCP C
Number: 5
Severity Option: NA
Malfunctions Tested: RC04

Initial Conditions: 100%

Final Conditions: Reactor shutdown

Test Duration: 12 minutes
Procedures Used: E-0

Baseline Data: Seabrook plant trips due to loss of RCP C on 7/4/91

Deficiencies: None

Exceptions: None

Comments: None

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: 1/93 - 6/93
Date Tested: 2/1/94
Test Performed By (initials): CS
Signature: CSwinton

Test Type: TRANSIENT
Title: TURBINE TRIP
Number: 6
Severity Option: 0 - 18 MILS
Malfunctions Tested: TH$\phi\phi$2 AT 100% SEVERITY

Initial Conditions: 18% < P9 PERMISSIVE

Final Conditions: TURBINE TRIPPED,

Test Duration: 15 MINUTES
Procedures Used: NONE

Baseline Data: PANEL OF EXPERTS

Deficiencies: steam flow on condenser steam dumps is erratic (~100K lb/hr swings) (SCR 94-143)

Exceptions: NONE

Comments: NONE

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: 1/93 - 6/93
Date Tested: 2/1/94
Test Performed By (initials): CB
Signature: [illegible]

Test Type: TRANSIENT
Title: MAXIMUM RATE POWER RAMP
Number: 7
Severity Option: NA
Malfunctions Tested: NONE

Initial Conditions: FPSS

Final Conditions: PLANT TRIPPED

Test Duration: 15 MINUTES
Procedures Used: NONE

Baseline Data: NONE

Deficiencies: SCR 94-084 REACTOR TRIPPED ON OVERPRESSURE

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY

Certification Procedure Number: NT-3738

ANSI/ANS-3.5 Section: B.2.2

Date Scheduled: 1/93 - 6/93

Date Tested: 2/9/94

Test Performed By (initials): CS

Signature: C Swinton

Test Type: TRANSIENT

Title: RCS RUPTURE WITH LOSS OF OFFSITE POWER

Number: 8

Severity Option: NA

Malfunctions Tested: RCΦ24 RCS COLD LEG LOCA (DOUBLE ENDED SHEAR).
SYΦΦ1 TOTAL LOSS OF OFFSITE POWER EXTERNAL TO THE SWITCHYARD.

Initial Conditions: FPSS

Final Conditions: CORE PARTIALLY COVERED, SATURATION CONDITIONS
EDG'S SUPPLYING EMERGENCY BUSES.

Test Duration: 20 MINUTES

Procedures Used: NONE

Baseline Data: PANEL OF EXPERTS

Deficiencies: None

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: 1/93 - 6/93
Date Tested: 2/1/94
Test Performed By (initials): CS
Signature: [illegible]

Test Type: TRANSIENT
Title: MAIN STEAM LINE RUPTURE INSIDE CONTAINMENT
Number: 9
Severity Option: 0-100%
Malfunctions Tested: MS032 @ 25% SEVERITY

Initial Conditions: FPSS

Final Conditions: REACTOR TRIPPED, MAIN STEAM ISOLATED

Test Duration: 15 MINUTES
Procedures Used: NONE

Baseline Data: RESULTS EVALUATED BY SIMULATOR SUPPORT INSTRUCTOR

Deficiencies: NONE

Exceptions: NONE

Comments: NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: ANNUAL OPERABILITY
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: 1/93 - 6/93
Date Tested: 2/9/94
Test Performed By (initials): CS
Signature: C Swinton

Test Type: TRANSIENT
Title: SLOW PRIMARY DEPRESSURIZATION
Number: 10
Severity Option:
Malfunctions Tested: RC014 AT 30% SEVERITY

Initial Conditions: FPSS

Final Conditions: CORE PARTIALLY UNCOVERED, SATURATION CONDITIONS

Test Duration: 70 MINUTES
Procedures Used: NONE

Baseline Data: PANEL OF EXPERTS

Deficiencies: NONE

Exceptions: NONE

Comments: UNEXPLAINED TRANSIENTS IN LOOP FLOW AT 2200, 2900 & 3100 SECONDS, THESE AFFECT OTHER PARAMETERS. CHECK RESPONSE AFTER NEW RCS MODEL INSTALLED.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/5/93
TEST PERFORMED BY (INITIALS):	RFW RW
SIGNATURE:	RFWilt
TEST TYPE:	Malfunction
TITLE:	Mechanical Vacuum Pump 50A Trip
NUMBER:	AR005
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	AR005
INITIAL CONDITIONS:	100%, 50%, MOL
FINAL CONDITIONS:	100%, 30% MOL
TEST DURATION:	10 min.
PROCEDURES USED:	ON1233.01
BASELINE DATA:	Standard Instrument Schedule (SIS)
DEFICIENCIES:	Vacuum did not drop as expected when no AR pumps were running at 100%, or when 1 AR pump is running at 50% or less. SCR-93-410
EXCEPTIONS:	None
COMMENTS:	All AR pumps placed in PTL at 100% following malfunction activation.

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/21/93
TEST PERFORMED BY (INITIALS):	RFW
SIGNATURE:	
TEST TYPE:	Malfunction
TITLE:	Condensate Pump 30B Trip
NUMBER:	CO040
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	CO039
INITIAL CONDITIONS:	100% steady state 100% steady state
FINAL CONDITIONS:	100% steady state Reactor tripped, Mode 3
TEST DURATION:	15 min. 15 min.
PROCEDURES USED:	OS1290.02 Response to Condensate or Feedwater Heater System Transient
BASELINE DATA:	OS1290.02, 1-NHY-503320
DEFICIENCIES:	Both MFPs tripped and reactor tripped when second CO pump was tripped. SCR-93-048
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/21/93
TEST PERFORMED BY (INITIALS):	RFW
SIGNATURE:	
TEST TYPE:	Malfunction
TITLE:	Condensate Pump 30A Trip
NUMBER:	CO039
SEVERITY OPTION:	N/A
MALFUNCTIONS TESTED:	CO040
INITIAL CONDITIONS:	100% steady state 100% steady state
FINAL CONDITIONS:	100% steady state Reactor tripped, Mode 3
TEST DURATION:	15 min. 15 min.
PROCEDURES USED:	OS1290.02 Response to Condensate or Feedwater Heater System Transient
BASELINE DATA:	OS1290.02, 1-NHY-503320
DEFICIENCIES:	Both MFPs tripped and reactor tripped when second CO pump was tripped. SCR-93-048
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Tests
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (5), (22)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/25/93
TEST PERFORMED BY (INITIALS):	K.J.T
SIGNATURE:	Kenneth J. Thibodeau
TEST TYPE:	NA
TITLE:	Loss of Condenser Level Control. Process Instrumentation, alarms, and control system failures.
NUMBER:	CO041
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	CO041, Failure of Condenser Hotwell Level Transmitter.
INITIAL CONDITIONS:	100%, Steady State, Cond. Make up valve closed.
FINAL CONDITIONS:	Make up valve open. Hotwell levels increasing, CST level decreasing.
TEST DURATION:	1 hour
PROCEDURES USED:	None
BASELINE DATA:	Condenser and condenser make up loops and logics.
DEFICIENCIES:	None
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (5)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/15/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	
TEST TYPE:	NA
TITLE:	Loss of Condenser Vacuum
NUMBER:	CW001
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	CW001, CW Pump 39A Overcurrent Trip
INITIAL CONDITIONS:	100% Steady State
FINAL CONDITIONS:	Slight decrease in Cond. Vacuum, and MWE
TEST DURATION:	30 minutes
PROCEDURES USED:	ON1233.01, Loss of Condenser Vacuum
BASELINE DATA:	CW Loops & Logics CW P&ID
DEFICIENCIES:	None
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (5)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/15/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Kenneth J. Thibodeau
TEST TYPE:	NA
TITLE:	Loss of Condenser Vacuum
NUMBER:	CW002
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	CW002, CW Pump 39B Overcurrent Trip
INITIAL CONDITIONS:	100% Steady State
FINAL CONDITIONS:	Slight decrease in Cond. Vacuum, and MWE
TEST DURATION:	30 minutes
PROCEDURES USED:	ON1233.01, Loss of Condenser Vacuum
BASELINE DATA:	CW Loops & Logics CW P&ID
DEFICIENCIES:	None
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (5)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/20/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	[illegible]
TEST TYPE:	NA
TITLE:	Loss of Condenser Vacuum
NUMBER:	CW003
SEVERITY OPTION:	0-1 = 0-60 " Delta-P across Travelling Screen SR-1C
MALFUNCTIONS TESTED:	CW003, High CW Travelling Screen D-P at 10-100% in 10% increments.
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	CW Pump 39C tripped, vacuum decreased, CW Delta T increased.
TEST DURATION:	1.5 hours
PROCEDURES USED:	ON1233.01, Loss of Condenser Vacuum
BASELINE DATA:	CW P&ID CW Control loops CW logic diagrams
DEFICIENCIES:	SCR 94-013, CW pump temperatures decreased as amps increased.
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/30/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Kenny J. Thitoyles
TEST TYPE:	NA
TITLE:	NA
NUMBER:	FP001
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	FP001, Fire Protection System rupture.
INITIAL CONDITIONS:	100%, Steady State, FP Jockey Pump running, normal FP system pressure.
FINAL CONDITIONS:	Main fire pumps running.
TEST DURATION:	40 minutes.
PROCEDURES USED:	OS0243.02, Fire Main Break.
BASELINE DATA:	FP P&ID,s FP Loops & Logics
DEFICIENCIES:	None (see comments)
EXCEPTIONS:	None
COMMENTS:	This malfunction is limited in scope and the dynamic response is extremely basic. However the malfunction can still be utilized for its intended training function; to simulate a fire main leak or fire brigade response.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	12/22/93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	Chuck Deesh
TEST TYPE:	NA
TITLE:	Feedline Break Inside Containment
NUMBER:	FW029
SEVERITY OPTION:	0 to 1, 0 to ~30,000 gpm
MALFUNCTIONS TESTED:	FW029, unisolable feedline break inside reactor containment on feedline "D".
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	severity <0.1, 100% steady state. severity ≥0.1, normal post reactor trip.
TEST DURATION:	3 hours
PROCEDURES USED:	E-0, Reactor Trip or SI and E-2, Faulted S/G (for severity level of >0.1). VAS Procedures D7251 & B7463 (for sev. <0.1).
BASELINE DATA:	1-NHY-509022, 1-NHY-509017, 1-NHY-509033, 1-NHY-509047, 1-NHY-509054, 1-NHY-506488, 1-NHY-506230
DEFICIENCIES:	NONE
EXCEPTIONS:	NONE
COMMENTS:	NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/93 - 6/93
DATE TESTED:	11/19/93
TEST PERFORMED BY (INITIALS):	CED & KJT
SIGNATURE:	Chris E. Deech
TEST TYPE:	N/A
TITLE:	1. Loss of Protective System Channel 2. Process instrumentation, alarms, and control system failures.
NUMBER:	FW044
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	FW044, Steam Generator C Level Channel LT-537 Fails Low ED008, Loss of UPS Inverter 1B
INITIAL CONDITIONS:	100%, Steady State, MOL
FINAL CONDITIONS:	100% Steady State for FW044 Rx Tripped for FW044 + ED008
TEST DURATION:	1 hour
PROCEDURES USED:	OS1235.03, SG Lvl Inst Failure E-0, Rx Trip or SI
BASELINE DATA:	1-NHY-509020 1-NHY-509047
DEFICIENCIES:	SCR#(93-371) (later) SG Lo-Lo level alarms D4806 & F4841 did not clear, as they should, when malfunction was removed.
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	12/4/93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	Chas E Deech
TEST TYPE:	N/A
TITLE:	1. Loss of Protective System Channel 2. Process instrumentation, alarms, and control system failure.
NUMBER:	FW045
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	FW045, Steam Generator "D" Level Channel LT-549 Fails Low
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	100% steady state w/ operator action. Normal Post Reactor Trip w/out operator action.
TEST DURATION:	30 minutes
PROCEDURES USED:	OS1235.03, "SG Level Instrument Failure" (w/ operator action) E-0, Reactor Trip or Safety Injection (w/out operator action)
BASELINE DATA:	OS1235.03, 1-NHY-509017, 1-NHY-509033, 1-NHY-509047, 1-NHY-509054, 1-NHY-506488
DEFICIENCIES:	SCR# 93-406, D4879 did not alarm (see 1-NHY-509054)
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	12/21/93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	Charles Dick
TEST TYPE:	N/A
TITLE:	1. Loss of Protective System Channel 2. Process instrumentation, alarms, and control system failure.
NUMBER:	FW046
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	FW046, Steam Generator "B" Level Channel LT-529 Fails high.
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	100% steady state w/ operator action. Normal Post Reactor Trip w/out operator action.
TEST DURATION:	30 minutes
PROCEDURES USED:	OS1235.03, "SG Level Instrument Failure" (w/ operator action) E-0, Reactor Trip or Safety Injection (w/out operator action)
BASELINE DATA:	OS1235.03, 1-NHY-509017, 1-NHY-509033, 1-NHY-509047, 1-NHY-509053, 1-NHY-506486
DEFICIENCIES:	None
EXCEPTIONS:	None
COMMENTS:	None

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Rev. No. _____

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	12/29/93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	Charles E Deck
TEST TYPE:	NA
TITLE:	Loss of Instrument Air
NUMBER:	IA001
SEVERITY OPTION:	0 to 1, 0 to 1200 scfm
MALFUNCTIONS TESTED:	IA001
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	100%, Steady State
TEST DURATION:	.5 hours
PROCEDURES USED:	ON1242.01, Loss of Instrument Air.
BASELINE DATA:	Procedure ON1242.01, 1-NHY-506707, 1-NHY-506708, 1-NHY-506709
DEFICIENCIES:	SCR # 93-443
EXCEPTIONS:	None
COMMENTS:	This malfunction is not usable until SCR is closed. When malfunction becomes usable, the CAUSE AND EFFECT must be updated.

Form No. NT-3730-1
Rev. No. 2

SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (11),(17),(22)
DATE SCHEDULED:	1/93 - 6/93
DATE TESTED:	12/12/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Kenneth J Thilenius
TEST TYPE:	NA
TITLE:	Loss of Protective System Channel Failure in Automatic Control Systems Process instrumentaion, alarms and control system failures
NUMBER:	MS041
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	MS041, PT-505 fails low.
INITIAL CONDITIONS:	100 %, Steady State
FINAL CONDITIONS:	Reactor tripped on low pressurizer pressure.
TEST DURATION:	30 minutes
PROCEDURES USED:	OS1235.05 Turbine Impulse Pressure PT-505/506 Failure
BASELINE DATA:	1-NHY-509018 1-MS-B20583
DEFICIENCIES:	SCR # 94-009 RF to place the PT-505 C-20 bistable in "trip" is not simulated.
EXCEPTIONS:	ATWS Mitigation Cabinet is not simulated. This exception is noted in the original Certification submittal.
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (22)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/13/93
TEST PERFORMED BY (INITIALS):	K.J.T
SIGNATURE:	[illegible]
TEST TYPE:	NA
TITLE:	Process Instrumentation, Alarms and Control System Failures
NUMBER:	MS042
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	MS042, MS Header Pressure Instrument Fails High
INITIAL CONDITIONS:	Test 1) 100% Steady State Test 2) 8%, A MFP, Steam Dumps in Steam Pressure Mode
FINAL CONDITIONS:	Test 1) MFP's tripped, Turbine Runback, Steam Dumps open. Test 2) MFP's tripped, Steam Dumps open, Reactor Tripped.
TEST DURATION:	3 hours
PROCEDURES USED:	ON1230.01 Steam Header Pressure PT-507 Instrument Failure
BASELINE DATA:	W Process Control Block Diagrams MFP Loops & Logic
DEFICIENCIES:	SCR # 93-206, Malf MS42; MFP's tripping for no apparent reason.
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	11/21/93
TEST PERFORMED BY (INITIALS):	CED & KJT
SIGNATURE:	Chris E Beach
TEST TYPE:	NA
TITLE:	1. Loss of Protective System Channel. 2. Process instrumentation, alarms, and control system failures.
NUMBER:	RC001
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RC001, RC-PT-456 Fails High
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	100%, Steady State
TEST DURATION:	45 minutes
PROCEDURES USED:	OS1201.06, PT-455-458 Pzr Pressure Instrument Failure
BASELINE DATA:	1-NHY-509008, 509012, 509026, 509045, 509046, 509051
DEFICIENCIES:	NONE
EXCEPTIONS:	NONE
COMMENTS:	To test PORV function, raised RCS pressure with master pressure controller to arming setpoint from RC-PT-457. With malf. RC001 entered, "B" PORV opened at arming setpoint.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Testing
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	12/5/93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	Chris Deets
TEST TYPE:	N/A
TITLE:	1. Process instrumentation, alarms, and control system failures. 2. Failure of Reactor Coolant Pressure and Volume Control System.
NUMBER:	RC007
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RC007, RCS Wide Range Pressure Channel PT-403 Fails to 1000 psig.
INITIAL CONDITIONS:	1. 100% steady state, MOL 2. 320 psig, 220° 3. 350 psig, 275°
FINAL CONDITIONS:	1. Same. 2. "B" PORV open, unable to manually open RC-V-87 & 22. 3. "B" PORV open.
TEST DURATION:	2 hours
PROCEDURES USED:	OS1201.09, RCS Wide Range Pressure or Temperature Instrument Failure.
BASELINE DATA:	1-NHY-509038, 1-NHY-509036, 1-NHY-503746, 1-NHY-503747/48, 1-NHY-506636, FP 2D32318 sh.2
DEFICIENCIES:	SCR #93-421 D7048, LTOP Train B Actuated, failed to alarm when appropriate.
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: MALFUNCTION TEST
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 4.2.1
Date Scheduled:
Date Tested: 11/11/93
Test Performed By (initials): RW
Signature: R F Wilte

Test Type: MALFUNCTION
Title: RCS LOOP A NARROW RANGE Tc FAILS HIGH
Number: RCØØ8
Severity Option: N/A
Malfunctions Tested: RCØØ8

Initial Conditions: 1) 100% MOL Rods Auto
2) 95% MOL Rods Auto, Steam Dumps armed

Final Conditions: 1) 100% MOL Rods Auto
2) Rx Trip, SI, $T_{AVG} \approx 550°F$, NOP

Test Duration: 30 min
Procedures Used: OS1201.08

Baseline Data: See Malfunction Cause and Effect 11/10/93

Deficiencies: None

Exceptions: None

Comments: IOS unusable due to Recombiner Power Adj, Pot. instability (hundreds of pages of printouts)

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: MALFUNCTION TEST

Certification Procedure Number: NT-3739

ANSI/ANS-3.5 Section: 4.2.1

Date Scheduled:

Date Tested: 11/14/93

Test Performed By (initials): RW

Signature: R Fulte

Test Type: MALFUNCTION

Title: PRESSURIZER LEVEL CHANNEL LT-459 FAILS LOW

Number: RC009

Severity Option: N/A

Malfunctions Tested: RC009

Initial Conditions: ① 100% MOL
② 100% MOL

Final Conditions: ① 100% MOL, letdown restored per OS1201.07, OS1002.08
② 0% PRZR overfill NO OPERATOR ACTIONS

Test Duration: ① 0.5 hr.
②

Procedures Used: OS1201.07 PZR Level Instr. Failure Abnormal
OS1002.08 PZR Lvl Control System Operation

Baseline Data:

Deficiencies: ② RCS pressure did not rise to PORV setpoints as expected with solid pzr and 100gpm charging SCR written (#93-355)

Exceptions:

Comments: ① Establish letdown ≈ 25 gpm > charging @ just below letdown
Regen Hx outlet hi temp alarm to restore PZR lvl to program (≈10mm)

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	12/04/93
TEST PERFORMED BY (INITIALS):	RFW
SIGNATURE:	
TEST TYPE:	NA
TITLE:	1. Loss of Protective System Channel. 2. Process instrumentation, alarms, and control system failures.
NUMBER:	RC010
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RC010, RC-LT-459 Fails High, RC018 RCS Leak
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	100%, Steady State
TEST DURATION:	1 hour
PROCEDURES USED:	OS1201.07, Pzr Level Instrument Failure
BASELINE DATA:	1-NHY-509011, 509027, 509046, 509051, 310882, 310891
DEFICIENCIES:	NONE
EXCEPTIONS:	NONE
COMMENTS:	RCS leak, RC018, used to reduce pressurizer level to letdown isolation setpoint.

