

Nebraska Public Power District

COOPER NUCLEAR STATION
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NLS950189
November 16, 1995

Director, Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555-0001

Subject: Cooper Nuclear Station
Simulator Performance Test Plan Change
NRC Docket No. 50-298, DPR-46

Reference: NLS940121 dated December 12, 1994, John H. Mueller to the Director, Office of Nuclear Reactor Regulation, Cooper Nuclear Station Simulator Certification Report

Dear Sir/Madam:

The Nebraska Public Power District is submitting a change to the Cooper Nuclear Station (CNS) Simulator Performance Test Plan for 1995 through 1998. The revised test plan and NRC Form-474, Simulation Facility Certification, are submitted as required by 10CFR55.45.

A recent self assessment in CNS simulator support activities conducted by industry peers concluded that the CNS Simulator Performance Test Plan submitted in the reference letter did not take credit for generic malfunctions that produce similar effects. As a result of this self assessment, the number of malfunctions scheduled for testing in 1995 through 1998 has been reduced. A revised Performance Test Schedule for 1995 through 1998 is enclosed.

A comprehensive review of the exceptions taken to the ANSI/ANS-3.5-1985 Standard also concluded that several exceptions reported in the reference letter were interpretations to the standard and should not be considered as exceptions. As a result of this review, the number of exceptions to the standard were reduced. An update of the exceptions to the ANSI/ANS-3.5-1985 Standard is enclosed.

If you have any questions regarding this submittal, please contact my office.

Sincerely,

John H. Mueller
Site Manager

Enclosure

cc: Regional Administrator
USNRC - Region IV

NRC Resident Inspector
Cooper Nuclear Station

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9511270337 951116
PDR ADOCK 03000298
P PDR

Powerful Pride in Nebraska

ADDS

SIMULATION FACILITY CERTIFICATION

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

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

FACILITY Cooper Nuclear Station	DOCKET NUMBER 50- 298
LICENSEE Nebraska Public Power District	DATE 11/16/95

This is to certify that:

1. The above named facility licensee is using a simulation facility consisting solely of a plant-referenced simulator that meets the requirements of 10 CFR 55.45.
2. Documentation is available for NRC review in accordance with 10 CFR 55.45(b).
3. This simulation facility meets the guidance contained in ANSI/ANS 3.5, 1985, as endorsed by NRC Regulatory Guide 1.148.

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

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

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

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

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

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

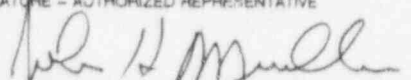
☒ PERFORMANCE TESTING PLAN CHANGE. (For any modification to a performance testing plan submitted on a previous certification.)

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

A recent self assessment of CNS Simulator support activities conducted by industry peers concluded that the CNS Simulator Performance Test Plan submitted to the NRC (NLS940121 dated December 12, 1994) did not take credit for generic malfunctions that produce similar effects. As a result of this self assessment, the number of malfunctions scheduled for testing in 1995 through 1998 has been reduced. Refer to Nebraska Public Power District letter NLS950189 dated November 16, 1995, John H. Mueller to Director, Office of Nuclear Reactor Regulation, CNS Simulator Performance Test Plan Change, enclosure.

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

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

SIGNATURE - AUTHORIZED REPRESENTATIVE 	TITLE Site Manager	DATE 11/16/95
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In accordance with 10 CFR 55.5, Communications, this form shall be submitted to the NRC as follows:

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

BY DELIVERY IN PERSON
TO THE NRC OFFICE AT:

ONE WHITE FLINT NORTH
1485 ROCKVILLE PIKE
ROCKVILLE, MD

Cooper Nuclear Station Simulator
ANSI/ANS-3.5-1985 Exceptions

Exceptions to the ANSI/ANS-3.5-1985 Standard

- *Section 3.1.1(4), Normal Plant Evolutions, states that "the simulator shall be capable of performing, using only operator action normal to the reference plant; Reactor trip followed by recovery to rated power."*

Recovery to rated power from a reactor trip is not practiced at CNS within the short time interval as implied by this requirement. CNS takes exception to this requirement since training is not provided in a restart of the reactor within a short time interval following a reactor trip.

