U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-423/85-14

Docket No. 50-423

License No. CPPR-113 Priority -- Category B

Licensee: Northeast Nuclear Energy Company

P.O. Box 270

Hartford, Connecticut 06101

Facility Name: Millstone Nuclear Power Station, Unit 3

Inspection At: Waterford, Connecticut

Inspection Conducted: April 8 - 27, 1985

Inspectors: H. H. Nicholas 5/28/85
H. H. Nicholas, Lead Reactor Engineer — date

Approved by: for P. K. Eapen 5/29/85
L. H. Bettenhausen, Chief Operations Branch, DRS — date

Inspection Summary:

Inspection on April 8 - 27, 1985 (Inspection No. 50-423/85-14)

Areas Inspected: Routine, announced inspection of the preoperational test program including test program implementation, test procedure review and verification, test results evaluation, test witnessing; licensee action on previous inspection findings; emergency diesel generator status; witnessing of reactor coolant system cold hydrostatic test; witnessing of new fuel receipt, inspection and storage; quality assurance and quality control interface; and, tours of the facility. The inspection involved 121 hours on site by one NRC region-based inspector.

Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Northeast Nuclear Energy Company (NNECO)

M. Brown, I & C Supervisor
C. Clement, Maintenance Supervisor
J. Chunis, Startup Engineer
*J. Crockett, Superintendent Unit 3
J. De Marzo, Startup Engineer
A. Elms, Reactor Engineer
E. Frieze, Startup Engineer
M. Gelinas, Security Shift Supervisor
M. Gentry, Assistant Startup Supervisor
J. Hamlin, Shift Supervisor
J. Harris, Startup Supervisor
N. Hulme, Startup Engineer
K. Jensen, Reactor Engineer
T. Lyons, Startup Engineer
N. Madden, Startup Engineer
J. McConnell, Reactor Engineer
D. McDaniel, Reactor Engineer
D. Miller Jr., Startup Manager
E. Olson, Shift Supervisor
R. Sochatello, Radiation Protection Supervisor
S. Sudigala, Assistant Startup Supervisor
P. Weekley, Security Supervisor

Northeast Utilities Service Company (NUSCO)

*D. Blumenthol, QA Engineer
R. Lefebure, Senior Project Engineer
C. Mares, QA Engineer
*L. Nadeau, QA Engineer
*E. Peckham, QA Engineer
R. Victor, QA Engineer

Kemper Insurance Incorporated (KI)

F. Arujo, ANI Inspector
W. Jones, ANI Inspector

Hartford Steam Boiler (HSB)

B. Braden, ANI Lead Inspector
M. Headwall, ANI Inspector
T. Hume, ANI Inspector
R. Smith, ANI Inspector
L. York, ANI Inspector
R. Zoner, ANI Inspector

Westinghouse Electric Corporation (WEC)

C. Barnes, NSID Mechanical Specialist
F. Bowen, Startup Engineer
M. Brothers, I and C Engineer
C. Callaway, Startup Engineer
H. Carlson, Startup Engineer
R. Clark, Startup Engineer
J. Dolan, Site Manager Unit 3
J. Fernandez, Fuel Site Surveillance Engineer
L. Getty, EMD Pump Specialist
E. Harlow, Mechanical Engineer
R. Hayes, Startup Engineer
R. Merritt, PD QA
J. Moore, Startup Engineer
R. Smith, Startup Engineer
J. Steffes, Startup Engineer

Combustion Engineering Corporation

R. Johnson, Reactor Vessel Specialist

Stone and Webster Engineering Corporation (SWEC)

R. Bradley, Startup Engineer
W. Matejek, Project Advisory Engineer
T. McNatt, Startup Engineer
M. Potkin, Startup Engineer

SWEC Engineering Support For Hydrostatic Test

E. McManus
W. Ramsden
P. Reilly
W. Sullivan

SWEC Construction Support For Hydrostatic Test

C. Hale
E. Jacobs
G. Pangborn
R. Thomas

SWEC Field Quality Control (FQC)

A. Audoin, FQC Inspector
M. Bezanson, FQC Inspector
B. Burdick, FQC Inspector
C. Card, FQC Inspector
P. Cardinal, FQC Inspector
D. Dolan, FQC Inspector
D. Evans, FQC Inspector
R. Guffey, FQC Inspector
N. Hommer, FQC Inspector
B. Kennedy, FQC, Inspector
R. King, FQC, Inspector
P. La Ferriere, FQC Inspector
G. Marsh, FQC Inspector
M. Matthews, FQC Inspector
G. Musik, FQC Inspector
J. Montanari, FQC Inspector
B. Patenaude, FQC Inspector
L. Peterson, FQC Inspector
T. Rhenborg, FQC Inspector
M. Sunday, FQC Inspector
W. Taylor, FQC Inspector
R. Thorbjansen, FQC Inspector
G. Turner, FQC Inspector
B. Welsh, FQC Inspector
S. Wicknick, FQC Inspector