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: MALFUNCTION TEST

Certification Procedure Number: NT-3739

ANSI/ANS-3.5 Section: 4.2.1

Date Scheduled:

Date Tested: 10/24/93

Test Performed By (initials): RW

Signature: R Fluke

Test Type: MALFUNCTION

Title: RCS LOOP C NR TH FAILS LOW

Number: RC Ø11

Severity Option: N/A Boolean

Malfunctions Tested: RC Ø11

Initial Conditions: 100% MOL
Loop 3 selected for RCTR411A&B

Final Conditions: 100% MOL
Loop 1 selected for RCTR411A&B

Test Duration:

Procedures Used: 051201.08 TAVG/DELTA-T INSTRUMENT FAILURE

Baseline Data: Attached Calculations

Deficiencies: T_H Analog values not driven A0397, A0398 A0399, A0405 SCR 93-368

Exceptions: None

Comments: None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (1b),(7)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/23/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Ken J. Thilenius
TEST TYPE:	NA
TITLE:	Large & Small RCS Leaks. Loss of Shutdown Cooling
NUMBER:	RH001
SEVERITY OPTION:	NA
MALFUNCTIONS TESTED:	RH001, RHR Pump "A" Shaft Seal Failure
INITIAL CONDITIONS:	Mode 4, A Train RHR in service
FINAL CONDITIONS:	Same
TEST DURATION:	2 Hours
PROCEDURES USED:	None
BASELINE DATA:	None
DEFICIENCIES:	See Comments
EXCEPTIONS:	None
COMMENTS:	Dynamic response was totally inaccurate. Recommendation made to the SRC to remove this malfunction from simulation. Identical training can be achieved using RH003/4.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (1b),(7)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/23/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	[illegible]
TEST TYPE:	NA
TITLE:	Large & Small RCS Leaks. Loss of Shutdown Cooling
NUMBER:	RH002
SEVERITY OPTION:	NA
MALFUNCTIONS TESTED:	RH002, RHR Pump "A" Shaft Seal Failure
INITIAL CONDITIONS:	Mode 4, B Train RHR in service
FINAL CONDITIONS:	Same
TEST DURATION:	2 Hours
PROCEDURES USED:	None
BASELINE DATA:	None
DEFICIENCIES:	See Comments
EXCEPTIONS:	None
COMMENTS:	Dynamic response was totally inaccurate. Recommendation made to the SRC to remove this malfunction from simulation. Identical training can be achieved using RH003/4.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Tests
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (1b), (7)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/23/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Kenneth J. Thibodeau
TEST TYPE:	NA
TITLE:	Large & Small RCS leaks. Loss of Shutdown Cooling.
NUMBER:	RH003
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RH003, RHR Train A Leak.
INITIAL CONDITIONS:	Mode 4, A Train RHR in Service.
FINAL CONDITIONS:	Pressurizer empty, RHR pump A cavitating, RCS temperature increasing.
TEST DURATION:	3 hours.
PROCEDURES USED:	OS1201.02, RCS Leaks OS1213.01, Loss of RHR During Shutdown Cooling
BASELINE DATA:	RHR P&ID's RCS P&ID's SS FSAR
DEFICIENCIES:	SCR 94-028, Malf RH003; Inaccurate RDMS response to large RCS leak into RHR vault.
EXCEPTIONS:	None
COMMENTS:	Also submitted; SCR 94-029, Enhance Malf RH003/4 to be a variable leak malf.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Tests
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (1b), (7)
DATE SCHEDULED:	1/93-6/93
DATE TESTED:	12/23/93
TEST PERFORMED BY (INITIALS):	K.J.T
SIGNATURE:	Kenneth J. Thielen
TEST TYPE:	NA
TITLE:	Large & Small RCS leaks. Loss of Shutdown Cooling.
NUMBER:	RH004
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RH004, RHR Train B Leak.
INITIAL CONDITIONS:	Mode 4, A Train RHR in Service.
FINAL CONDITIONS:	Pressurizer empty, RHR pump B cavitating, RCS temperature increasing.
TEST DURATION:	3 hours.
PROCEDURES USED:	OS1201.02, RCS Leaks OS1213.01, Loss of RHR During Shutdown Cooling
BASELINE DATA:	RHR P&ID's RCS P&ID's SS FSAR
DEFICIENCIES:	SCR 94-030, Malf RH004; Inaccurate RDMS response to large RCS leak into RHR vault.
EXCEPTIONS:	None
COMMENTS:	Also submitted; SCR 94-029, Enhance Malf RH003/4 to be a variable leak malf.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Tests
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (23),(24)
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	11/14/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	
TEST TYPE:	NA
TITLE:	Passive Malfunction Failure of Auto Rx Trip
NUMBER:	RPS002
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RPS002, Failure of SSPS to Automatically Trip the Reactor RPS007, Failure of Manual Reactor Trip Switches
INITIAL CONDITIONS:	100%, Steady State, A RCP Tripped
FINAL CONDITIONS:	Turbine Tripped, Reactor Shutdown from Manual Rod Insertion and Emergency Boration from BAT and RWST.
TEST DURATION:	1.5 Hours
PROCEDURES USED:	E-0, Reactor Trip or Safety Injection FR-S.1, Response to Nuclear Power Generation/ATWS
BASELINE DATA:	1-NHY-509042 (logic) Westinghouse NDCC, (WCAP-10982)
DEFICIENCIES:	None
EXCEPTIONS:	None
COMMENTS:	Tested RPS002 independently then combined with RPS007 to simulate an ATWS condition.

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Tests
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (23)
DATE SCHEDULED:	1/1993-6/1993
DATE TESTED:	11/28/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Ken J. Thilosker
TEST TYPE:	NA
TITLE:	Passive Malfunction
NUMBER:	RPS003
SEVERITY OPTION:	NONE
MALFUNCTIONS TESTED:	RPS003 Failure of Auto turbine Trip GS001/3 Trip of A/B GSC Pumps GS002 Loss of GSC TH002 High Turbine Vibration
INITIAL CONDITIONS:	100%, MOL, Steady State
FINAL CONDITIONS:	Turbine Tripped/ Reactor Tripped
TEST DURATION:	30 Minutes
PROCEDURES USED:	E-0, Reactor Trip or SI ES-0.1 Reactor Trip Response ON1231.02 Turbine Trip <P9
BASELINE DATA:	1-NHY-509058 FW-Turbine Trip/Runback W Functional Diagrams
DEFICIENCIES:	(SCR 91-036) TSI Diff Expan. Too Hi Post Trip (SCR 92-138) Post Trip 1st Stage Pressure Response
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (22)
DATE SCHEDULED:	1/93 - 6/93
DATE TESTED:	11/28/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Kenny J. Tilstosten
TEST TYPE:	NA
TITLE:	Process instrumentation, alarms and control system failures.
NUMBER:	RPS004
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RPS004, Inadvertent Phase "A" Containment Isolation Train "B"
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	T signal reset, major Phase "A" components restored.
TEST DURATION:	60 minutes
PROCEDURES USED:	OS1205.01 Inadvertent Phase "A" Containment Isolation
BASELINE DATA:	W Chemical and Volume Control System P&ID's 1-NHY-509048, Safeguard Actuation Signals
DEFICIENCIES:	SCR #92-246, Correct Manual T Signal Train "B" to not operate on loss of PP1B
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (22)
DATE SCHEDULED:	1/93 - 6/93
DATE TESTED:	12/11/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Ken J. Thibodeau
TEST TYPE:	NA
TITLE:	Process instrumentation, alarms and control system failures.
NUMBER:	RPS005
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RPS005 Inadvertent Train "A" Safety Injection Actuation
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	Reactor/Turbine tripped, "S" signal reset, major affected equipment restored to normal line up.
TEST DURATION:	4 hours
PROCEDURES USED:	E-0, Reactor trip or SI ES-1.1 SI termination
BASELINE DATA:	W Functional Diagrams System M Prints SIS
DEFICIENCIES:	SCR 93-432, Malf RPS005, EAH-180A/B should start on low DP caused by SI signal.
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (15),(19)
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	11/28/93
TEST PERFORMED BY (INITIALS):	K.J.T.
SIGNATURE:	Ken J. Thilorlen
TEST TYPE:	NA
TITLE:	Turbine Trip Reactor Trip
NUMBER:	RPS006
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RPS006 Inadvertent Rx Trip
INITIAL CONDITIONS:	100%, MOL, Steady State
FINAL CONDITIONS:	Reactor Tripped, Tave and Pzr level at no load. Steam Dumps controlling Tave with EFW feeding the S/G's.
TEST DURATION:	30 Minutes
PROCEDURES USED:	E-0 Reactor Trip or Safety Injection ES_0.1 Reactor Trip Response
BASELINE DATA:	W Functional Diagrams PRD-036, Unit Trip (ST38) PRD-075/076, Plant Trips
DEFICIENCIES:	(SCR# Later) Pzr Level is trending to 30% Post Trip. Should stabalize at 25% (no load value). SCR 93-~~397~~ 411
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Test
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	3.1.2 (23)
DATE SCHEDULED:	1/1993 - 6/1993
DATE TESTED:	11/14/93
TEST PERFORMED BY (INITIALS)	K.J.T.
SIGNATURE:	Kenny J. Thibodeaux
TEST TYPE:	NA
TITLE:	Passive Malfunctions
NUMBER:	RPS007
SEVERITY OPTION:	None
MALFUNCTIONS TESTED:	RPS007, Failure of Manual Reactor Trip Switches. RPS002, Failure of Automatic Reactor Trip
INITIAL CONDITIONS:	100%, Steady State
FINAL CONDITIONS:	Normal Post Turbine Trip / Reactor Trip
TEST DURATION:	30 minutes
PROCEDURES USED:	E-0, Reactor Trip Or Safety Injection FR-S.1, Response To Nuclear Power Generation/ATWS
BASELINE DATA:	1-NHY-509042 1-NHY-509043
DEFICIENCIES:	SCR# ~~(LATER)~~ 93-344 MALFUNCTION RPS007-RX TRIP D POINTS D7704/D7705 SHOULD NOT ACTIVATE
EXCEPTIONS:	NONE
COMMENTS:	NONE

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Teset
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/93 - 6/93
DATE TESTED:	12-30-93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	[illegible]
TEST TYPE:	N/A
TITLE:	1. Loss of component cooling.
NUMBER:	SB001
SEVERITY OPTION:	0 to 1, 0 to 85% fouling
MALFUNCTIONS TESTED:	SB001
INITIAL CONDITIONS:	100%, MOL, blowdown @ 240 gpm
FINAL CONDITIONS:	100%, MOL, blowdown @ 0 gpm
TEST DURATION:	3 hours
PROCEDURES USED:	OS1227.01, Revovery from S/G Blowdown System Isolation. OS1021.01, Stema Generator Blowdown System Operation
BASELINE DATA:	1-NHY-506722, 1-NHY-506732, 1-NHY-506733, 1-NHY-506734, 1-NHY-506755
DEFICIENCIES:	SCR #'s - 93-438, 439, 440, 441, 442
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

CERTIFICATION PROCEDURE TITLE:	Malfunction Teset
CERTIFICATION PROCEDURE NO.:	NT-3739
ANSI/ANS-3.5 SECTION:	4.2.1
DATE SCHEDULED:	1/93 - 6/93
DATE TESTED:	12-30-93
TEST PERFORMED BY (INITIALS):	CED
SIGNATURE:	Chas E Deck
TEST TYPE:	N/A
TITLE:	1. Loss of component cooling.
NUMBER:	SB002
SEVERITY OPTION:	0 to 1, 0 - 85% fouling.
MALFUNCTIONS TESTED:	SB002
INITIAL CONDITIONS:	100%, MOL, blowdown @ 240 gpm
FINAL CONDITIONS:	100%, MOL, blowdown @ 0 gpm
TEST DURATION:	3 hours
PROCEDURES USED:	OS1227.01, Revovery from S/G Blowdown System Isolation. OS1021.01, Stema Generator Blowdown System Operation
BASELINE DATA:	1-NHY-506722, 1-NHY-506732, 1-NHY-506733, 1-NHY-506734, 1-NHY-506755
DEFICIENCIES:	SCR #'s - 93-438, 440, 441, 442
EXCEPTIONS:	None
COMMENTS:	None

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Instructor Interface
Certification Procedure Number: NT-3733
ANSI/ANS-3.5 Section: 3.4
Scheduled: 1/92-6/92
Date Tested: 6/3/92
Test Performed By (Initials): KT
Signature:
Test Type: NA
Title: NA
Number: NA
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: NA

Final Conditions: NA

Test Duration: NA

Procedures Used: NA

Baseline Data: NA

Deficiencies: Some FSAR/ANSI 3.5 required malfunctions are not simulated. See attachment.

Exceptions: Some FSAR malfunctions are considered not appropriate for training. See attachment.

Comments: See attachment.

CERTIFICATION TEST 6/92
Malfunctions NT-3733

FSAR/ANSI-ANS 3.5 Required Malfunctions

The following deficiencies did not meet the acceptance criteria of section 3.4.2 of certification test NT-3733 conducted on 6/3/92.

The following FSAR analyzed transients are not simulated;

1. Uncontrolled rod cluster control assembly bank withdrawal from a subcritical or low power startup condition. FSAR section 15.0.1.2(k). SCR # 90-104.

2. Waste gas system faiulure. FSAR section 15.0.1.3(f). SCR# 90-105. (Note This SCR closed 8/3/92)
3. Reactor Coolant Pump Shaft Break. FSAR section 15.0.1.4(d) SCR# 90-186.

4. Radioactive liquid tank failure. FSAR section 15.0.1.3 (h). SCR#90-185.

The following FSAR required malfunctions are not simulated. They have been determined by the SRC to be not appropriate for simulator training or training could be achieved through other means. They are exceptions to ANSI/ANS-3.5:

1. Inadvertent loading and operation of a fuel assembly in an improper position. FSAR section 15.0.1.3(d).

2. Spent fuel cask drop accidents. FSAR section 15.0.1.3(i).

3. Fuel handling accidents. FSAR section 15.0.1.4(g).

4. Control Rod Misalignment,dropped full length RCCA. FSAR section 15.0.1.2(m)

5. Control Rod Misalignment, single RCCA withdrawal at power. FSAR Section 15.0.1.3(c).

6. Start of an Inactive RCP at Power. FSAR section 15.0.1.2(h)

The following deficiencies did not meet the acceptance criteria of section 3.4.4 (ANSI/ANS-3.5 required malfunctions).

1. **Loss of Instument Air** to the extent that the whole system or individual headers can lose pressure and affect the plant's static or dynamic performance. ANSI/ANS-3.5 section 3.1.2(2). SCR#90-100.

2. **Control Rod Failures** including uncoupled rods. ANSI/ANS-3.5 section 3.1.2(12). SCR#90-101.

3. **Generator Trip**. ANSI/ANS-3.5 section 3.1.2(16). SCR# 90-102. (Note This malfunction is available. However the SCR is still open.)