- *Appendix B, section B1.1, specifies that Control Rod Drive Hydraulic System Temperature be recorded during Steady State Performance Testing.*

Control Rod Drive Hydraulic System temperature is not monitored at CNS by local/remote temperature gauge or the plant process computer. Since actual plant data does not exist, Control Rod Drive Hydraulic System temperature is not recorded or verified during CNS Simulator Steady State Performance testing.

CNS takes no further exceptions to the standard other than those reported in the initial certification report.

1995 Performance Tests

Test	Title
Transient 1	Manual Scram from 100% Power
Transient 2	Simultaneous Trip of Both Feedwater Pumps
Transient 3	Simultaneous Closure of all MSIVs
Transient 4	Simultaneous Trip of Both Recirc Pumps
Transient 5	Single Recirc Pump Trip
Transient 6	Main Turbine Trip
Transient 7	Maximum Rate Power Ramp
Transient 8	Reactor Coolant System Rupture with Loss of all AC
Transient 9	Unisolable Main Steam Line Rupture
Transient 10	Closure of all MSIVs with Single Stuck Open Relief Valve
Stability/Accuracy	25% 75% 100% and Steady State Operations
Real Time	Overtime Verification
Normal Operations	Normal Operations Tests
Malfunction CR01	Fuel Clad Failure
Malfunction CS01A	Core Spray Pump 1A Trip
Malfunction DG01A	Diesel Generator 1 Fails to Start
Malfunction DG02A	Diesel Generator 1 Trip
Malfunction ED08A	4160V Bus 1A Power Failure
Malfunction ED08B	4160V Bus 1B Power Failure
Malfunction ED08C	4160V Bus 1C Power Failure
Malfunction ED08D	4160V Bus 1D Power Failure

1995 Performance Tests

Test	Title
Malfunction ED08E	4160V Bus 1E Power Failure
Malfunction ED08F	4160V Bus 1F Power Failure
Malfunction ED08G	4160V Bus 1G Power Failure
Malfunction ED12A	Loss of 125VDC HPCI Starter Rack
Malfunction ED12B	Loss of 125VDC RCIC Starter Rack
Malfunction ED12C	Loss of 125VDC Reactor Building Starter Rack
Malfunction ED12D	Loss of 125VDC Distribution Panel A
Malfunction ED12E	Loss of 125VDC Distribution Panel B
Malfunction ED12F	Loss of 125VDC Starter Rack B
Malfunction ED15	Loss of 12.5KV Power
Malfunction FW01A	Reactor Feedwater Pump 1A Trip
Malfunction FW05A	RFP 1A Individual M/A Station Controller Failure
Malfunction FW17	Condensate Pump Suction Boot Rupture
Malfunction HP01	HPCI System Failure to Auto Start
Malfunction HP05	HPCI Inadvertant Initiation
Malfunction IA01	Instrument Air System Depressurizes
Malfunction MC01	Main Condenser Air In Leakage
Malfunction NM02A	SRM Channel A Failure
Malfunction RD02	ATWS
Malfunction RD04A	CRD Flow Control Valve 19A Failure
Malfunction RH01A	RHR Pump 1A Trip

1995 Performance Tests

Test	Title
Malfunction RP01A	Group 1 Scram Pilot Solenoids Fail to De-energize
Malfunction RR06A	RR Pump 1A Control Signal Failure