U. S. Nuclear Regulatory Commission (USNRC)

W. Baunack, Project Engineer
D. Lipinski, Resident Inspector
*T. Rebelowski, Senior Resident Inspector

*denotes those present at exit interview on April 26, 1985

2. Licensee Action On Previous Inspection Findings

(Closed) Inspector Following Item 423/85-02-02 Fuel Receipt and Storage Review. This item involved NRC review of Procedure OP 3211A, definition of the qualification of personnel to handle fuel, the activation of radiation monitoring equipment in the fuel building without remote indication in the control room, and review of projected items to be completed prior to fuel receipt.

As noted in Pragraph 6, all of the above items have been resolved and/or completed during the issuance of the SNM License, and the receipt of the new fuel for inspection and storage including the issuance of an approved copy of OP 3211A Revision O, Approved April 22, 1985, titled, New Fuel Assembly and RCCA Receipt and Inspection. The inspector verified the adequate resolution of all aspects of this item. This item is closed.

3. Preoperational Test Program

References

References for the preoperational test program are documented in Inspecton Report 50-423/85-03.

3.1 Test Program Implementation

Scope

The nine areas of preoperational test program requirements are the test program; the test organization; the test program administration; document control; design changes and modifications; plant and preventive maintenance; equipment protection and cleanliness; test and measurement equipment; and startup staff training. These areas are examined periodicallly by NRC inspectors for implementation during the test program.

Discussion

In the area of test program administration, the inspector interviewed the startup test manager and his staff, to verify that they were familiar with and implementing the administration of the preoperational test program. The inspector verified, by review of 4 turnover packages, that jurisdictional controls were observed for system turnover. The inspector spot checked portions of systems and components to verify that tagging was accomplished with jurisdictional controls; reviewed turnover documentation to see that jurisdictional controls were observed prior to testing, during repairs and modifications and subsequent to testing; verified by review of test procedures and interview of test personnel that test procedures were current prior to their use, personnel involved were knowledgeable of test procedures, methods to change test procedures during a test, methods to document significant events, unusual conditions and interruptions to testing, and methods for identifying deficiencies, documenting their resolutions and documenting retesting; and, verifying that a sequenced schedule is maintained and is current.

In the area of equipment protection and cleanliness the inspector verified by interview of test personnel and review of marked up drawings that system flushing had not been invalidated during preoperational testing. The inspector verified by review of documentation and by interviews of chemistry personnel, that water chemistry controls and sampling requirements were being implemented for the reactor coolant and for the condensate feedwater systems.

In the area of test and measurement equipment, the inspector selected six pieces of test and measurement equipment and reviewed documentation and calibration records to verify that the administrative controls had been implemented.

Findings

Through discussions with the startup manager and members of his staff, review of records, procedures, logs, and documentation, the inspector verified that the test program administration is being adequately implemented by review of turnover packages, tagging system and documentation; that cleanliness controls and equipment protection along with proper documentation, have been adequately implemented; and, that test and measurement equipment, plus documentation have been successfully implemented. The inspector had no further questions in these areas covered. Verification by the inspector of other listed areas of the test program will be conducted on subsequent inspections.

3.2 Test Procedure Review and Verification

Scope

The test procedures listed in ATTACHMENT A were reviewed for technical and administrative adequacy and to verify that test planning satisfies regulatory guidance and licensee commitments.

Discussion

The procedures were examined for: management review and approval; procedure format; [illegible] objectives; prerequisites; environmental conditions; acceptance criteria; source of acceptance criteria; references; initial conditions; attainment of test objectives; test performance documentation and verification; degree of detail for test instructions; restoration of system to normal after testing; identification of test personnel; evaluation of test data; independent verificaton of critical [illegible]ns or parameters; and, quality control and quality assurance involvement.

Findings

The review indicated that the procedures are consistent with regulatory requirements, guidance, and licensee commitments. No discrepancies or unacceptable conditions were identified. The inspector had no further questions on these procedures.

3.3 Test Results Evaluation

Scope

The completed test procedures listed in ATTACHMENT B were reviewed to verify that adequate testing was accomplished in order to satisfy regulatory guidance and licensee commitments and to ascertain whether uniform criteria were being applied in the evaluation of completed preoperational tests in order to assure their technical and administrative adequacy.