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Simulator Computer Test
Certification Procedure Number: NT-3735
ANSI/ANS-3.5 Section: A 3.1
Scheduled: 1/92-6/92
Date Tested: 6/2/92
Test Performed By (Initials): KT
Signature:
Test Type: NA
Title: NA
Number: NA
Severity Option: (Malf#21) 0-100%=0-100% Manifold Leak
Malfunctions Tested: #13 Failure of SSPS To Trip Reactor
#134 Failure OF Turbine Auto Trip
#21 RCS Manifold Leak @ 100%
#114 Loss of Offsite Power

Initial Conditions: Various

Final Conditions: Various

Test Duration: NA

Procedures Used: None

Baseline Data: NA

Deficiencies: None (Note:lowest Observed MXCPUTIM dropped below .15. This occured when timing program was printing results and does not affect training).

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Simulator Computer Test
Certification Procedure Number: NT-3735
ANSI/ANS-3.5 Section: A 3.1
Scheduled: 6/[illegible]-12/[illegible]2
Date Tested: 12/17/92
Test Performed By (Initials): KT
Signature:
Test Type: NA
Title: NA
Number: NA
Severity Option: (Malf#21) 0-100%=0-100% Manifold Leak
Malfunctions Tested: #13 Failure of SSPS To Trip Reactor
#134 F[illegible]
#21 RC[illegible]
#114 L[illegible] Power

Initia[illegible] Various

Final Conditions: Various

Test Duration: NA

Proce[illegible]: None

Basel[illegible]

Defici[illegible] Lowest Observed MXCPUTIM dropped below .15. This o[illegible] was printing results and does not affe[illegible]

Excep[illegible]: None

Comme[illegible]

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Core Performance Test
Certification Procedure Number: NT-3736
ANSI/ANS-3.5 Section: A 3.1.1
Scheduled: 6/92-12/92
Date Tested: (completed) 12/31/92
Test Performed By (Initials): KT
Signature:

Test Type: NA
Title: NA
Number: NA
Severity Option: NA
Malfunctions Tested: #5 Dropped Rod
#11 Failed Fuel Element
#21 RCS Manifold Leak @ 100%
#16 Slow Primary Depressurization
#23 Rod Ejection
#24 Large Break LOCA
#28 Trip of C RCP
#13 Failure of SSPS to Trip Reactor
#14 Trip of Both MFW Pumps

Initial Conditions: Various

Final Conditions: Various

Test Duration: See Comments

Procedures Used: None

Baseline Data: Seabrook Station Start Up Test Results
Westinghouse Core Design Data
Best Estimate (For malfunctions)

Deficiencies: See Comments

Exceptions: None

Comments: Westinghouse Core Upgrade Model was tested over a period of time starting 8/91 through 12/92. Some deficiencies were noted during the testing and have been, or are in the process of being, corrected.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: A 3.1.1 (1,2)
Scheduled: 6/92-12/92
Date Tested: (completed) 12/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Normal Operations
Title: Plant Start Up from Cold Shutdown to Full Load
Number: NA
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: Plant shutdown, on RHR

Final Conditions: FPSS

Test Duration: 120 hours

Procedures Used: See attached

Baseline Data: Seabrook Station Start Up Test Results
Seabrook Station Operating Procedures

Deficiencies: See attached

Exceptions: See Attached

Comments: None

Attachment to NT-3737 (12/23/92)

Procedures Used:

OS1000.01 Heatup From Cold Shutdown To Hot Standby
OS1001.06 Pressurizer Bubble Formation
OS1002.02 Operation of Letdown, Charging and Seal Injection
OS1013.05 RHR Train A Shutdown
OS1002.07 Establishing a H2 Blanket in VCT
OS1030.01 MS System Operation
ON1035.10 MFP Standby and Startup Operation
OS1001.05 RCP Operation
OS1015.18 Setting Containment Integrity
OS1006.04 Operation Of CBS
ON1041.01 Aux Boiler Startup
ON1038.01 CW System Startup
ON1034.03 Condensate System Operation
ON1034.09 Condensate Cleaning System Operation
ON1033.02 Turbine Steam Seal System Operation
ON1033.01 Operation of MVP's
ON1035.06 Aux Steam to 26A and 26B Heaters
OS1036.01 Aligning EFW for Auto
OS1021.01 SG Blowdown Operation
OS1005.05 SI System Operation
OS1035.02 SUFP Operation
OS1007.01 Automatic and Manual Rod Control
ON1031.02 Starting and Phasing the Turbine Generator
OS1000.02 Plant Startup From Hot Standby to Minimum Load
OS1011.02 NIS Visual/Audio Count Rate
OS1000.07 Approach to Criticality
ON1037.03 SCCW HX Layup and Restoration
ON1030.03 MSR/Reheater Operation
ON1040.04 HDP Operation
OS1023.68 Containment Purge Air Surge
ON1041.06 Aux Steam & Cond. Return

Attachment to NT-3737 (12/23/92)

DEFICIENCIES

OS1000.01

Step 6.2 Pzr Bubble formation. (SCR #87-342, Pzr heater effects on liquid temperature not completely accurate.) and (SCR #91-169, Unstable conditions result when establishing a bubble in the pressurizer.) and (SCR #91-042, Change Pzr Heater current response to match plant response.)

Step 6.10 RHR Operation. (SCR #92-252, RHR Pump suction pressure not consistent with plant conditions.)

Step 7.1.2 Establish H2 blanket in VCT. (SCR #92-267, RF for VCT H2 control is not increasing pressure.)

Step 7.1.14.3 Spray Valve Operation. (SCR #92-013, Zero the Pzr spray valve to be in accord with plant data.)

Step 7.1.17.6 SSPS Operation. (SCR #90-183, Add 1 train of SSPS to simulator.)

OS1000.02

Step 7.1.8 Place Aux Steam in service. (SCR #88-160, FW Heater outlet temperatures too low at partial power.) (SCR#92-046, Excessive RCS Cooldown when placing MS/AS reducer in service)

Step 7.1.12 Start 2nd Condensate Pump. (SCR #92-021, Correct CP Amps to decrease when 2nd Condensate Pump is Started.)

Step 7.2.2 Warm up and start the Main Turbine. (SCR# 92-048, Excessive RCS cooldown when starting the main turbine.)

Step 7.2.10 Synchronize and load the Main Turbine. (SCR #92-306, Cannot shut MTG output Breaker.)

Step 7.2.12 Transfer from MFWRV bypass to MFWRV. (SCR #92-050, MFP control unstable and steam flow to MFP too high at low powers.)

Step 7.3.2.4 Verify load Limit. (SCR #92-180, "Load Limit Limiting" light response inaccurate.)

OS1000.05

Step 7.1.3a,7.2.3a,7.3.3a,4.4.3a,7.5.1 Verify load limit. (SCR #92-180, "Load Limit Limiting" light response inaccurate.)

Step 7.1.5 Maintain Generator VARS. (SCR #92-323, "Generator Field Temp High" alarm active when MVARS are changed.

Step 7.1.10 Start HDP. (SCR #92-307, HDP flow indication inaccurate.)

Step 8.0 Final Conditions (FPSS). (SCR #92-194, Turbine 100% Pot setting for 100% differs from plant.)and (SCR #92-277, Condenser vacuum is too low at 100% power.)and (SCR #92-298, Generator Running Voltmeter is reading low.)

Attachment to NT-3737 (12/23/92)

Not Simulated

The following steps could not be performed due to simulator limitations. (*=Previously noted and reviewed by SRC).

OS1000.01 (HU From Cold SD to Hot STDBY)

Step 7.1.3 Start the rod drive cooling system.

Step 7.1.6.3 Open the MS upstream drain header orifice bypass valves and trap bypass valves.
(MSD-V219,213,217,223,231,225,229,235)

Step 7.1.6.4 Open the MSIV body drain isolation valves.
(MSD-V63,66,64,65)

Step 7.1.6.6 If Condenser is not available for MS drains, Close the following valves; MSD-V288, V278 bypass, MSD-V280 (281), A&D S/G Isolation(root isolation) to Cond. C.

Step 7.1.7.1 and 7.1.7.2 Open MSD-V61,V224,V230,V236 (MS Header blowdown valves).

Step7.1.8.1,7.1.8.2 and 7.1.8.3 Open MSD-V283, V284, V285, and V286 (MS Header yard blowdown valves.)

Step 7.1.17.6 (Open valves listed in step 7.1.6.6)

Step 7.1.26 (Close valves listed in step 7.1.6.4)

Step 7.1.27 (Close valves listed in step 7.1.8.1)

Step 7.2.2.13 Have I&C reset High Flux At Shutdown Alarm.

Step 7.2.7.2 Open FW-V474, FW manifold low flow drain to 27C isolation.

OS1000.02 (Hot STDBY to Min Load)

* Step 7.1.7 Bypass Loose Parts Monitor Alert Alarm

Step 7.2.1 Place Main SCCW HX in service.

Step 7.2.13,7.2.14 Close following upstream (downstream) drains

orifice bypass valves and trap bypass valves. (Same as 7.1.6.3 under OS1000.01)

Step 7.3.10 Align FW Heater Start Up Vents.

OS1000.05 (Power Increase)

Step 7.1.12.5 Close Yard steam drain traps (MSD-V221, V227, V215, V233)

Step 7.3.8 Verify VAS alarm B5910 QPTR<1.02 not in alarm.

Step 7.3.12.1 Align MSR scavenging lines to 26 FW heaters.

Step 7.3.12.2 Adjust filter regulator for pneumatic relay to obtain an output air supply for pneumatic relay pressure of 18 psig.

ATTACHMENT TO NT-3737 12/23/92 (NOT SIMULATED)

ON1030.03, MOISTURE SEPARATOR/REHEATER OPERATION, Rev. 06

(6.2 Placing the MSRs in service between 30% and 100% turbine load.)

6.2.1 At MM-CP-823, VERIFY/PLACE the controllers for the four (4) MSR's in MANUAL control and ensure that the output signal to the steam supply valves is 0.0%. (Valves full closed.)

6.2.2 Page through the controller screens on each controller, and VERIFY that none of the controllers has detected any failures. (One of the controller screens will read, NO FAILURES HAVE BEEN DETECTED.)

6.2.7 DEPRESS the AUTO/MODULATE pushbuttons at MM-CP-823 and VERIFY that all four AUTO/MODULATE lamps energize.

(6.2.9 When the reheat steam high load valves are fully open on all 4 MSRs, PERFORM the following:)

6.2.9.1 OPEN the following valves:

MD-V16, MSR A and C scavenging line to FW-E-26A
MD-V31, MSR B and D scavenging line to FW-E-26B

OS1035.02, STARTUP FEED PUMP OPERATION, Rev. 06

(6.1 Starting the startup feed pump)

6.1.6a SLOWLY OPEN FW-V465, FW-V100 bypass.

6.1.8 VERIFY startup feed pump oil cooler water inlet flow is 10 to 12 GPM as indicated on CO-FI-4193. If necessary, UNLOCK and ADJUST CO-V459, SUFP oil cooler water inlet isolation until desired flow is achieved THEN LOCK CO-V459.

ON1033.01, OPERATION OF THE MECHANICAL VACUUM PUMPS, Rev. 05

(6.3 Operation of the mechanical vacuum pumps in the holding mode.)

6.3.1 CHECK OPEN/OPEN the following valves:

CO-V56, condensate pump 30C vent
CO-V57, condensate pump 30B vent
CO-V58, condensate pump 30A vent

NOTE
If condenser vacuum decreases to less than 26 inches of Hg, the standby mechanical vacuum pump will automatically start.

ON1031.02, STARTING AND PHASING THE TURBINE GENERATOR, Rev. 03

(6.1.12 If shell warming is required (first stage shell temperature less than 200°F), PERFORM the following:)

6.1.12.11 CLOSE drain valves as needed to maintain shell side pressure (See Figure 7.4). Record any valve manipulations on Form ON1031.02C of this procedure.

(6.2 Starting the turbine generator.)

6.2.15 PLACE the generator core monitor in operation per ON1039.01, Operation of the Core Monitor.

6.2.30 At the power monitor panel (bay 1 of EHC cabinet), RESET the PMG power monitor relays. VERIFY PMG IN CONTROL lamp is lit.

6.2.33 At CP-41, PLACE HGG-V8036, purity meter 3 way vent control switch to VENT CLOSED.

6.2.34 THROTTLE HGG-V8015, purity meter outlet isolation to generator to establish 1 SCFH sample flow.

6.2.35 CLOSE HGG-V8016, purity meter outlet vent.

ON1034.03, CONDENSATE SYSTEM OPERATION, Rev. 04

(6.1 Startup of the condensate system.)

6.1.1 Establish condensate pump gland sealing by ALIGNING one of the following sources:

6.1.1.1 To align condensate to the pump glands, OPEN CO-V40, isolation for gland seal supply to condensate pumps.

6.1.1.2 To align demineralized water to the pump glands, OPEN CO-V449, DM-PRV-3447 outlet isolation and VERIFY 16-20 psig on CO-PI-4174.

6.1.1.3 VERIFY adequate seal leakoff from the condensate pumps.

6.1.2 VERIFY the following valves are OPEN:

CO-V42, condensate pump 30A gland seal supply
SCC-V65, condensate pump 30A cooling water outlet isolation
CO-V43, condensate pump 30B gland seal supply
SCC-V67, condensate pump 30BA cooling water outlet isolation
CO-V44, condensate pump 30C gland seal supply
SCC-V69, condensate pump 30C cooling water outlet isolation
CO-V6, condensate pump 30A suction isolation
CO-V4, condensate pump 30B suction isolation
CO-V2, condensate pump 30C suction isolation

6.1.2a Verify the following valves are MAINTAINED OPEN:

SCC-V56, condensate pump 30A cooling water inlet isolation
SCC-V59, condensate pump 30B cooling water inlet isolation
SCC-V53, condensate pump 30C cooling water inlet isolation

ON1035.10, MAIN FEED PUMP STANDBY AND STARTUP OPERATION, Rev. 05

(6.2 Placing feed pump A in standby.)

6.2.2 START FV-FN-62A, SG feed pump A lube oil tank vapor extractor and VERIFY greater than 1/2 inch water vacuum.

6.2.3 START either FV-P-157A or FV-P-157B, SG feed pump A main oil pumps. When oil pressure has stabilized, PLACE the non-running pump to AUTO. This is now the standby pump.

6.2.4 CLOSE the breaker for FW-P-158A, SG feed pump A emergency oil pump.

6.2.5 VERIFY that the control switch for FW-P-158A is in the AUTO position.

6.2.6 Test start the standby main oil pump by DEPRESSING either MAIN OIL PUMP TEST FW-P-157A/B pushbutton at CP-144 or at the feed pump turbine A front standard.

6.2.7 VERIFY that the standby main oil pump starts, then STOP the standby main oil pump and return its control switch to AUTO.

6.2.8 Test start FW-P-158A, SG feed pump A emergency oil p=p by DEPRESSING either emergency oil p=p test FW-P-158A pushbutton at CP-144 or at the feed pump turbine A front standard.

6.2.9 VERIFY that FW-P-158A starts, then STOP the pump.

6.2.10 VERIFY oil flow to the bearings by observing sight flow glass on the pump bearings and bearing oil pressures on the turbine bearings.

6.2.11 PLACE the following control switches to AUTO:

FW-H-45A, SG feed pump A oil tank heater
FW-H-45B. SG feed pump B oil tank heater

6.2.12 Using lube oil temperature to bearings temperature indicator, VERIFY that oil reservoir temperature is greater than 600F.

6.2.13 PLACE FW-MM-196A, SG feed pump A turning gear motor to AUTO and DEPRESS the turning gear motor reset pushbutton.

6.2.14 VERIFY that feed pump A turbine is rolling on the turning gear.

CAUTION

WHENEVER STEAM IS APPLIED TO THE TURBINE CONTROL VALVES OR TO THE TURBINE GLANDS, THE FEED PUMP TURBINE MUST BE ON THE TURNING GEAR.

6.2.15 Establish steam seal to feed pump A turbine by PERFORMING the following:

6.2.15.1 OPEN the following valves and INSTALL maintaining devices:

MVD-V213, flow orifice 5101 inlet MVD-VI59, drain header isolation to condenser A

MVD-V239, low pressure steam isolation to condenser A

If MS-VI33, feed pump exhaust is closed, then OPEN MS-VI43, feed pump exhaust valve bypass.

6.2.15.la OPEN MVD-VI56, flow orifice 5102 bypass valve. When condensate is drained from flow orifice 5102 as evidenced by pipe heatup, CLOSE MVD-VI56.

6.2.15.2 OPEN MVD-VI54, steam packing exhaust drain trap bypass.

6.2.15.3 OPEN the following valves:

SSS-V55, SG feed pump turbine A seal steam
SSS-V54, SG feed pump turbine A seal steam exhaust

6.2.15.4 When condensate has been drained from MS-T105A, steampacking exhaust drain trap, OPEN MVD-VI52, steam packing exhaust drain trap inlet and CLOSE MVD-VI54, steam packing exhaust drain trap bypass.

(6.2.16 CHECK OPEN MS-VI33, feed pump turbine exhaust line isolation. If HS-VI33 is closed PERFORM the following:)

6.2.16.1 VERIFY MS-VI43, feed pump exhaust valve bypass has been open for at least 15 minutes since sealing steam was aligned to feed p=p turbine.

6.2.16.2 OPEN MS-VI33, feed pump turbine exhaust line isolation.

6.2.16.3 CLOSE MS-VI43, feed pump exhaust valve bypass.

6.2.17 Place the feed pump seal water system in service by PERFORMING the following:

6.2.17.1 OPEN CO-V53, feed pump A seal supply isolation.

6.2.17.2 VERIFY that CO-PCV-4090, SG feed pump A seal water back pressure control valve is maintaining 200 psig to 210 psig back pressure.

6.2.17.3 THROTTLE CO-V358, SG feed pump seal isolation to A condenser to maintain 40 psig back pressure as indicated on CO-PI-4119. (Maintained valve)

6.2.17.4 THROTTLE CO-V359, SG feed pump seal isolation to C condenser to maintain 40 psig back pressure as indicated on CO-PI-4110. (Maintained valve)

6.2.18 OPEN FW-VII8, SG feed pump A warmup isolation.

6.2.19 OPEN MVD-VI4I, flow orifice 5100 bypass. When condensate has been drained from the line as evidenced by the line heating up, CLOSE MVD-VI4I.