1996 Performance Tests

Test	Title
Transient 1	Manual Scram from 100% Power
Transient 2	Simultaneous Trip of Both Feedwater Pumps
Transient 3	Simultaneous Closure of all MSIVs
Transient 4	Simultaneous Trip of Both Recirc Pumps
Transient 5	Single Recirc Pump Trip
Transient 6	Main Turbine Trip
Transient 7	Maximum Rate Power Ramp
Transient 8	Reactor Coolant System Rupture with Loss of all AC
Transient 9	Unisolable Main Steam Line Rupture
Transient 10	Closure of all MSIVs with Single Stuck Open Relief Valve
Stability/Accuracy	25% 75% 100% and Steady State Operations
Real Time	Overtime Verification
Normal Operations	Normal Operations Tests
Malfunction AD08A	Reactor Safety Valve 70A Spurious Opening
Malfunction CS02A	Core Spray Injection Valve 12A Fails to Auto Open
Malfunction DG03A	Diesel Generator Breaker EG1 Fails to Auto Close
Malfunction ED04	Loss of All AC Power
Malfunction ED09A	480V Bus 1A Power Failure
Malfunction ED09B	480V Bus 1B Power Failure
Malfunction ED09C	480V Bus 1E Power Failure

1996 Performance Tests

Test	Title
Malfunction ED09D	480V Bus 1F Power Failure
Malfunction ED09E	480V Bus 1G Power Failure
Malfunction ED13A	Loss of 250VDC HPCI Starter Rack
Malfunction ED13B	Loss of 250VDC RCIC Starter Rack
Malfunction ED13C	Loss of 250VDC DIV-1 Starter Rack
Malfunction ED13D	Loss of 250VDC DIV-2 Starter Rack
Malfunction ED13E	Loss of 250VDC Turbine Building Starter Rack
Malfunction ED13F	Loss of 250VDC Starter Rack B
Malfunction ED14A	Loss of 24VDC Power Panel DC-A
Malfunction ED14B	Loss of 24VDC Power Panel DC-B
Malfunction FW09	RFP Master Controller Failure
Malfunction FW11A	Feedwater Flow Signal Failure to RVLC System - 50A
Malfunction FW13A	Steam Flow Signal Failure to RVLC System - 51A
Malfunction HP04	HPCI Flow Controller Failure
Malfunction HP09	Failure of HPCI Auto Isolation
Malfunction MS03A	MSL-A Line Rupture Outside Primary Containment
Malfunction NM05A	IRM Channel A Failure
Malfunction NM08	LPRM Failure
Malfunction RD09	Control Rod Drift In
Malfunction RD10	Control Rod Drift Out

1996 Performance Tests

Test	Title
Malfunction RD12	Control Rod Stuck
Malfunction RD13	Control Rod Uncoupled
Malfunction RH04A	LPCI INBD Injection Valve 25A Failed Closed
Malfunction RP04	Group 1 Isolation Failure
Malfunction RP05	Group 2 Isolation Failure

1997 Performance Tests

Test	Title
Transient 1	Manual Scram from 100% Power
Transient 2	Simultaneous Trip of Both Feedwater Pumps
Transient 3	Simultaneous Closure of all MSIVs
Transient 4	Simultaneous Trip of Both Recirc Pumps
Transient 5	Single Recirc Pump Trip
Transient 6	Main Turbine Trip
Transient 7	Maximum Rate Power Ramp
Transient 8	Reactor Coolant System Rupture with Loss of all AC
Transient 9	Unisolable Main Steam Line Rupture
Transient 10	Closure of all MSIVs with Single Stuck Open Relief Valve
Stability/Accuracy	25% 75% 100% and Steady State Operations
Real Time	Overtime Verification
Normal Operations	Normal Operations Tests
Malfunction ED05	Loss of Startup Transformer
Malfunction ED06	Loss of Emergency Transformer
Malfunction ED10A	MCC-A Failure
Malfunction ED10B	MCC-F Failure
Malfunction ED10C	MCC-LX Failure
Malfunction ED10D	MCC-TX Failure
Malfunction ED10E	MCC-K Failure
Malfunction ED10F	MCC-L Failure