Discussion

The inspector reviewed the test results and verified the licensees' evaluation of test results by review of: test changes; test exceptions; test deficiencies; "as-run" copy of test procedure; acceptance criteria; performance verification; recording of the conduct of tests; QC inspection records; restoration of system to normal after the test; independent verification of critical steps or parameters; identification of personnel conducting and evaluating test data; and, verification that the test results have been approved.

Findings

No discrepancies or unacceptable conditions were noted in the review of these procedures.

3.4 Test Witnessing

Scope

The inspectors witnessed portions of the following tests and preparations being made for upcoming tests.

(1) New Fuel Receiving Crane Test
(2) New Fuel Handling Crane Test
(3) New Fuel Inspection Machine Functional Test
(4) Fuel Handling Machine Load Cell Monitor
(5) New Fuel Elevator
(6) Spent Fuel Bridge Crane Test
(7) Reactor Fuel Handling Tools
(8) Fuel Building Area Radiation Monitors
(9) Spent Fuel Pool Cooling Functional Test
(10) New Fuel Receipt, Inspection and Storage Preparations
(11) Hydrostatic Test Preparations

Discussion

Test witnessing by the inspectors included observations of:

-- Overall crew performance
-- Use of latest, revised and approved procedure available and in use by the test personnel
-- Designation of one person in charge of conducting each test or preparation for testing
-- Availability of sufficient test personnel to perform each test
-- Coverage of test prerequisites
-- Use of acceptance criteria to evaluate test results
-- Verification that plant supporting systems are in service
-- In service status of calibrated special test equipment required by the test procedure

-- Adherence to the test requirements of the test procedure during the test
-- Timely and corrective actions by test personnel during the performance of the test
-- QC and QA interface and coverage of events
-- Data collection for final analysis by proper personnel

The inspectors made independent measurements and calculations of some of the tests during their performance, including start and stop times, travel times, weight lifts, distances, limits, lengths, heights, as well as flows, temperatures and pressures, including pump curves.

Findings

Test results observed by the inspectors indicated that acceptance criteria had been met for those portions of the tests that had been witnessed. No items of noncompliance were identified and no unacceptable conditions were noted.

4. Emergency Diesel Generator Status

Scope

The emergency diesel generator sets are the vital components of the emergency-standby power supply system to Unit 3 in the event of loss of coolant accident with the loss of offsite power during operation of the Unit. During the preoperational test program it is verified that the diesel engines, or a prototype, have completed 300 successful starts and stops; the EDG sets have mechanical and electrical load tests including 22 hours at rated power and 2 hours at overload rating; followed by qualification testing of the EDG sets which consists of 35 successful starts and stops, loading to at least 50 percent load; and lastly, observing the performance of the EDG sets when in standby,to respond to a simulated loss of coolant accident, with and without loss of offsite power.

Discussion

The emergency diesel generator sets to date are still in the testing stage of the preoperationl test program with the EDG "A" set mechanical and electrical load testing complete, and the EDG "B" set with only mechanical testing complete. As documented in Inspection Report 50-423/85-10, the inspector pointed out the concern for the recurring problem of EDG fuel injection pumps seizing. After removing all fuel injection pumps from both engines for disassembly, inspection and reassembly, the fuel injection pumps were reinstalled on EDG "A" set in order to have the "A" engine as a standby power back up for the RCS cold hydrostatic test. In running the EDG "A" set one of the fuel injection pumps again seized.

Findings

The licensee and the vendors representatives are exploring this recurring problem. The resolution and subsequent testing of these engines will be a follow-up on subsequent inspections. This is Unresolved Item 423/85-14-01.

5. Reactor Coolant System Cold Hydrostatic Test

5.1 Introduction

The test objective was to perform initial fill and hydrostatic test of the reactor coolant and associated high pressure systems. During the initial fill various piping dead legs were flushed to complete cleaning of the reactor coolant and associated high pressure system. The reactor coolant pumps were checked and then used to sweep, vent and heatup the reactor coolant system. The integrity of the reactor coolant system for strength and leak tightness is verified at 3110 PSIG for a minimum of 10 minutes.

5.2 References

Supplementary Documentation

(1) RCS and Associated Systems Turnover Package 3301
(2) Stone and Webster FSK Drawings
(3) Stone and Webster P & ID Drawings
(4) Stone and Webster TSK Drawings
(5) Vendor Equipment Instruction Books, Operating Manuals, Purchase Specifications, Vendor Drawings and Correspondence.
(6) Nuclear Steam Supply System 2240.000 - 001
(7) Electronic Pressure and Differential Pressure Transmitters 2472.510 - 662
(8) Vendor Equipment Technical Manuals