6.2.21 OPEN MVD-VI58, flow orifice 5104 bypass. When condensate has been drained from the line as evidenced by the line heating up, CLOSE MVD-VI58.

(6.3 Placing feed pump B in standby.)

6.3.2 START FW-FN-62B, SG feed pump B lube oil tank vapor extractor and VERIFY greater than 1/2 inch water vacuum.

6.3.3 START either FW-P-157C or FW-P-157D, SG feed p=p B main oil pumps. When oil pressure has stabilized, PLACE the non-running pump to AUTO. This is now the standby pump.

6.3.4 CLOSE the breaker for FW-P-158B, SG feed pump B emergency oil pump.

6.3.5 VERIFY that the control switch for FW-P-158B is in the AUTO position.

6.3.6 Test start the standby main oil pump by DEPRESSING either MAIN OIL PUMP TEST START FW-P-157C/D pushbutton at CP-145 or at the feed pump turbine B front standard.

6.3.7 VERIFY that the standby main oil pump starts, then STOP the standby main oil pump and return its control switch to AUTO.

6.3.8 Test start FW-P-158B, SG feed pump B emergency oil pump by DEPRESSING either emergency oil pump test FW-P-158B pushbutton at CP-145 or at the feed pump turbine B front standard.

6.3.9 VERIFY that FW-P-158B starts, then STOP the pump.

6.3.10 VERIFY oil flow to the bearings by observing sight flow glasses on the pump bearings and bearing oil pressures on the turbine bearings.

6.3.11 PLACE the following control switches to AUTO:

FW-H-45C, SG feed pump B lube oil tank heater
FW-H-45D, SG feed pump B lube oil tank heater

6.3.12 Using lube oil temperature to bearings temperature indicator, VERIFY that oil reservoir temperature is greater than 60'F.

6.3.13 PLACE FW-MM-196B, SG feed pump B turning gear motor to AUTO and DEPRESS the turning gear motor reset pushbutton.

6.3.14 VERIFY that feed pump B turbine is rolling on the turning gear.

> CAUTION
>
> WHENEVER STEAM IS APPLIED TO THE TURBINE CONTROL VALVES OR TO THE TURBINE GLANDS, THE FEED PUMP TURBINE MUST BE ON THE TURNING GEAR.

(6.3.15 Establish steam seal to feed pump B turbine by PERFORMING the following:)

6.3.15.1 OPEN the following valves and INSTALL maintaining devices:

MVD-V215, flow orifice 5106 inlet
MVD-VI68, drain header isolation to condenser C
MVD-V240, low pressure steam isolation to condenser C

If MS-VI34, feed pump exhaust valve is closed, then OPEN MS-VI44, feed pump exhaust valve bypass.

6.3.15.la OPEN MVD-VI65, flow orifice 5107 bypass valve. When condensate is drained from flow orifice 5107 as evidenced by pipe heatup, CLOSE HVD-V165.

6.3.15.2 OPEN MVD-VI63, steam packing exhaust drain trap bypass.

6.3.15.3 OPEN the following valves:

SSS-V57, SG feed pump turbine B seal steam supply
SSS-V56, SG feed pump turbine B seal steam exhaust

6.3.15.4 When condensate has been drained from MS-T-105B, steam packing exhaust drain trap, OPEN MVD-VI6I, steam packing exhaust drain trap inlet and CLOSE MVD-VI63, steam packing exhaust drain trap bypass.

(6.3.16 CHECK OPEN MS-VI34, feed pump turbine exhaust line isolation. If MS-VI34 is closed PERFORM the following:)

6.3.16.1 VERIFY MS-VI44, feed pump exhaust valve bypass has been open for at least 15 minutes since sealing steam was aligned to feed pump turbine.

(6.3.17 Place the feed pump seal water system in service by PERFORMING the following:)

6.3.17.2 VERIFY that CO-PCV-4091, SG feed pump B seal water back

pressure control valve is maintaining 200 psig to 210 psig back pressure.

6.3.17.3 THROTTLE CO-V358, SG feed pump seal isolation to A condenser to maintain 40 psig back pressure as indicated on CO-PI-4119. (Maintained valve)

6.3.17.4 THROTTLE CO-V359, SG feed pump seal isolation to C condenser to maintain 40 psig back pressure as indicated on CO-PI-4110. (Maintained valve)

6.3.18 OPEN FW-VII7, SG feed pump B warmup isolation.

6.3.19 OPEN MVD-VI60, flow orifice 5105 bypass. When condensate has been drained from the line as evidenced by the line heating up, CLOSE MVD-VI60.

6.3.21 OPEN MVD-VI67, flow orifice 5109 bypass. When condensate has been drained from the line as evidenced by the line heating up, CLOSE MVD-VI67.

(6.4 Feed pump A startup.)

6.4.1a.1 CLOSE FW-VII8, SG feed pump A warmup isolation.

6.4.1a.3 OPEN/CHECK OPEN FW-V459, SG feed pump A discharge valve bypass.

6.4.13 Align the turning gear for AUTO startup by DEPRESSING the turning gear motor RESET pushbutton.

(6.5 Feed pump B startup.)

6.5.1a.1 CLOSE FV-VII7, SG feed pump B warmup isolation.

6.5.1a.3 MAINTAIN OPEN/CHECK MAINTAINED OPEN FW-V457, SG feed pump B discharge valve bypass.

6.5.4 VERIFY that the speed control local/remote selector switch is selected to REMOTE.

6.5.13 Align the turning gear for AUTO startup by DEPRESSING the turning gear motor RESET pushbutton.

OS1030.01, MAIN STEAM SYSTEM OPERATION, Rev. 09

(6.2 Warming up the main steam liners and opening the MSIvs in preparation for plant startup.)

6.2.1 OPEN the following valves:

MSD-V79, auxiliary steam supply line drain
MSD-V91, main steam to MSRs A and C header drain

> NOTE
>
> Steam line heatup is limited by RCS heatup or to a maximum of 200°F in any one hour.

6.2.3 OPEN the following valves:

East Pipe Chase

MSD-V231, MSD-V45 Orifice Bypass
MSD-V225, MSD-V46 Orifice Bypass
MSD-V229, MSD Drain Header T-7 Bypass
MSD-V235, MSD Drain Header T-8 Bypass
MSD-V64, Main Steam Isolation Valve (MS-V88) body drain
MSD-V25, Main Steam Isolation Valve (MS-V90) body drain

West Pipe Chase

MSD-219, MSD-V44 Orifice Bypass
MSD-213, MSD-V47 Orifice Bypass
MSD-217, MSD Drain Header T-5 Bypass
MSD-223, MSD Drain Header T-b Bypass
MSD-219, Main Steam Isolation Valve (MS-V86) drain valve
MSD-219, Main Steam Isolation Valve (MS-V92) body drain

> NOTE
>
> Perform Step 6.2.5 periodically until the MSIVs are open.

6.2.5 Drain the main steam header upstream of the MSIVs by slowly OPENING the following valves until steam issues forth, then CLOSE the valves:
MSD-V61, drain header drain valve
MSD-V224, MSD drain header drain
MSD-V230, MSD drain header drain
MSD-V236, MSD drain header drain

(6.2.7 Blowdown the main steam lines down stream of the MSIVs by PERFORMING the following:)

6.2.7.1 When positive steam pressure is indicated, slowly OPEN the following valves until steam issues forth, then CLOSE the valves:

MDS-V253, A and D steamline yard drain
MDS-V254, A and D steamline yard drain
MDS-V255, B and C steamline yard drain
MDS-V256, B and C steamline yard drain

NOTE
If the differential pressure across the MSIVs cannot be reduced to less than 50 psid, perform 6.2.10 to help reduce the differential pressure.

6.2.10 CLOSE the following valves:

MSD-V79, auxiliary steam supply line drain
MSD-V91, main steam to MSRs A&C header drain

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Scheduled: 1/92-6/92
Date Tested: 8/18/92
Test Performed By (Initials): KT (Observed)
Signature:
Test Type: Surveillance
Title: Main Steam Safety Valve In Place Setpoint Verification
Number: EX1804.041
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: 75%, Steady State

Final Conditions: S/G "A" MS Safety Valve Stuck Open

Test Duration: 8 hours

Procedures Used: EX1804.041

Baseline Data: None

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Scheduled: 1/92-6/92
Date Tested: 8/20/92
Test Performed By (Initials): KT (Observed)
Signature:
Test Type: Surveillance
Title: DG 1B 18 Month Operability And Engineered Safegaurds Pump And Valve Response Time Testing Surveillance
Number: EX1804.015
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: Mode 3

Final Conditions: Same

Test Duration: 12 hours

Procedures Used: EX1804.001

Baseline Data: None

Deficiencies: SCR #(92-290) Pzr mass goes to zero when cooling and depressurizing the RCS to Mode 5

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Scheduled: 1/92-6/92
Date Tested: 8/19/92
Test Performed By (Initials): KT (Observed)
Signature:
Test Type: Surveillance
Title: DG 1A 18 Month Operability And Engineered Safegaurds Pump And Valve Response Time Testing Surveillance
Number: EX1804.001
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: Mode 3

Final Conditions: Same

Test Duration: 12 hours

Procedures Used: EX1804.001

Baseline Data: None

Deficiencies: SCR #(92-290) Pzr mass goes to zero when cooling and depressurizing the RCS to Mode 5

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Scheduled: 1/92-6/92
Date Tested: 4/24/92
Test Performed By (Initials): KT
Signature:
Test Type: Steady State
Title: 60 Minute Stability
Number: NA
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: FPSS

Final Conditions: FPSS

Test Duration: 1 hour

Procedures Used: None

Baseline Data: NA

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Scheduled: 1/92-6/92
Date Tested: 4/24/92
Test Performed By (Initials): KT
Signature:
Test Type: Steady State
Title: Value Comparison
Number: NA
Severity Option: NA
Malfunctions Tested: NA

Initial Conditions: 30%,50%,100%, Steady State

Final Conditions: Same

Test Duration: NA

Procedures Used: None

Baseline Data: Plant Operating Values

Deficiencies: SCR #(91-167) Some MCB values are inconsistent with plant values.

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/22/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Manual Reactor Trip
Number: 1
Severity Option: NA
Malfunctions Tested: #156-Inadvertent Reactor Trip

Initial Conditions: FPSS

Final Conditions: Reactor Tripped

Test Duration: 30 Minutes

Procedures Used: None

Baseline Data: Plant Trip Data

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/22/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Trip of Both MFW Pumps
Number: 2
Severity Option: NA
Malfunctions Tested: #14-Trip of Both MFW Pumps

Initial Conditions: FPSS

Final Conditions: Reactor Tripped, EFW Feeding SG's

Test Duration: 30 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/22/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Simultaneous Closure Of All MSIV's
Number: 3
Severity Option: NA
Malfunctions Tested: #40-Simultaneous Closure Of All MSIV's

Initial Conditions: FPSS

Final Conditions: Reactor Tripped, RCS being cooled by Atmospheric Steam Dumps

Test Duration: 40 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/22/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Simultaneous Trip of All RCP's
Number: 4
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: FPSS

Final Conditions: Reactor Tripped, Natural Circulation Established

Test Duration: 60 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/22/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Trip of "A RCP
Number: 5
Severity Option: NA
Malfunctions Tested: #26 RCP "A" Overcurrent Trip

Initial Conditions: FPSS

Final Conditions: Reactor Tripped, Loop 1 at Tc

Test Duration: 60 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Main Turbine Trip
Number: 6
Severity Option: 0-100% 100%=18MILS
Malfunctions Tested: #122 High Turbine Vibration (@100%)

Initial Conditions: 18% <P9 Permissive

Final Conditions: Turbine Tripped, RX Power <1%, Steam Dumps in Service

Test Duration: 40 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Maximum Rate Power Ramp
Number: 7
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: FPSS

Final Conditions: ~95% Power,

Test Duration: 40 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Maximum RCS Rupture with Loss of Offsite Power
Number: 8
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: FPSS

Final Conditions: Core Partially Covered, Saturation Conditions. EDG's supplying emergency buses

Test Duration: 60 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Maximum Size Unisolable MS Line Rupture
Number: 9
Severity Option: 0-1=0-100% MS LIne Break
Malfunctions Tested: YAMSLK1 (MS Line Break SG D) @ .99

Initial Conditions: FPSS

Final Conditions: Rx Tripped, MS Isolated

Test Duration: 50 Minutes

Procedures Used: None

Baseline Data: Panel Of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Scheduled: 1/92-6/92
Date Tested: 4/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Slow Primary Depressurization
Number: 10
Severity Option: 0-100= 0-100% Pzr Safety Valve Open
Malfunctions Tested: #16 Pressurizer Safety Valve Leak

Initial Conditions: FPSS

Final Conditions: Core partially uncovered, Saturation Conditions

Test Duration: 90 Minutes

Procedures Used: None

Baseline Data: TMI Event Report

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/28/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #85 Back Pressure Reg Valve Fails Open (CS00I)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: PK-131(letdown flow control) in manual

Test Duration: 15 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/30/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #86 Back Pressure Reg Valve Fails Closed (CS002)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: PK-131(letdown flow control) in manual

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/30/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #87 Temp Control Valve TCV-129 Fails to VCT (CS$\phi\phi$3)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Boronmeter and Letdown Rad Monitor realigned

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (17) (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/30/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure in Automatic Control Systems that Effect Reactivity and Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #89 Auto Make up Controller Malfunctions (CS004)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Rapid Boration in Progress

Test Duration: 35 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (17)(18)
Date Scheduled: 1/92-6/92
Date Tested: 8/3/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure in Automatic Control Systems that Effect Reactivity and Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #90 Makeup Controller Fails in Borate Mode (CS005)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Boration stopped manually

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 8/3/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #91 High Level Divert Valve Fails in VCT Position (CS006)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: High VCT Level

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 8/3/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #92 High Level Divert Valve Fails to Return to VCT (CS007)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Low VCT Level

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 8/3/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #93 BTRS Dilute Mode Failure to VCT (CS$\phi\phi$8)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Dilute Flow to 0

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 8/4/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #94 Seal Flow Control Valve HCV-182 Fails Closed (CS$\phi\phi$9)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Charging Header Flow Low, LD HX Outlet Temp Hi

Test Duration: 20 Minutes

Procedures Used: OS1202.02 Loss of Charging

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 8/4/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: 0-100%=0-100gpm
Malfunctions Tested: #96 Auxiliary Spray Valve Fails Open @ 100% (CS01)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Pzr Pressure Low, Bu Htrs On

Test Duration: 20 Minutes

Procedures Used: OS1202.02 Loss of Charging

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/30/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: 0-100%=0-120
Malfunctions Tested: #88 Letdown Line Leak @ 100%
(CS412)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: VCT being refilled by makeup, Hi rad levels

Test Duration: 25 Minutes

Procedures Used: OS1201.02 RCS Leak
OS1202.01 Loss of Letdown

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 8/4/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: 0-100%=0-100gpm
Malfunctions Tested: #95 Charging Header Leak @ 100% Severity
(CS013)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Decreased Pzr Level, Seal Inj flow, VCT Level

Test Duration: 30 Minutes

Procedures Used: OS1202.02 Loss of Charging

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/28/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: 0-100%=0-100% loss of seal injection
Malfunctions Tested: #83 Loss of Seal Injection to all RCP's @ 50% and 100% (CS014)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Hi seal return temperature

Test Duration: 35 Minutes

Procedures Used: OS1003.03 Operation of Seal Water Injection Filters

Baseline Data: Seal Injection P&ID's

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (18)
Date Scheduled: 1/92-6/92
Date Tested: 7/28/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC Pressure and Volume Control System
Number: NA
Severity Option: None
Malfunctions Tested: #84 Letdown Isolation Valve Fails Closed (CS015)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: VCT level decreased, Pzr level decreasing

Test Duration: 55 Minutes

Procedures Used: OS1202.01 Loss of Letdown
CS1001.08 Pzr Relief Tank Operation

Baseline Data: CVS P&ID'S

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/92-6/92
Date Tested: 6/26/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #125 Automatic Voltage Regulator Failure (ED009)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Voltage Regulator in Manual

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (17)
Date Scheduled: 1/92-6/92
Date Tested: 6/25/92
Test Performed By (Initials): KT
Signature: Ken D. Thitwala.
Test Type: Malfunction
Title: Failure In Automatic Control System That Effect Reactivity
Number: NA
Severity Option: None
Malfunctions Tested: #123 Loss Of Automatic Load Control Unit (EHCØØ1)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Same

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (23)
Date Scheduled: 1/92-6/92
Date Tested: 6/25/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Passive Malfunction
Number: NA
Severity Option: None
Malfunctions Tested: #124 Loss Of Automatic Speed Control Unit (EHCØØ2)

Initial Conditions: 17%, MOL,

Final Conditions: Same

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (17)
Date Scheduled: 1/92-6/92
Date Tested: 7/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure in Automatic Control systems That effect Reactivity and Core Heat Removal
Number: NA
Severity Option: None
Malfunctions Tested: #130 Partial Load Rejection (EHC043)

Initial Conditions: 100%,MOL Staedy State

Final Conditions: Rx Trip on Hi Pzr pressure

Test Duration: 40 Minutes

Procedures Used: None

Baseline Data: Seabrook Station FSAR
Seabrook Station Startup Test Report (ST-35)

Deficiencies: SCR #92-201 Reactor Tripped on Hi Pressurizer Pressure

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92
Date Tested: 6/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal FW System Failure
Number: 43
Severity Option: NA
Malfunctions Tested: #43 Ex Steam Valve to HPFW Htr 26B Closes (EX009)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Co Pump C Started, Decreased Tave, Increased Rx Power

Test Duration: 40 Minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

1 **SIMULATOR CERTIFICATION TEST ABSTRACT**

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal FW System Failure
Number: 14
Severity Option: NA
Malfunction Tested: #14 Simultaneous Trip of Both MFW Pumps
(FW436)

Initial Conditions: 100%, MOL, Staedy State

Final Conditions: Reactor Tripped, EFW feeding S/G's

Test Duration: 30 Minutes

Procedures Used: E-0 Reactor Trip or Safety Injection

Baseline Data: Panel of Experts

Deficiencies: SCR#92-72 MFP Coastdown Times Too Long
SCR#92-97 MFP Control Valves Not Going Closed On Pump Trip

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original Schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal FW System Failure
Number: NA
Severity Option: NA
Malfunctions Tested: #41 FWRV To "A" SG Fails Open
(FW037)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Reactor Tripped, SG A High Level

Test Duration: 30 Minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal FW System Failure
Number: 42
Severity Option: NA
Malfunctions Tested: #42 Loss of MFWP "A"
(FW038)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Reactor Tripped, Low SG Level

Test Duration: 20 Minutes

Procedures Used: OS1231.03 Turbine Runback/Setback

Baseline Data: Panel of Experts

Deficiencies: SCR#92-72 MFP Coastdown Times Too Long
SCR#92-97 MFP Control Valves Not Going Closed On Pump Trip

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal Fw System Failure
Number: NA
Severity Option: NA
Malfunctions Tested: #56 Loss of SUFP
#14 Simultaneous Trip of Both MFW Pumps
(FW039)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Reactor Tripped, Emergency FW Feeding S/G's

Test Duration: 40 Minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: The trip/lockout alarm will activate if SUFP is not running. This will alert the operator to the impending malfunction. This is noted in the Cause and Effect. Also, an enhancement request SCR #89-179 has been initiated to add an additional malfunction which will not activate the lockout alarm.