1997 Performance Tests

Test	Title
Malfunction ED10G	MCC-S Failure
Malfunction ED10H	MCC-T Failure
Malfunction ED17	Loss of NBPP #1
Malfunction FW16A	Hotwell Level Controller Auto Failure (LIC-2A)
Malfunction FW18A	Feedwater A Line Break Inside Containment
Malfunction FW19A	Feedwater A Line Break Outside Containment
Malfunction FW20A	Feedwater Heater 1-A-5 Level Control Failure
Malfunction MS08A	DEH Pressure Transmitter 81A Failure
Malfunction NM09A	APRM Channel A Signal Failure
Malfunction RD20	RPIS Failure - Total
Malfunction RM01A	Service Water Rad Monitor Failure
Malfunction RM02A	Gaseous Radiation Monitor Failure
Malfunction RP07	Group 6 High Rad Isolation Failure
Malfunction RF12	Group 3 Isolation Failure
Malfunction RR14A	RR Loop Flow Transmitter 110A Failure
Malfunction RR17A	Recirc Pump 1A M/A Flow Controller Failure
Malfunction RR20A	RR Loop A Coolant Leak Inside Primary Containment
Malfunction SW09A	REC Line Break 1A
Malfunction SW10	TEC Line Break
Malfunction TC07A	Bypass Valve #1 Failure
Malfunction TC09A	Control Valve #1 Failure

1998 Performance Tests

Test	Title
Transient 1	Manual Scram from 100% Power
Transient 2	Simultaneous Trip of Both Feedwater Pumps
Transient 3	Simultaneous Closure of all MSIVs
Transient 4	Simultaneous Trip of Both Recirc Pumps
Transient 5	Single Recirc Pump Trip
Transient 6	Main Turbine Trip
Transient 7	Maximum Rate Power Ramp
Transient 8	Reactor Coolant System Rupture with Loss of all AC
Transient 9	Unisolable Main Steam Line Rupture
Transient 10	Closure of all MSIVs with Single Stuck Open Relief Valve
Stability/Accuracy	25% 75% 100% and Steady State Operations
Real Time	Overtime Verification
Normal Operations	Normal Operations Tests
Malfunction AD06A	Relief Valve 71A Complete Failure
Malfunction CU08	RWCU System Leak Inside Containment
Malfunction CU09	Cold Water Cleanup Leak
Malfunction ED07	Loss of Normal Transformer
Malfunction ED11A	Critical Dist Panel CDP-1A Failure
Malfunction ED11B	Critical Dist Panel CDP-1B Failure
Malfunction ED11C	Critical Power Panel CPP Failure
Malfunction ED11D	Critical Power Panel CPP-1 Failure

1998 Performance Tests

Test	Title
Malfunction ED11E	Critical Power Panel CPP-2 Failure
Malfunction ED11F	Critical Power Panel CPP-3 Failure
Malfunction ED11G	Critical Control Panel CCP-1A Failure
Malfunction ED11H	Critical Control Panel CCP-2A Failure
Malfunction ED11I	Critical Control Panel CCP-1B Failure
Malfunction ED11J	Critical Control Panel CCP-2B Failure
Malfunction EG09	Main Generator Trip
Malfunction FW21A	Feedwater Control Signal Failure to RFP-1A
Malfunction FW22	Feedwater Startup Master Controller Failure
Malfunction MS10	Steam Leakage In Turbine Building
Malfunction RD26	Backup Scram Valve Failure
Malfunction RD27	Automatic ARI Failure
Malfunction RH07	RHR Shutdown Cooling Valve Isolation
Malfunction RR24A	RPT Fails to Trip RR Pump 1A
Malfunction RR25A	LIS-57A (NR Yarway) Fails Downscale
Malfunction RR25C	LIS-58A (NR Yarway) Fails Downscale
Malfunction RR26A	LIS-72A (NR Yarway) Fails Downscale
Malfunction RR26C	LIS-72C (NR Yarway) Fails Downscale
Malfunction RR27A	LT-52A (NR Gemac) Failure
Malfunction RR28A	LIS-101A (NR Barton) Failure
Malfunction RR28C	LIS-101C (NR Barton) Failure

1998 Performance Tests

Test	Title
Malfunction RR30A	LITS-73A (FZ Yarway) Switch Fails Downscale
Malfunction TC12	DEH System Load Reference Failure
Malfunction TC05	DEH Computer Failure

Correspondence No: NLS950189

The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

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