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal FW System Failure
Number: NA
Severity Option: None
Malfunctions Tested: #152 Loss of Normal Feedwater
(FW04Ø)

Initial Conditions: 100%,MOL Staedy State

Final Conditions: Rx Trippped, EFW Feeding S/G's

Test Duration: 45 Minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #158 Total Loss of EFW (FW041)
#152 Los of Normal FW

Initial Conditions: 100%,MOL Steady State

Final Conditions: Rx Tripped, SG's Boiled Dry

Test Duration: 20 Minutes

Procedures Used: E-0 Rx Trip or SI
FR-h.1 Response to Loss of Secondary Heat Sink

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: * This is a change to the 4 year test schedule.
Original schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92 *
Date Tested: 6/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal Fw System Failure
Number: NA
Severity Option: NA
Malfunctions Tested: #62 Failure of Seal Water to MFW Pump "A" (FW042)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Same as Initial Condition

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: GE Vendor Manual

Deficiencies: SCR #87-56, No temperature changes observed

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/91-6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2
Date Scheduled: 1/92-6/92
Date Tested: 8/15/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #154 Loss of Stator Cooling
(GS04A1)

Initial Conditions: 100%,MOL Staedy State

Final Conditions: Turbine runback to ~25%, Tave/Tref Deviation

Test Duration: 20 Minutes

Procedures Used: OS-1231.03 Turbine Runback

Baseline Data: Stator Cooling System P&ID's

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Scheduled: 1/92-6/92
Date Tested: 7/13/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #185 Generator sattor Cooling Pump P-60A Trip (GS~~ΦΦ1~~Φ2)
#186 Generator Stator Cooling Pump P-60B Trip (GSΦΦ3)
Initial Conditions: 100%,MOL Steady State

Final Conditions: Turbine Runback to ~25%

Test Duration: 20 Minutes

Procedures Used: OS1231.03 Turbine Runback/Setback

Baseline Data: Stator Cooling P&ID's and Logic Diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92
Date Tested: 6/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal Fw System Failure
Number: 46
Severity Option: NA
Malfunctions Tested: #46 Loss of HD Pump "A"
(HD ϕ27)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Co Pump C Started, Rx Trip on Hi Pzr Pressure

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: 1) Plant response differs from Cause & effect Description due to BOP upgrade work. C&E requires update.
2) Malfuntion results in a module bomb (Exec1 Mod 10) ~8 minutes after activation. SCR# 92-265 submitted to correct problem.

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (9)
Date Scheduled: 1/92-6/92
Date Tested: 6/23/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Normal FW or Normal Fw System Failure
Number: 48
Severity Option: NA
Malfunctions Tested: #48 Loss of HD Pump "B"
(HD028)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Co Pump C Started, Rx tripped on Hi Pzr pressure.

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: 1) Plant response differs from description in Cause and Effects due to BOP upgrade work. C&E requires update.
2) Malfunction results in a module bomb (Exec 1 Mod 6) ~ 8 minutes after activation. SCR #92-266 has been submitted to correct this defeciency.

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/92-6/92
Date Tested: 7/13/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #127 Loss of EHC Supply Pump "A"
#128 Loss of EHC Supply Pump "B"
(HFØØ1) (HFØØ2)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Same

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: EHC Pump Logic Diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/92-6/92
Date Tested: 6/16/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: NA
Malfunction Tested: #40 Simultaneous Closure of All MSIV'S (MS040)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Reactor Tripped, SG's Isolated

Test Duration: 30 Minutes

Procedures Used: E-0 Reactor Trip or Safety Injection

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (22)
Scheduled: 1/92-6/92
Date Tested: 6/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Process Instrumentation, Alarms and Control System Failures
Number: NA
Severity Option: None
Malfunctions Tested: #165 MS Line "A" Stm Flow Channel 1 Fails High (MS043)

Initial Conditions: 100%,BOL Steady State

Final Conditions: SG Level Increased

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: MS System P#ID's and Logic diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (22)
Scheduled: 1/92-6/92
Date Tested: 6/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Process Instrumentation, Alarms and Control System Failures
Number: NA
Severity Option: None
Malfunctions Tested: #166 MS Line "A" Stm Flow Channel 1 Fails Low (MS044)

Initial Conditions: 100%,BOL Steady State

Final Conditions: Rx Tripped on SG Lo-Lo Level

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: MS System P#ID's and Logic diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (22)
Scheduled: 1/92-6/92
Date Tested: 6/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Process Instrumentation, Alarms and Control System Failures
Number: NA
Severity Option: 0-100%=0-1500PSIG
Malfunctions Tested: #178 MS Pressure Transmitter "A" Failure @ 100% (MS045)

Initial Conditions: 100%,BOL Steady State

Final Conditions: Same

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: MS System P#ID's and Logic diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (22)
Scheduled: 1/92-6/92
Date Tested: 6/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Process Instrumentation, Alarms and Control System Failures
Number: NA
Severity Option: 0-100%=0-1500PSIG
Malfunctions Tested: #179 MS Pressure Transmitter "B" Failure @ 100% (MS046)

Initial Conditions: 100%,BOL Steady State

Final Conditions: Same

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: MS System P#ID's and Logic diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (22)
Scheduled: 1/92-6/92
Date Tested: 6/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Process Instrumentation, Alarms and Control System Failures
Number: NA
Severity Option: 0-100%=0-1500PSIG
Malfunctions Tested: #180 MS Pressure Transmitter "C" Failure @ 100% (MS047)

Initial Conditions: 100%,BOL Steady State

Final Conditions: Same

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: MS System P#ID's and Logic diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (22)
Scheduled: 1/92-6/92
Date Tested: 6/17/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Process Instrumentation, Alarms and Control System Failures
Number: NA
Severity Option: 0-100%=0-1500PSIG
Malfunctions Tested: #181 MS Pressure Transmitter "D" Failure @ 100% (MS048)

Initial Conditions: 100%,BOL Steady State

Final Conditions: Same

Test Duration: 25 Minutes

Procedures Used: None

Baseline Data: MS System P#ID's and Logic diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/92-6/92
Date Tested: 6/26/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #126 Main Generator Seal Oil System Failure
(SO441)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Decreased H2 Pressure

Test Duration: 30 Minutes

Procedures Used: ON1031.02 Starting and Phasing The Turbine Generator
ON1039.04 Startup and Shutdown of the Shaft Seal Oil System

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/92-6/92
Date Tested: 7/13/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #129 Main Turning Gear Trip
(TH$\Phi\Phi$1)

Initial Conditions: 4%,BOL, Turbine on TG

Final Conditions: Turbine Turning Gear Trip

Test Duration: 20 Minutes

Procedures Used: None

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (15)
Date Scheduled: 1/92-6/92
Date Tested: 6/25/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Turbine Trip
Number: NA
Severity Option: 0-100%=0-18 MILS
Malfunctions Tested: #122 High Turbine Vibration @ 100 % (THØØ2)

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Turbine/Rx Tripped

Test Duration: 20 Minutes

Procedures Used: OS1231.01 Turbine Generator High Vibration

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2 (16)
Scheduled: 1/92-6/92
Date Tested: 7/13/92
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Generator trip
Number: NA
Severity Option: None
Malfunctions Tested: #187 Turbine Generator Breaker Trip
(TMØØ1)

Initial Conditions: 100%,MOL Steady State

Final Conditions: Reactor Trip/Turbine Trip

Test Duration: 20 Minutes

Procedures Used: ON1231.03 Turbine Trip

Baseline Data: GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: NT-3732
Cerification Procedure Number: Simulator Hardware Comparison
ANSI/ANS-3.5 Section: 3.2
Date Scheduled: 06/91 - 12/91
Date Tested: 01/31/92
Test Performed By(Initials): CS
Signature: CSwinton
Test Type: NA
Title: NA
Number: NA
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: NA

Final Conditions: NA

Test Duration: NA

Procedures Used: NA

Baseline Data: Plant photographs taken December 1991

Deficiencies: Attached. SCR 92-032

Exceptions: None

Comments: None

RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
1	HR A Rev 2 11/12/91 3	Blank Plate	—	One big rectangle	1 small rectangle and 2 circles
2	HR B Rev 2 11/12/91 3	FW-FR-4214	Scales	0-300	0-600
3	HR B Rev 2 11/12/91 3	Gen Shaft Voltage Mon	Manufacturers label	Manufacturers label missing	
4	HR B Rev 2 11/12/91 4	FW-FR-4224	Scales	0-300	0-600
5	HR C Rev 2 11/12/91 1	Operator Aid - Fire Panel		Missing	
6	IR overall	Door		1 handle on left	2 handles on right
7	IR B Rev 2 11/12/91 1	Turbine Gen Recorder		No point ID label	Point ID label on right
8	IR C Rev 2 11/12/91 1	Turbine Gen Vibration Recorder		"	"
9	IR overall	Multipoint Recorder Operation Manual		None	Hanging next to recorders
10	GR A Rev 2 11/12/91 1	Recombiner A		1. None 2. Single Panel	1. Nametag upper left 2. Separate panels
11	GR A Rev 2 11/12/91 3	Recombiner B		"	"
12	GR A Rev 2 11/12/91 4	Analyzer		3 screws on left and right sides	4 screws on left & right sides

Date 1/15/92 Initials CS Page 1 of 14

RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
13	CR A Rev 2 11/12/91 5	ANALYZER		3 screws on left and right sides	4 screws on left and right sides
14	CR B Rev 2 11/4/91 4	CS-LR-102	SCALE	Both gal 10^3	Both Kgal
15	CR-A 11/11/91 Rev 2 1	VG-50	LABEL	VG-V50 (AOV-FC) HYDROGANATED VENT HDR PRESS RELIEF	VG-V50 (AOV-FC) HYDROGENATED VENT HDR PRESS RELIEF
16	"	FAH-F-41 HTR	BLANK	NO BLANK	BLANK BETWEEN LIGHTS
17	CR-A Rev 2 11/11/91 2	CAH-FN-3A	LABEL	CAH-FN-3A CONTAINMENT RECIRC FAN 3A (P-START)	CAH-FN-3A CONTM RECIRC FAN 3A (P-START)
18	CR-A Rev 2 11/11/91 3	FAH-F-74	BLANK	NO BLANK	BLANK BETWEEN LIGHTS
19	"	CAH-FN-3B	LABEL	CAH-FN-3B CONTAINMENT RECIRC FAN 3B (P-START)	CAH-FN-3B CONTM RECIRC FAN 3B (P-START)
20	"	CAH-DP-34B	LABEL	CAH-DP-34B (AOV-FC) CONTM RECIRC DAMP VIA FLTR ("P" ISOL)	CAH-DP-34B (AOV-FC) CONTM RECIRC DAMP VIA FLTR (P-CLOSE)
21	CR-B Rev 2 11/11/91 3	PAH-DP-43B	SWITCH	NO RED DOT	RED DOT ON SWITCH
22	CR-C 11/11/91 Rev 2 1	FAH DP 13A	METER LABEL	FSB FAH-DP-13A POSITION FAH-21-5442	FSB FAH DP-13A POSITION FAH-21-5442
23	"	FAH-F-41	METER LABEL	FSB FAH-F41 HUMIDITY FAH-41-5436	FSB FAH-F-41 HUMIDITY FAH-41-5436
24	CR C Rev 2 11/11/91 3	FAH-F-74	SCALE	FONT ON UNITS SCALE IS DIFFERENT	

Date 1/16/92 Initials CS Page 2 of 14

RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
25	BR-A REV2 11/11/91 1	SI-V134	MIMIC	MIMIC BELOW SI-V134 IS DIFFERENT	
26	"	V50	MIMIC	N V50	N V50
27	BR-A REV2 11/11/91 2	MSD-V44	LABEL	MSD-V44 (MOV) MS DRAIN ISO VLV UPSTREAM OF MS-V86	MSD-V44 (MOV) EFW STM. UPSTREAM MS DRN (MSI-CLOSE)
28	"	MSD-V45	LABEL	MSD-V45 (MOV) MS DRAIN ISO VLV UPSTREAM OF MS-V88	MSD-V45 (MOV) EFW STM. UPSTREAM MS DRN (MSI-CLOSE)
29	"	MSD-V46	LABEL	MSD-V46 (MOV) MS DRAIN ISO VLV UPSTREAM OF MS-V90	MSD-V46 (MOV) EFW STM. UPSTREAM MS DRN (MSI-CLOSE)
30	"	MSD-V47	LABEL	MSD-V47 (MOV) MS DRAIN ISO VLV UPSTREAM OF MS-V92	MSD-V47 (MOV) EFW STM. UPSTREAM MS DRN (MSI-CLOSE)
31	"	MS-V127	SWITCH, LABEL & LIGHTS	INSTALLED	REMOVED, BLANKS INSTALLED
32	"	MS-V128	SWITCH, LABEL LIGHTS	INSTALLED	REMOVED, BLANKS INSTALLED
33	"	MS-V127, 128	DEMARCATION		REMOVED
34	BR-B REV2 11/11/91 1	SI-V112	LABEL	MISSING SCREW	
35	"	SI-V158	LABEL	SI-V158 (AOV-FC) TEST ISO FOR BIT CL 1/2/3/4 BU CHKS	SI-V158 (AOV-FC) TEST ISO FOR CL 1/2/3/4 BU CHKS
36	AF-A REV2 11/12/91 1	LAMP TEST	BUTTON	UL-1 TEST	UL-1 &

Date 1/20/92 Initials CS Page 3 of 14

RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
37	AF-C REV 2 11/18/91 1	RC-PI-405A-2	LABEL	RED DOT MISSING	
38	AF-C REV 2 11/18/91 2	CRT	BEZEL	BEZEL AROUND CRT CUTOUT	NO BEZEL
39	AF-E REV 2 11/18/91 2	ROWAN	E 10	CAH-FV-6574 RDMS-CONTM CLOSED	CAH FV 6574 RDMS-CONTM CLOSED
40	"	"	B 13	CAH-FN-3A RECIRC VENTL RUNNING	CAH FN 3A RECIRC VENTL RUNNING
41	BF overall	Radio Phone	Label	NO LABEL	LABEL IS ABOVE RADIOPHONE
42	BF-A REV 2 11/18/91 2	Blank	RH-P-8A	One large rectangular blank above RH-P-8A	3 small circular and one large rectangular blank above RH-P-8A
43	BF-A REV 2 11/18/91 #3	Blank	RH-P-8B	" RH-P-8B	" RH-P-8B
44	BF-B REV 2 11/18/91 3	LABEL	RH-FI-619	RED DOT MISSING	
45	BF-C REV 2 11/18/91 1	RECORDER	CBS-LR-2384	UNITS MISSING	
46	"	"	SI-PR-935	"	
47	BF-C REV 2 11/18/91 4	RECORDER	CBS-LR-2385	KGAL UNITS MISSING	
48	BF-D REV 2 11/18/91 3	LABEL	RC-TI-9424-B	SUB-COOLED MARGIN TEMP. TI-9424-B	SUB-COOLED MARGIN TEMP. RC-TI-9424-B

Date 1/24/92 Initials [illegible] Page 4 of 14

RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
49	BF-E REV 2 11/12/91 1	ROWAN	E-7	WLD-FV-8331 CONTM SUMP CLOSED	WLD-FV 8331 CONTM SUMP CLOSED
50	"	ROWAN	D-10	SS-FV-2857 RECIRC SUMP CLOSED	SS-FV 2857 RECIRC SUMP CLOSED
51	BF-E REV 2 11/12/91 2	ROWAN	E-18	FW-P-32B FW PMP TRIP	FW-P 32B FW AMP TRIP
52	CF-B REV 2 11/18/92 1	LABEL	CC-V341	PCCW-V341 (ADV-FC) PCCW ISO FROM LTDN HX (T-CLOSE)	CC-V341 (ADV-FC) PCCW ISO FROM LTDN HX (T-CLOSE)
53	"	"	CC-V426	PCCW-V426 (ADV-FC) PCCW ISO TO WPB (T-CLOSE)	CC-V426 (ADV-FC) PCCW ISO TO WPB (T-CLOSE)
54	CF-C REV 2 11/18/91 2	BANDING/METER	CC-PI0200	BANDED 100-120	BANDED 90-120
55	"	MIMIC	—	MIMIC GOES ~~OUT~~ ON TOP BLANK	MIMIC RUNS ABOVE BLANK
56	CF-D REV 2 11/18/91 1	LABEL	PCCW	LABEL IS WIDER ON SIMULATOR	
57	"	LABEL	UL-23	LABEL IS LOWER ON SIMULATOR	
58	CF-D REV 2 11/18/91 2	LABEL	PCCW	LABEL IS WIDER ON SIMULATOR	
59	CF-D REV 2 11/18/91 2	LABEL	UL-24	LABEL IS LOWER ON SIMULATOR	
60	DF-C REV 2 11/15/91 2	RECORDER	RC-PR-403	PSIG MISSING FROM UNITS	

Date 1/27/92 Initials CB Page 5 of 14

RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
61	DF-C RGU2 11/15/91 3	RECORDER	RC-PR-403	0-700 SCALE MISSING	
62	"	"	RC-PR-405	RC-PR-405 LABEL MISSING	
63	DF-D RGU2 11/15/91 4	METER	NI-31D	LETTERING ON SCALE IS LARGER	
64	"	"	NI-32D	"	
65	"	"	NI-35D	"	
66	"	"	NI-36D	"	
67	"	"	NI-31B	"	
68	"	"	NI-32B	"	
69	"	"	NI-35B	"	
70	"	"	NI-36B	"	
71	"	"	NI-41C	"	
72	"	"	NI-42C	"	

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
73	DF-D REV2 11/15/91 4	METER	N1-43C	LETTERING ON SCALE IS LARGER	
74	"	"	N1-44C	"	
75	"	"	N1-41B	"	
76	"	"	N1-42B	"	
77	"	"	N1-43B	"	
78	"	"	N1-44B	"	
79	"	"	N1-31D	RED DOT ON LEFT	RED DOT ON RIGHT
80	"	"	N1-41C	NO RED DOT	RED DOT ON RIGHT
81	"	"	N1-41B	"	"
82	"	"	N1-42C	NO WHITE DOT	WHITE DOT ON RIGHT
83	"	"	N1-42B	"	"
84	DF-D REV2 11/15/91 5	ROWAN	E-3	RC LOOP 3 FB 434 FLOW LOW	RC LOOP 3 FB-434 FLOW LOW

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
85	EF-A RGU2 11/18/91 2	KEYBOARD	YELLOW EXECUT KEY	NORMAL	ROTATED 90°
86	EF-A RGU2 11/18/91 5	FW-FK-4065 CONTROLLER	SCALE	INPUT SCALE DOES NOT MATCH PLANT	
87	"	"	"	SETPOINT SCALE DOES NOT MATCH PLANT	
88	EF-B RGU2 11/15/91	FW-P-32A	BEZEL	BEZEL IS BLACK	BEZEL IS PINK
89	"	FW-P-32B	"	"	"
90	EF-C RGU2 11/15/91 3	S/G A Level CHANNEL SELECTOR	LABEL	II I	II I
91	EF-C RGU2 11/15/91 4	S/G B LEVEL CHANNEL SELECTOR	"	"	"
92	"	S/G C LEVEL CHANNEL SELECTOR	"	"	"
93	EF-C RGU2 11/18/91 5	S/G D LEVEL CHANNEL SELECTOR	"	"	"
94	EF-A RGU2 11/18/91 1	MS-V129	MIMIC	NO MIMIC BETWEEN LIGHTS	
95	"	MS-V-395	LABEL	MS-V-395 (AOV-FO) MS TO EFW PUMP ITLK WITH V-394 OR V-393	MS-V-395 (AOV-FO) MS TO EFW PUMP ITLK WITH V-393/394
96	"	MS-V-127	"	MS-V-127 (AOV-FO) SG A MS TO EFW PUMP	MS-V127 SG A MS TO EMER FW PMP ISO

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
97	FF-A REV 2 11/18/91 1	MS-V128	LABEL	MS-V-128 (AOV-FO) SG B MS TO EFW PUMP	MS-V128 SG B MS TO EMER FW PMP ISO
98	"	FW-V163	BLANKS	TWO SQUARE BLANKS	TWO ROUND BLANKS
99	FF-A REV 2 11/18/91 2	RED STEAM DUMP INTERLOCK CONTROL	SWITCH HANDLE	HANDLE IS BLACK	HANDLE IS RED
100	"	WHITE STEAM DUMP INTERLOCK CONTROL	SWITCH HANDLE	HANDLE IS BLACK	HANDLE IS WHITE
101	"	WARMING RATE METER	METER SCALE	PERCENT WRITTEN ABOVE SCALE	PERCENT WRITTEN BELOW SCALE
102	FF-A REV 2 11/18/91 3	INTERMEDIATE PRESSURE METER	METER SCALE	PSIG IS WRITTEN ABOVE SCALE	PSIG IS WRITTEN BELOW SCALE
103	"	T.P.L. POSITION METER	METER SCALE	PERCENT IS WRITTEN ABOVE SCALE	PERCENT IS WRITTEN BELOW SCALE
104	FF-A REV 2 11/18/91 4	UL TEST	LENSE	UL-18 TEST	UL-18 UL-29 TEST
105	FF-A REV 2 11/18/91 5	AR-FV-5004-1	LABEL	BRASS SCREWS	SILVER SCREWS
106	"	AR-FV-5004-2	"	"	"
107	FF-B REV 2 11/15/91 3	THROTTLE STEAM PRESSURE METER	METER SCALE	PSIG ABOVE SCALE	PSIG BELOW SCALE
108	"	FIRST STAGE PRESSURE METER	METER SCALE	"	"

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
109	FFB RED 2 11/15/91 5	LD-P-57 (LEFT)	LABEL	BRASS SCREWS	SILVER SCREWS
110	"	" (RIGHT)	"	"	"
111	FFC RED 2 11/15/91 1	FW-PI-505	METER	WHITE DOT	RED DOT
112	FFC RED 2 11/15/91 3	VALVE POSITION LABEL		COMBINED INTERMEDIATE VALVES	COMBINED REHEAT VALVES
113	FFC RED 2 11/15/91 6	NET GENERATION MEGAWATT HOURS	LABEL	LABEL BELOW READOUT	LABEL ABOVE READOUT
114	"	STATION SERVICE MEGAWATT HOURS	"	"	"
115	"	GROSS GENERATOR OUTPUT MEGAWATT HOURS	"	"	"
116	FFC RED 2 11/15/91 7	HD-FI-4518	METER	NO ARROWS	ARROWS ON SCALE
117	"	HD-FI-4519	"	"	"
118	FFD RED 2 11/15/91 1	MD-LI-3202	METER	METER SCALE IS DIFFERENT	
119	"	" " 3212	"	"	
120	"	" " 3207	"	"	

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
121	FFD RW2 11/15/91 1	MD-LI-3217	METER	METER SCALE IS DIFFERENT	
122	FFD RW2 11/15/91 4	ED-VM-9918	METER SCALE	SCALE IS DIFFERENT	
123	"	ED-VM-9898	"	"	
124	FF-E RW2 11/15/91 2	VA-53		TWO SILVER SCREWS	TWO RED SCREWS
125	FFE RW2 11/15/91 3	CO-AM-4032	METER SCALE	SCALE FONT IS DIFFERENT	
126	GFA RW2 11/13/91 3	MIMIC	BELOW COOLING TOWER ACTUATION TRAIN B SWITCH	MIMIC IS DIFFERENT	
127	"	SW-V25	LABEL	FONT IS DIFFERENT	
128	"	SW-P-41B	"	"	
129	"	SW-P-41D	"	"	
130	"	SW-P-110B	"	"	
131	"	SW-V27	"	"	
132	"	SW-V26	"	"	

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
133	GF A REV 2 11/18/91 3	SW-FN-51B	LABEL	FONT IS DIFFERENT	
134	"	2-SW-FN-51B	"	"	
135	"	LEFT CONTROL POWER AVAIL	"	"	
136	"	RIGHT "	"	"	
137	GF B REV 2 11/14/91 1	CLGTWR TRAIN A	LABEL	CLG TWR TRAIN A (TA - RESET)	CLGTWR TRAIN A (TA - RESET)
138	GF B REV 2 11/14/91 3	CLGTWR TRAIN B	LABEL	CLG TWR TRAIN B (TA - RESET)	CLGTWR TRAIN B (TA - RESET)
139	GF C REV 2 11/14/91 1	2-CW-TI-6074	"	DISCH STRUCT BACKWASH TEMP 2-CW-TI-6074-1 ↑	DISCH STRUCT BACKWASH TEMP 2-CW-TI-6074 ↑
140	GF-C REV 2 11/14/91 2	SW-FI-6181	SCALE	GPM FONT IS DIFFERENT	
141	GF-C REV 2 11/14/91 3	SW-FI-6191	"	"	
142	GF-D REV 2 11/14/91 2	UL-16 B2		SW-P-41A SW PUMP STOP	SW-P-41A SW PMP STOP
143	"	UL-16 B3		SW-P-41C SW PUMP STOP	SW-P-41C SW PMP STOP
144	HF-B REV 2 11/14/91 3	BUS 17	LABEL M BUS 17	FONT IS DIFFERENT	

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
145	HF-B REV 2 11/14/91 3	BUS 17	BLANKS	SQUARE BLANKS (3)	NO BLANKS
146	"	PAH-AC-86A,B	LABEL	FONT IS DIFFERENT	
147	HF-C REV 2 11/14/91 1	EDE-VM-9708	LABEL		NO LABEL
148	CP295 REV 2 11/14/91 1	RED PHONE		NO LIGHT	SMALL LIGHT (?) ON RED PHONE
149	"	WHITE PHONE		NO LABELS	LABELS ON WHITE PHONE
150		BACK CONSOLE	BOOKSHELF	NO BOOKSHELF	BOOKSHELF UNDER DESK
151		BACK CONSOLE	LABEL	SYSTEM LINE UPS	NO LABEL
152		"	"	"	"
153		"	LABEL	INDEPENDENT VERIFICATION	SAFEGUARDS CABINET
154		"	"	"	"
155		"	CHAIN	NO CHAIN	CHAIN BETWEEN DRAWERS
156	CP180A REV 2 11/13/91 3	1-RK-6527-A	PUSHBUTTON	☐	GAS

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RECORD OF HARDWARE DIFFERENCES

ITEM No.	PHOTO ID No.	Instrument or Component	Specific Item (i.e., scale, spacing bezel, label, etc.)	Description (Simulator)	Description (Plant)
157	CP1308 REV2 11/13/91 3	1-RK-6527-B	PUSHBUTTON	[ ]	[GAS]
158	NI overall	1-NI-CP-0016	LABEL	NONE	1-NI-CP-0016
159	"	WESTINGHOUSE	"	NONE	WESTINGHOUSE
160		PRIMARY DESK			PLASTIC PIECE ON FLOOR
161		UNIT'S DESK			"
162		SECONDARY DESK			"
163		PRIMARY DESK		NO IN/OUT BASKET	
164		UNIT'S DESK		"	
165		SECONDARY DESK		"	
166		STA KEYBOARD		NO [EXECUT] KEY	
167		"		NO [CANCEL] KEY	
168		"		NO [VERIFY] KEY	

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SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Instructor Interface
Certification Procedure Number: NT-3733
ANSI/ANS-3.5 Section: 3.4
Date Scheduled: 1/91 - 6/91
Date Tested: 4/30/91
Test Performed By (Initials): KT
Signature:
Test Type: NA
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: None

Initial Conditions: NA

Final Conditions: NA

Test Duration: ~~8 hours~~ KT NA

Procedures Used: None

Baseline Data: NA

Deficiencies: Some FSAR malfunctions are not simulated (see comments)
3 ANSI required malfunctions not simulated (see comments)

Exceptions: Some FSAR malfunctions are considered not appropriate for training (see comments)

Comments: See comments on following page

CERTIFICATION TEST 4/91
Malfunctions NT-3733

FSAR/ANSI-ANS 3.5 Required Malfunctions

The following deficiencies did not meet the acceptance criteria of section 3.4.2 of certification test NT-3733 conducted on 4/30/91.

The following FSAR analyzed transients are not simulated;

1. Uncontrolled rod cluster control assembly bank withdrawal from a subcritical or low power startup condition. FSAR section 15.0.1.2(k). SCR # 90-104.

2. Waste gas system faiulure. FSAR section 15.0.1.3(f). SCR# 90-105.

3. Reactor Coolant Pump Shaft Break. FSAR section 15.0.1.4(d) SCR# 90-186.

4. Radioactive liquid tank failure. FSAR section 15.0.1.3 (h). SCR#90-185.

The following FSAR required malfunctions are not simulated. They have been determined by the SRC to be not appropriate for simulator training or training could be achieved through other means. They are exceptions to ANSI/ANS-3.5:

1. Inadvertent loading and operation of a fuel assembly in an improper position. FSAR section 15.0.1.3(d).

2. Spent fuel cask drop accidents. FSAR section 15.0.1.3(i).

3. Fuel handling accidents. FSAR section 15.0.1.4(g).

4. Control Rod Misalignment,dropped full length RCCA. FSAR section 15.0.1.2(m)

5. Control Rod Misalignment, single RCCA withdrawal at power. FSAR Section 15.0.1.3(c).

6. Start of an Inactive RCP at Power. FSAR section 15.0.1.2(h)

The following deficiencies did not meet the acceptance criteria of section 3.4.4 (ANSI/ANS-3.5 required malfunctions).

1. **Loss of Instument Air** to the extent that the whole system or individual headers can lose pressure and affect the plant's static or dynamic performance. ANSI/ANS-3.5 section 3.1.2(2). SCR#90-100.

2. **Control Rod Failures** including uncoupled rods. ANSI/ANS-3.5 section 3.1.2(12). SCR#90-101.

3. **Generator Trip**. ANSI/ANS-3.5 section 3.1.2(16). SCR# 90-102.

4. **Main FW line Break** outside containment. ANSI/ANS-3.5 section 3.1.2(20). SCR# 90-103.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Computer Test
Certification Procedure Number: NT-3735
ANSI/ANS-3.5 Section: A3.1
Date Scheduled: 1/91 - 6/91
Date Tested: 1/14/91
Test Performed By (Initials): M.B.
Signature: Marlin P. Bayh

Test Type: NA
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested:
- #13 - Failure of SSPS to Trip the Reactor
- #21 - RCS RTD Manifold Leak @ 50% Severity
- #134 - Failure of Turbine Auto Trip

Initial Conditions: 100%, BOL, Steady State

Final Conditions: Various

Test Duration: 4 hours

Procedures Used: None

Baseline Data: NA

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Computer Test
Certification Procedure Number: NT-3735
ANSI/ANS-3.5 Section: A3.1
Date Scheduled: 6/91 - 12/91
Date Tested: 7/29/91
Test Performed By (Initials): KT
Signature: [illegible]

Test Type: NA
Title: NA
Number: NA
Severity Option: None
Malfunctions Tested: #13 - Failure of SSPS to Trip the Reactor
#21 - RCS RTD Manifold Leak @ 50% Severity
#134 - Failure of Turbine Auto Trip

Initial Conditions: 100%, MOL, Steady State

Final Conditions: Various

Test Duration: 4 hours

Procedures Used: None

Baseline Data: NA

Deficiencies: (SCR #91-162) MET consumes too much CPU time when load center 3 is deenergized

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(8)
Date Scheduled: 6/91 - 12/91*
Date Tested: 12/05/91
Test Performed By (Initials): KT
Signature:
Test Type: Normal Operations
Title: Plant shutdown and cooldown
Number: NA
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: 100%, Steady state, MOL

Final Conditions: Plant shutdown, on RHR

Test Duration: 16 hours

Procedures Used: See Attachment NT-3737 (12/05/91)

Baseline Data: Seabrook Station Shutdown Results

Deficiencies: (~~later~~) ATTACHED

Exceptions: (later)

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93

Attachment NT3737 (12/05/91)

Procedures used:

OS1000.03	Plant Shutdown From Minimum Load To Hot Standby
OS1000.06	Power Decrease
ON1031.03	Turbine Generator Shutdown
ON1034.03	Condensate System Operation
ON1035.11	Main Feed Pump Return To Standby And Shutdown
ON1035.02	Startup Feed Pump Operation
ON1040.04	Operation Of The Heater Drain Pumps
ON1030.03	Moisture Separator/Reheater Operation
ON1035.06	Auxiliary Steam To 26A And 26B Heaters
OS1000.04	Plant Cooldown From Hot Standby To Cold Shutdown
OS1008.01	Chemical And Volume Control System Makeup Operations
OS1013.04	Residual Heat Removal Train B Startup And Operation
OS1001.05	Reactor Coolant Pump Operation
OS1013.05	Residual Heat Removal Train A Shutdown
OS1006.04	Operation Of Containment Spray System

OS1000.06- Power Decrease

Step	Procedure
7.1.1& 7.4	Bypass/place in operation the loose parts monitor.(Already reviewed and accepted).
7.2.4.4	Place the yard steam drain traps in service by opening the following valves, MSD-V215/221/227/233.

OS1000.04- Plant Cooldown

Step	Procedure
7.2.6	Throttle RMW-V34, boric acid blender isolation. Verify closed & locked RMW-V36 charging pump suction isolation.

OS1000.03- Plant Shutdown From Minimum Load to Hot Standby

Step	Procedure
7.3.3	Open MS upstream drain header orifice bypass valves and trap bypass valves.
7.5	Align FW heater startup vents per ON1040.01, HD & FW Htr Vent Operation.

ON1031.03- Turbine Generator Shutdown

Step	Procedure
6.1.14.2	Locally verify turbine is on turning gear.
6.1.14.4	At CP-41, place HGG-v8036, purity meter 3 way vent control switch to vent open.
6.1.14.5	Throttle HGG-V8016, purity meter outlet vent to establish 1 SCFH sample flow.
6.1.14.6	Close HGG-V8015, purity meter outlet isolation to generator.

ON1035.11- MFP Return to Standby and Shutdown

Step	Procedure
6.1.8	When turbine speed decreases to 5 rpm, verify that the turning gear starts and engages.

OS1035.02- SFP Operation

Step	Procedure
6.1.2	Verify valves locked open. CO-V152, SFP suction isolation, & FW-V109, SFP recirc line isolation.
6.1.6a/7a	Open/close FW-V465, FW-V100 bypass.

ON1040.04- Operation of HDP's

Step	Procedure
6.3.2a/~~A~~ 6.4.2A	Throttle CO-~~V51~~ V465, A/B HDP seal bypass to establish seal supply pressure 50 psi greater than HD-P-31A/B suction pressure as read on CO-PI-4522-1/2 and HD-PI-4514/4515 respectively.
6.3.3	Place digital level controller for HD-LV-4508A in Auto.

ON1030.03- MSR Operation

Step	Procedure
6.7.2	MD-V61/62/63/64, MSR B/D/A/C scavenging line drainto condenser.
6.7.3	MD-V16/31, MSR A&C/B&D scavenging line to FW-E-26A/B.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions Test
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Date Scheduled: 4/91 - 6/91
Date Tested: 6/19/91
Test Performed By (Initials): KT
Signature:
Test Type: Surveillance
Title: DG 1A 18 Month Operability & Engineered Safeguards Pump & Valve Response Time Test
Number: EX1804.001
Severity Option: None
Malfunctions Tested: None

Initial Conditions: Mode 5, on RHR, 145°F, 155 psig

Final Conditions: Mode 5, on RHR, All Safeguard Actuations Reset

Test Duration: 12 hours

Procedures Used: EX1804.001

Baseline Data: None

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions Test
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Date Scheduled: 4/91 - 6/91
Date Tested: 6/18/91
Test Performed By (Initials): KT
Signature:
Ken E. Thielsen
Test Type: Surveillance
Title: 18 Month ECCS Auto Valve Actuation Verification
Number: EX1804.027
Severity Option: None
Malfunctions Tested: None

Initial Conditions: Mode 5, on RHR, 145°F, 155 psig

Final Conditions: Mode 5, ECCS Auto Valve Actuation Signals Reset

Test Duration: 4 hours

Procedures Used: EX1804.027

Baseline Data: None

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions Test
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Date Scheduled: 1/91 - 3/91
Date Tested: 6/18/91
Test Performed By (Initials): KT
Signature:
Kevin S. Thielsen
Test Type: Surveillance
Title: Cont. Ventilation/Phase A Isolation from A Manual SI
Number: EX1804.025
Severity Option: None
Malfunctions Tested: None

Initial Conditions: Mode 5, on RHR, 145°F, 155 psig

Final Conditions: Mode 5, with 'S' Signal, Phase 'A' & Cont. Ventilation Isolation Signals Reset

Test Duration: 4 hours

Procedures Used: EX1804.025

Baseline Data: None

Deficiencies: (SCR #91-148) RC-FV-2832, NGV14, RCFV2836 and NGV13 did not close on manual cont. isolation

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Major Plant Evolutions Test
Certification Procedure Number: NT-3737
ANSI/ANS-3.5 Section: 3.1.1(10)
Date Scheduled: 1/91 - 3/91
Date Tested: 6/17/91
Test Performed By (Initials): KT
Signature:
Kevin S. Thibodeau
Test Type: Surveillance
Title: Auto/Manual SI, Phase A & B, CBS & CVI Actuation
Number: EX1804.024
Severity Option: None
Malfunctions Tested: None

Initial Conditions: Mode 5, on RHR, 145°F, 155 psig

Final Conditions: SI, CBS, CVI, Phase A & B Isolation, Reset

Test Duration: 8 hours

Procedures Used: EX1804.024

Baseline Data: None

Deficiencies: (SCR #91-148) RC-FV-2832, NGV14, RC FV2836, NGV13 did not close on manual cont. isolation

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Scheduled: 1/91-6/91
Date Tested: 6/17/91
Test Performed By (Initials): KT
Signature:
Test Type: Steady state
Title: 60 Minute Stability
Number: NA
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: FPSS

Final Conditions: Same

Test Duration: 60 Minutes

Procedures Used: None

Baseline Data: NA

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: 4.1
Scheduled: 1/91-6/91
Date Tested: 6/17/91
Test Performed By (Initials): KT
Signature:
Test Type: Steady state
Title: 30%,50%,100% Value Comparison
Number: NA
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: Various

Final Conditions: Various

Test Duration: NA

Procedures Used: None

Baseline Data: NA

Deficiencies: (SCR#91-167) Some MCB values are inconsistent with plant values.

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 7/31/91
Test Performed By (Initials): KT
Signature:
Ken J. Thelen
Test Type: Transient
Title: Manual Reactor Trip
Number: 1
Severity Option: NA
Malfunctions Tested: • #156 - Inadvertent Reactor Trip

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Reactor Tripped, XE↑

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: • Plant Trip Data

x **Deficiencies:** None

Exceptions: None

Comments: Training Load Acceptance Test

* NOTE: SECONDARY SIDE DATA FILE DID NOT COLLECT DATA PROPERLY SO PLOTS COULD NOT BE PRODUCED. PARAMETERS WERE OBSERVED AND APPEARED CORRECT.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Ken S. Thibodeau
Test Type: Transient
Title: Total Loss of Feedwater
Number: 2
Severity Option: NA
Malfunctions Tested: • #14 - Trip of both MFW Pumps

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped, S/G's Boiled Dry

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Kevin S. Thilodeau
Test Type: Transient
Title: Simultaneous Closure of all MSIV's
Number: 3
Severity Option: NA
Malfunctions Tested: • #40 - Simultaneous Closure of all MSIV's

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Reactor tripped, plant stabilized on atmospheric dump valves

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: • Panel of Experts
• Calloway Event

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Ken S. Thilocken
Test Type: Transient
Title: Simultaneous Trip of all RCP's
Number: 4
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx tripped, natural circulation established

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: • Plant Startup Test ST-22
• Panel of Experts

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Kenny G. Thielsen
Test Type: Transient
Title: Trip of Any Single RCP
Number: 5
Severity Option: NA
Malfunctions Tested: • #26 - RCP 'A' Overcurrent Trip

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx tripped, 3 loop flow conditions

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: Plant event on 7/3/91

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Main Turbine Trip
Number: 6
Severity Option: NA
Malfunctions Tested: • #122 - High Turbine Vibration @ 100%

Initial Conditions: 15%, BOL, 562°F, 2233 psig

Final Conditions: Turbine tripped, plant stabilizing

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None

* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: Maximum Rate Power Ramp
Number: 7
Severity Option: NA
Malfunctions Tested: None

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: 100%, plant stabilizing, XE↓

Test Duration: 1 hour

Procedures Used: None

Baseline Data: • Panel of Experts
• ST-35 Large Load Reduction
• ST-34 Load Swing Test

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Test Type: Transient
Title: RCS Rupture with Loss of Offsite Power
Number: 8
Severity Option: NA
Malfunctions Tested: #24 - RCS Cold Leg LOCA @ 100% Severity
#114 - Loss of Offsite Power

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx tripped, natural circulation, SI actuated, containment isolated, EFW actuated

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Ken S. Thibodeau
Test Type: Transient
Title: Unisolable Main Steam Line Rupture
Number: 9
Severity Option: NA
Malfunctions Tested: #37 - Main Steam Line 'B' Ruptured Inside Containment at 100%

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx tripped, containment isolated

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None
* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Annual Operability
Certification Procedure Number: NT-3738
ANSI/ANS-3.5 Section: B.2.2
Date Scheduled: NA
Date Tested: 8/1/91
Test Performed By (Initials): KT
Signature:
Test Type: Annual Operability
Title: Slow Primary Depressurization
Number: 10
Severity Option: NA
Malfunctions Tested: #16 - Pressurizer Safety Valve @ 30% Severity

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx tripped, PZR pressure ≈ 1000 psig, SAT margin ≈ ~4°F

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None

* SEE NOTE ON TEST #1

Exceptions: None

Comments: Training Load Acceptance Test

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(8), (18)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/13/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of CC to individual components
Number: 70 (CC ϕϕ1)
Severity Option: NA
Malfunctions Tested: #70 - Loss of PCCW to CVCS Letdown Heat Exchanger

Initial Conditions: 100%, BOL, Steady state

Final Conditions: High letdown temps
Demins Bypassed

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: P&IDs
CVCS Logic Diagram

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(8)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/13/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of CC to individual components
Number: 71 (CCØØ2)
Severity Option: NA
Malfunctions Tested: #71 - Loss of PCCW to Centrifugal charging pump 'A'

Initial Conditions: 100%, BOL, Steady state

Final Conditions: High temps on CCP 'A"

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: CVCS P&IDs
CCP Logic Diagram

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/13/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: 72 (CC ϕϕ 3)
Severity Option: NA
Malfunctions Tested: #72 - Loss of PCCW to BTRS Chiller Package

Initial Conditions: 100%, BOL, Steady State

Final Conditions: BTRS System temperature increasing

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: CVCS P&ID's

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(8)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/13/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of CC to individual Components
Number: 73 (CC044)
Severity Option: NA
Malfunctions Tested: #73 - Leak in 'A' PCCW Loop

Initial Conditions: 100%, BOL, Steady state

Final Conditions: PCCW, 'A' Surge tank empty. PCCW 'A' supplied components

Test Duration: 30 minutes

Procedures Used: OS1212.01 PCCW System Malfunction

Baseline Data: PCCW P&IDs

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/91.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(7)(8)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of CC to individual Components/Loss of shutdown cooling
Number: 74 (CC-ϕϕ5)
Severity Option: NA
Malfunctions Tested: #74 - Total loss of 'B' PCCW loop

Initial Conditions: 100%, MOL, Steady state, Equal. Xe

Final Conditions: Reactor Tripped, Hi temps on 'B' PCCW supplied components

Test Duration: 20 minutes

Procedures Used: OS1212.01 PCCW System Malfunction

Baseline Data: PCCW Pump Loops and Logics Diagram
P&IDs

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(8)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/18/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Component Cooling to individual Components
Number: 79 (CCΦΦ6)
Severity Option: 100% - 100% flow blockage
Malfunctions Tested: #79 - Loss of PCCW to the 'B' RHR heat exchanger

Initial Conditions: Mode 4, RHR Train 'B' in service

Final Conditions: RCS Temperature Constant

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: PCCW and RHR P&IDs

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: 80
ANSI/ANS-3.5 Section: 3.1.2(8)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/18/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Component Cooling to individual Components
Number: 80 (CCΦΦ7)
Severity Option: 100% - 100% Flow Blockage
Malfunctions Tested: #80 - Loss of PCCW to 'A' RHR Heat Exchanger

Initial Conditions: Mode 4, RHR Train 'A' in service

Final Conditions: RCS Temperature Constant

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: PCCW & RHR P&IDs

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(13)(17)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Inability to drive control rods/passive malfunctions
Number: 1 (CPØØ1)
Severity Option: None
Malfunctions Tested: #1-Failure of Manual Rod Control

Initial Conditions: 100%, MOL, Steady State, Equil. XE.

Final Conditions: 85%

Test Duration: 20 minutes

Procedures Used: OS1210.02 Failure of Manual Rod Control

Baseline Data: Rod Control Schematic Diagrams
Seabrook Station Rod Worth Curves

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(17)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure in automatic control systems that affect reactivity
Number: 2 (CPØØ2)
Severity Option: None
Malfunctions Tested: #2 - Auto Rod Control Fails in "In" Direction

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE.

Final Conditions: 85%

Test Duration: 20 minutes

Procedures Used: OS1210.03 Continuous Control Rod Insertion

Baseline Data: WCAP-10982

Deficiencies: Rod worth too high

Exceptions: None

Comments: Rod worth will be corrected when new core model is installed.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(17)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/15/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure in automatic control systems
Number: 3 (LPØØ3)
Severity Option: None
Malfunctions Tested: #3 - Auto Rod Control Fails in "Out" Direction

Initial Conditions: 46%, BOL, 570°F, 2[illegible] psig, Equil. XE

Final Conditions: 51%

Test Duration: 30 minutes

Procedures Used: OS1210.04 Continuous Rod Withdrawal

Baseline Data: WCAP-10982

Deficiencies: Rod worth too high

Exceptions: None

Comments: Rod worth will be corrected when new core model is installed.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/91 - 6/91
Date Tested: 5/16/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: 9 (CP004)
Severity Option: None
Malfunctions Tested: #9 - Rod Position Indication (DRPI) Failure for RCCA H6

Initial Conditions: 52%, MOL, 573%, 2242 psig, Equil. XE

Final Conditions: 52%

Test Duration: 10 minutes

Procedures Used: OS1210.07 RPI Malfunction

Baseline Data: RPI Loops & Logics

Deficiencies: SCR #90 -175; Add DRPI SEL Switch

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(17), (13), (23)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Ken S. Thielsen
Test Type: Malfunction
Title: Failure in automatic control systems/inability to drive control rods/passive malfunctions
Number: 10 (CPΦΦ5)
Severity Option: None
Malfunctions Tested: #10 - Loss of 125V DC Control Power

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: 100%

Test Duration: 20 minutes

Procedures Used: OS1210.02 Failure of Control Rod Bank to Move

Baseline Data: 125V DC Electrical Drawings

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: 168 (CPØØ16)
Severity Option: None
Malfunctions Tested: #168 - Rod Drive Motor Generator 'A' Breaker Trip
#169 - Rod Drive Motor Generator 'B' Breaker Trip

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped

Test Duration: 10 minutes

Procedures Used: OS1010.01 Rod Drive MG Set Operation

Baseline Data: Rod Drive System Logic Diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: 169 (CP047)
Severity Option: None
Malfunctions Tested: #169 - Rod Drive Motor Generator
#168 - Rod Drive Motor Generator

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped

Test Duration: 10 minutes

Procedures Used: OS1010.01 Rod Drive MG Set Operation

Baseline Data: Rod Drive System Logic Diagrams

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/15/91
Test Performed By (Initials): KT
Signature:
Henry S. Thilosdean
Test Type: Malfunction
Title: Control rod failure including rod drops
Number: 4 (CPØØ8)
Severity Option: None
Malfunctions Tested: #4 Dropped Rod: RCCA D8

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE.

Final Conditions: Reactor Tripped

Test Duration: 20 minutes

Procedures Used: E-0 - Rx Trip or SI
ES.0.1 - Rx Trip

Baseline Data: WCAP-10982

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/15/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Control rod failure including rod drops
Number: 5 (CP$\phi\phi$9)
Severity Option: None
Malfunctions Tested: #5 - Dropped Rod: RCCA F8

Initial Conditions: 46%, BOL, 570°F, 2242 psig, Equil. XE

Final Conditions: 37%

Test Duration: 30 minutes

Procedures Used: OS1210.05 Dropped Rod

Baseline Data: WCAP-10982

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/16/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Control rod failure including rod drops
Number: 6 (CP01D)
Severity Option: None
Malfunctions Tested: #6 - Dropped Rod: RCCA H2

Initial Conditions: 52%, MOL, 573°F, 2238 psig, 1 hour past peak XE

Final Conditions: 47%

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: WCAP-10982

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/16/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Control rod failure including rod drops
Number: 7 (CPΦ11)
Severity Option: None
Malfunctions Tested: #7 - RCCA's H2 & F8 Rod Drop

Initial Conditions: 52%, MOL, 573°F, 2242 psig, Equil. XE

Final Conditions: Reactor Tripped

Test Duration: 20 minutes

Procedures Used: E-0 Rx Trip or SI

Baseline Data: WCAP-10982

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/16/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Control rod failure including stuck rods and passive malfunctions
Number: 8 (CPØ12)
Severity Option: None
Malfunctions Tested: #8 - RCCA H8 Failure to Move on Demand

Initial Conditions: 52%, MOL, 573°F, 2242 psig, Equil. XE

Final Conditions: 58%

Test Duration: 20 minutes

Procedures Used: OS1210.06 Misaligned Rod(s)

Baseline Data: WCAP-10982

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1c)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of coolant, large and small RC breaks
Number: 23 (CPØ13)
Severity Option: None
Malfunctions Tested: #23 - RCCA Ell Rod Ejection (Rupture of Control Rod Housing)

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Reactor Tripped, SI Actuated, Containment Isolated

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Kevin J. Thibodeau
Test Type: Malfunction
Title: CR Failure including stuck rods/passive malfunctions
Number: 176 (CP414)
Severity Option: None
Malfunctions Tested: #176 - Stuck Rods; RCCA H10 and RCCA K8

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped, RCCA H10 & K8 still out

Test Duration: 10 minutes

Procedures Used: OS1210.06 Misaligned Rod

Baseline Data: • Rod Control Logic Diagrams
• Seabrook Station, Cycle 1, Rod Worth Curves

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(2)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Control Rod failure including stuck rods/passive malfunctions
Number: 177 (CP4.5)
Severity Option: None
Malfunctions Tested: #177 - Stuck Rod - RCCA D8

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped, RCCA D8 Out

Test Duration: 10 minutes

Procedures Used: OS1210.06 Misaligned Rod

Baseline Data: • Rod Control Logic Diagrams
• Seabrook Station, Cycle 1, Rod Worth Curves

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12), (23)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: CR Failure including stuck rods/passive malfunctions
Number: 182 (CP016)
Severity Option: None
Malfunctions Tested: #182 - Stuck Rod (RCCA D12)

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped, RCCA D12 Out

Test Duration: 10 minutes

Procedures Used: OS1210.06 Misaligned Rod

Baseline Data: • Rod Control Logic Diagrams
• Seabrook Station, Cycle 1, Rod Worth Curves

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12), (23)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: CR Failure including stuck rods/passive malfunctions
Number: 183 (CPØ17)
Severity Option: None
Malfunctions Tested: #183 - Stuck Rod (RCCA H3)

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped, RCCA H3 Stuck Out

Test Duration: 10 minutes

Procedures Used: OS1210.06 Misaligned Rod

Baseline Data:
- Rod Control Logic Diagrams
- Seabrook Station, Cycle 1, Rod Worth Curves

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1c)
Date Scheduled: 1/91 - 6/91
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Coolant
Number: 34 (CS011)
Severity Option: None
Malfunctions Tested: #34 - RCP 'C' Loss of Seal Water

Initial Conditions: 100%, BOL, Steady state

Final Conditions: Decrease in PZR level, high RCP 'C' temp & vibration

Test Duration: 20 minutes

Procedures Used: OS1201.01 RCP Malfunction

Baseline Data: RCP Tech Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(18)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/30/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Failure of RC pressure and volume control systems
Number: 18 (ED44 7)
Severity Option: None
Malfunctions Tested: #18 - Pressurizer Heater Control Failure

Initial Conditions: 100%, MOL, 558°F, 2238 psig, Equil. XE

Final Conditions: 100%

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: PZR Electrical Schematics
Westinghouse System Description

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)(8)
Date Scheduled: 1/91 - 6/91
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Forced core coolant/Loss of CC to individual components
Number: 30 (RCΦΦL)
Severity Option: None
Malfunctions Tested: #30 - RCP 'C' PCCW to oil cooler leakage

Initial Conditions: 100%, BOL, Steady state

Final Conditions: Plant Trip due to RCP overcurrent trip

Test Duration: 20 minutes

Procedures Used: OS1201.01 RCP Malfunction

Baseline Data: RCP Tech Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/10/91
Test Performed By (Initials): KT
Signature: [illegible]

Test Type: Malfunction
Title: Loss of forced coolant flow
Number: 26 (RCΦΦ2)
Severity Option: None
Malfunctions Tested: #26 - Reactor Coolant Pump 'A' Overcurrent Trip

Initial Conditions: 100%, MOL, 588°F, 2241 psig, Equil. XE

Final Conditions: Rx Tripped, Loop 1 Tave = T_c, S/G 'A' not steaming

Test Duration: 20 minutes

Procedures Used: E-0 Rx Trip or SI

Baseline Data:
- Plant Event on 7/3/91
- Start Up Test 1-ST-12

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)
Date Scheduled: 1/91 - 6/91
Date Tested: 12/10/91
Test Performed By (Initials): KT
Signature:
Ken S. Thalacker
Test Type: Malfunction
Title: Loss of forced coolant flow
Number: 27 (RCΦΦ3)
Severity Option: None
Malfunctions Tested: #27 - Reactor Coolant Pump 'D' Locked Rotor Trip

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE.

Final Conditions: Rx Tripped, Loop 4 Tave = T_c, S/G 'D' not steaming

Test Duration: 20 minutes

Procedures Used: E-0 Rx Trip or SI

Baseline Data:
- Plant event on 7/2/91
- Startup test 1-ST-12

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/10/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of forced coolant flow
Number: 28 (RCΦΦ4)
Severity Option: None
Malfunctions Tested: #28 - Reactor Coolant Pump 'C' Overcurrent Trip

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: Rx Tripped, Loop 3 Tave = T_c, S/G 'C' not steaming

Test Duration: 20 minutes

Procedures Used: E-0 Rx Trip or SI

Baseline Data:
- Plant event on 7/3/91
- Startup test 1-ST-12

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/10/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of forced reactor coolant flow
Number: 29 (RCΦΦ5)
Severity Option: None
Malfunctions Tested: #29 - Reactor Coolant Pump 'B' High Oil Temperature

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: 100%, RCP 'B' Vibration & Temp. Increasing

Test Duration: 30 minutes

Procedures Used: OS1201.01 - RCP Malfunction

Baseline Data: Westinghouse System Description

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(23)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/5/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Passive malfunctions
Number: 174 (RC012)
Severity Option: None
Malfunctions Tested: #174 - PORV 456A Fails Closed
#175 - PORV 456B Fails Closed
#13 - SSPS Fails to Trip Reactor

Initial Conditions: 100%, MOL, 588°F, 2241 psig, Equil. XE

Final Conditions: 100%, PZR Press. ≈ 2400 psig, PZR Safety Valve Cycling

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: • Seabrook Station PLS Document
• RCS P&ID's

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(23)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/5/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Passive malfunction
Number: 175 (RC013)
Severity Option: None
Malfunctions Tested: #175 - PORV 456B Fails Closed
#174 - PORV 456A Fails Closed
#13 - SSPS Fails to Trip the Reactor

Initial Conditions: 100%, MOL, 588°F, 2241 psig, Equil. XE

Final Conditions: 100%, PZR Press. ≈ 2400 psig, PZR Safety Valve Cycling

Test Duration: 30 minutes

Procedures Used: None

Baseline Data: • Seabrook Station PLS Document
• RCS P&ID's

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1d)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/23/91
Test Performed By (Initials): KT
Signature:
Kenneth S. Thilodeau
Test Type: Malfunction
Title: Loss of coolant including failure of safety and relief valves
Number: 16 (RC014)
Severity Option: 0-100% - 0-100% Full Open
Malfunctions Tested: #16 - Pressurizer Safety Valve RCV-116 Leakage @ 10% Severity

Initial Conditions: 50%, MOL, 573°F, 2242 psig, Equil. XE

Final Conditions: Plant Tripped, 1000 PSIG

Test Duration: 20 minutes

Procedures Used: E-0 Rx Trip or SI
E-1 Loss of Reactor or Secondary Coolant
ES-1.2 Post LOCA Cool Down & Depressurization

Baseline Data: Panel of Experts

Deficiencies: Loose parts monitoring panel not simulated

Exceptions: ANSI/ANS-3.5 Section 3.2.1 - Loose parts monitoring panel will not be simulated as per SRC mtg. minutes 89-01

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(18)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/23/91
Test Performed By (Initials): KT
Signature:
Kenn S. Thilodeau
Test Type: Malfunction
Title: Failure of RC pressure and volume control systems
Number: 17 (RC015)
Severity Option: 0-100% - 0-100% Open
Malfunctions Tested: #17 - Pressurizer spray valve PCV-455B fails open @ 100% severity

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: Reactor tripped, 1700 psig

Test Duration: 15 minutes

Procedures Used: E-0 Rx Trip or SI

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1), (4)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/10/91
Test Performed By (Initials): KT
Signature:
Ken S. Thibodeau
Test Type: Malfunction
Title: Loss of coolant/Loss of forced coolant flow
Number: 19 (RC016)
Severity Option: 0-100% - 0-100% Failed Seal
Malfunctions Tested: #19 - Failure of Reactor Coolant Pump 'D' #1 Seal @ 100% Severity

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: 100%

Test Duration: 20 minutes

Procedures Used: OS1201.01, RCP Malfunction

Baseline Data: FSAR

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2
Date Scheduled: 1/91 - 6/91
Date Tested: 6/10/91
Test Performed By (Initials): KT
Signature:
Ken S. Thielen
Test Type: Malfunction
Title: Loss of coolant/loss of forced coolant flow
Number: 20 (RCΦ17)
Severity Option: 0-100% - 0-100% Failed Seal
Malfunctions Tested: #20 - Failure of Reactor Coolant Pump 'D' #2 Seal @ 100% Severity

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: 100%

Test Duration: 20 minutes

Procedures Used: OS1201.01, RCP Malfunction

Baseline Data: FSAR

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1c)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/30/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of coolant, large and small RC breaks
Number: 21 (RCΦ13)
Severity Option: 0-100% = 0-10,000 GPM
Malfunctions Tested: #21 - Reactor Coolant System RTD Manifold Leak @ 10% Severity

Initial Conditions: 100%, BOL, 588°F, 2241 PSIG, Equil. XE

Final Conditions: Reactor Tripped, SI Activated

Test Duration: 20 minutes

Procedures Used: OS1202.02 RCS Leak
E-0 Reactor Trip or SI
E-1 Loss of Reactor or Secondary Coolant
ES-1.2 Post-Loca Cooldown & Depressurization

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(c)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/30/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of coolant, large and small RC breaks
Number: 22 (RC019)
Severity Option: 0-100% = 0-25 GPM
Malfunctions Tested: #22 - Reactor Vessel Flange Leak @ 100% Severity

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: 100%

Test Duration: 15 minutes

Procedures Used: OS1201.05 - Loss of Reactor Vessel Flange Seal

Baseline Data: Panel of Exp ts

Deficiencies: Procedure OS1201.05 requires operator to close RC-145 & 146, these are not simulated.

Exceptions: ANSI/ANS-3.5 Section 3.3.2 These valves will not be simulated as per SRC meeting #89-01.

Comments: Exception is justified because there is no control or indication for these valves on the MCB.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)
Date Scheduled: 1/91 - 6/91
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Forced Core Coolant
Number: 32 (RC024)
Severity Option: 100% - 30 MILS added to base vibration
Malfunctions Tested: #32 - RCP 'A' high vibration at 100% severity

Initial Conditions: 100%, BOL, Steady state

Final Conditions: High vibration & high temp on RCP 'A'

Test Duration: 20 minutes

Procedures Used: OS1201.01 RCP Malfunction

Baseline Data: RCP Tech Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)
Date Scheduled: 1/91 - 6/91
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of Forced Core Coolant
Number: 33 (ECØ21)
Severity Option: 100% = 30 MILS added to base vibration
Malfunctions Tested: #33 - RCP 'D' high vibration at 100% severity

Initial Conditions: 100%, BOL, Steady state

Final Conditions: High vibration & high temp on RCP 'D'

Test Duration: 20 minutes

Procedures Used: OS1201.01 RCP Malfunction

Baseline Data: RCP Tech Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: NA
Date Scheduled: 1/91 - 6/91
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: NA
Number: 78 (RCΦ22)
Severity Option: 100%, - 120 GPM Leak
Malfunctions Tested: #78 - RCP 'B' Thermal Barrier Leak to TBBCW @ 100% severity

Initial Conditions: 100%, BOL, Steady state

Final Conditions: RCP TBCCW Head tank level decreasing

Test Duration: 20 minutes

Procedures Used: OS1212.01 PCCW Malfunction

Baseline Data: RCP Tech Manual

Deficiencies: None

Exceptions: None

Comments:

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(4)(8)
Date Scheduled: 1/91 - 6/91
Date Tested: 11/14/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of forced core coolant
Number: 31 (RCØZ3)
Severity Option: 100% - 80
Malfunctions Tested: #80 - RCP 'A' oil reservoir leak at 100% severity

Initial Conditions: 100%, BOL, Steady state

Final Conditions: Plant tripped due to RCP 'A' overcurrent trip

Test Duration: 30 minutes

Procedures Used: OS1201.01 RCP Malfunction

Baseline Data: RCP Tech Manual

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/30/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of coolant
Number: 24 (RCΦ24)
Severity Option: 0-100% - 0% Leak - Double Ended Shear
Malfunctions Tested: #24 - Reactor Coolant System Cold Leg LOCA

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: Rx Tripped, SI Activated, Containment Isolated

Test Duration: 20 minutes

Procedures Used: E-0 Reactor Trip or Safety Injection
E-1 Loss of Reactor or Secondary Coolant
ES-1-3 Transfer to Cold Leg Recirculation
ES-1-4 Transfer to Hot Leg Recirc

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(14)
Date Scheduled: 1/91 - 6/91
Date Tested: 5/20/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Fuel Cladding Failure
Number: 11 (RC025)
Severity Option: 100% - % Failed Fuel
Malfunctions Tested: #11 - Failed Fuel Element @ 100% Severity

Initial Conditions: 100%, MOL, 588°F, 2238 psig, Equil. XE

Final Conditions: 100%, High RCS Activity

Test Duration: 30 minutes

Procedures Used: OS1202.05 - RCS High Activity

Baseline Data: FSAR

Deficiencies: C&E Procedure # Incorrect

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(8)
Date Scheduled: 6/91 - 12/91
Date Tested: 11/13/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of CC to individual components
Number: 68 (SCCØØ1)
Severity Option: NA
Malfunctions Tested: #68 - Loss of SCCW to turbine oil coolers

Initial Conditions: 100%, BOL, Steady state

Final Conditions: Increasing turbine oil temps and vibration

Test Duration: 20 minutes

Procedures Used: None

Baseline Data: P&ID's
GE Vendor Manual

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(12)
Date Scheduled: 1/91 - 6/91
Date Tested: 06/03/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of coolant, S/G leaks
Number: 25 (SG$\phi\phi$1)
Severity Option: 0-100% = 0-2000 GPM
Malfunctions Tested: #25 - Steam Generator Tube Rupture, S/G 'C' @ 10% Severity

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: PZR Level 40%, PZR Press. 2217 psig, S/G 'C' Level 59%

Test Duration: 10 minutes

Procedures Used: OS1227.02 S/G Tube Leak
E-0 Rx Trip or SI
E-3 S/G Tube Rupture

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1a)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/3/91
Test Performed By (Initials): KT
Signature:
Ken J. Thelander
Test Type: Malfunction
Title: Loss of coolant, S/G leaks
Number: 162 (SGØØ2)
Severity Option: 0-100% = 0-2000 GPM
Malfunctions Tested: #162 - Steam Generator Tube Rupture, SG 'A' @ 30% Severity

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: Rx tripped, SI actuated, EFW actuated, S/G 'A' isolated

Test Duration: 30 minutes

Procedures Used: E-0 Rx Trip or SI
E-3 S/G Tube Rupture

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1a)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/3/91
Test Performed By (Initials): KT
Signature:
Ken S. Thibodeau
Test Type: Malfunction
Title: Loss of coolant, S/G leaks
Number: 163 (S6443)
Severity Option: 0-100% = 0-2000 GPM
Malfunctions Tested: #163 - Steam Tube Rupture, SG 'B' @ 50%

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: Rx Tripped, SI actuated, EFW actuated, S/G 'B' isolated

Test Duration: 30 minutes

Procedures Used: E-0 Rx Trip or SI
E-3 S/G Tube Rupture

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(1a)
Date Scheduled: 1/91 - 6/91
Date Tested: 6/3/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of coolant, S/G leaks
Number: 164 (SG004)
Severity Option: None
Malfunctions Tested: #164 - Steam Generator Tube Rupture, S/G 'D' @ 100% Severity

Initial Conditions: 100%, BOL, 588°F, 2241 psig, Equil. XE

Final Conditions: Rx Tripped, SI Actuated, EFW Actuated, SG 'D' Isolated

Test Duration: 30 minutes

Procedures Used: E-0 Rx Trip or SI
E-3 S/G Tube Rupture

Baseline Data: Panel of Experts

Deficiencies: None

Exceptions: None

Comments: None

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(6)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/15/91
Test Performed By (Initials): KT
Signature:
Ken S. Thielsen
Test Type: Malfunction
Title: Loss of service water
Number: 75 (SW0001)
Severity Option: None
Malfunctions Tested: #75 - Loss of service water pump 'A'

Initial Conditions: 100%, BOL, Steady state, SW pumps 'A','B' in service

Final Conditions: SW pump 'A' tripped, SW pumps 'B' & 'C' in service

Test Duration: 10 minutes

Procedures Used: OS1216.01 Degraded ultimate heat sink

Baseline Data: SW P&IDs and logic diagrams

Deficiencies: SCR # 89-020 - Add modeling of SW pump & motor temps

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(6)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/15/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of service water cooling to individual components
Number: 76 (SW ϕϕ2)
Severity Option: None
Malfunctions Tested: #76 - Loss of service water to the 'B' PCCW heat exchanger

Initial Conditions: 100%, BOL, Steady state

Final Conditions: 'B' PCCW supplied component temperatures increasing

Test Duration: 20 minutes

Procedures Used: OS1216.01 - Degraded ultimate heat sink

Baseline Data: SW and PCCW P&IDs

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(6)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/15/91
Test Performed By (Initials): KT
Signature:
Kenn J. Thielen
Test Type: Malfunction
Title: Loss of service water cooling to individual components
Number: 77 (SW00 3)
Severity Option: None
Malfunctions Tested: #77 - Loss of service water to the 'A' PCCW heat exchanger

Initial Conditions: 100%, BOL, Steady state

Final Conditions: 'A' PCCW supplied component temperatures increasing

Test Duration: 20 minutes

Procedures Used: OS1216.01 Degraded ultimate heat sink

Baseline Data: SW & PCCW P&IDs

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(6)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/15/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of service water cooling to individual components
Number: 218 (SW004)
Severity Option: 100% - SW-V-16 100% Open
Malfunctions Tested: #218 - SW-V-16 Stem Separation at 10% severity

Initial Conditions: 100%, BOL, Steady state

Final Conditions: Post loss of offsite power, D/G 'A' high temperature

Test Duration: 15 minutes

Procedures Used: None

Baseline Data: D/G Tech Manual

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93

SIMULATOR CERTIFICATION TEST ABSTRACT

Certification Procedure Name: Malfunction Test
Certification Procedure Number: NT-3739
ANSI/ANS-3.5 Section: 3.1.2(6)
Date Scheduled: 6/91 - 12/91*
Date Tested: 11/15/91
Test Performed By (Initials): KT
Signature:
Test Type: Malfunction
Title: Loss of service water cooling to individual components
Number: 219 (SW045)
Severity Option: 100% - SW-V-18 100% Open
Malfunctions Tested: #219 - SW-V-18 Stem Separation

Initial Conditions: 100%, BOL, Steady state

Final Conditions: Post loss of offsite power, 'B' D/G high temperature

Test Duration: 15 minutes

Procedures Used: None

Baseline Data: D/G Tech Manual

Deficiencies: None

Exceptions: None

Comments: * This is a schedule change to the 4 year test plan. Original schedule 1/93 - 6/93.