-- Pressurizer Manual 6
-- Steam Generator Manual 8
-- Reactor Vessel Manual 16
-- Reactor Coolant Pump Manual 36
-- 8" Motor Operated Angle Type Globe Valves Manual 12
-- 27.5" and 29" Motor Operated Gate Valves Manual 37

(9) FSAR Section 5
(10) ASME Boiler and Pressure Vessel Code Section 3
(11) NNECO Unit 3 Flushing Reference Manual
(12) General Hydrostatic Test Procedure NEU-SU-1.3.1

Detailed Test Procedure

(1) T3301-Pool, Revision 0, Approved March 18, 1985 titled, Reactor Coolant and Associated System Fill and Hydrostatic Test

5.3 Discussion

(1) The hydrostatic test consisted of filling the reactor coolant system and associated high pressure systems to their first boundary valves as indicated on the boundary diagrams and composite drawings.

(2) Flushes were conducted until all areas appeared clean as evidenced by inspection of the flushing cloths.

(3) System was pressurized to 60 PSIG and a round of sweeping and venting was conducted to purge all pockets of air or gases from systems.

(4) Initial heatup of the coolant system was obtained by supplying heated water to the charging pumps. When all venting was completed, temperatures above 70°F, and reactor vessel head tensioned, pressure was raised to 350 PSIG and subsequent heatup was accomplished by running reactor coolant pumps.

(5) With the temperature of the reactor pressure vessel head and the pressurizer above 120°F; and the steam generator temperatures above 150°F, the reactor coolant system was pressurized to 500 PSIG.

(6) With the reactor coolant temperature above minimum for boltup and tensioning of the reactor pressure vessel head, and above minimum for pressurization, the hydrostatic test was begun with pressure plateaus of 500 PSIG, 1000 PSIG, 2250 PSIG, and a final hydrostatic test pressure at 3110 PSIG for a minimum of 10 minutes. The average temperature at these pressure plateaus was 155°F.

(7) After completion of the 3110 PSIG hold for a minimum of 10 minutes, pressure was reduced to 2400 PSIG and held there until leak inspection of all welds and mechanical fittings within the test boundary was performed.

5.4 Observations

Prior to the test, the inspector verified the following:

(1) Valve positions were checked.

(2) Latest drawing revisions were used in conjunction with the valve lineup lists.

(3) Latest boundary diagrams were in use.

(4) Calibrated, serialized, and dated pressure gauges of proper range had been installed with gauge number 1 having been designated as the "Official Gauge" and gauge number 2 as the "back up" guage. Pressure gauges were also installed at the charging pumps, the hydro pump, and the backup hydrolaser pump.

(5) Overpressure protection was provided by an installed pressure range and capacity stamped, calibrated and tested, serialized relief valve with backup relief valves at the hydrolaser pump discharge.

(6) Temperatures at the reactor pressure vessel, pressurizer, steam generators, reactor coolant pumps as well as the reactor coolant loops; were above the specified minimum temperature.

(7) Required supporting systems were functional.

(8) All welded joints and mechanical corrections were uncovered.

(9) All temporary instrumentation had been installed and calibrated.

(10) Communications had been established between all stations, the control room, and all inspection teams.

(11) QA and QC provided complete coverage for the entire event.

5.5 Crew Performance

The inspector observed the following:

(1) The RCS cold hydrostatic test procedure with the latest revision was available and in use by crew members.

(2) The minimum crew requirements had been met.

(3) Briefings had been conducted with the crew and the inspection teams.

(4) All test prerequisites were met.

(5) Appropriate systems, as needed, were in service.

(6) Special test equipment and instrum ation required by the procedure was calibrated, in service, and m ' by test personnel.

(7) Testing was being performed as requ d by the procedure.

(8) Crew actions appeared to be correct and timely during the performance of the test.

(9) All test data were collected for final analysis by the cognizant test personnel.

5.6 Test Witnessing

By direct observation, the inspector witnessed the following:

(1) The manning and conduct of the test at the charging pump station, hydro pump station, the backup hydrolaser pump station, control room including the temperature, pressure and flow monitoring panels; as well as the upper and lower reactor pressure vessel head areas of the 4 steam generators, and the 4 reactor coolant pump cubicles.

(2) Water sampling and results for water quality.

(3) System pressure at 60 PSIG and reactor pressure vessel and pressurizer temperature above 120°F while steam generator temperatures were above 150°F.

(4) System pressure at 350 PSIG and temperature at 165°F.

(5) System pressure at 500 PSIG and temperature at 164°F.

(6) System pressure at 1000 PSIG and temperature at 161°F.

(7) System pressure at 2250 PSIG and temperature at 159°F.

(8) Reactor pressure vessel flanges, upper head area, upper area of pressurizer and hydro pump stations.

(9) Attaining and holding pressure at 3110 PSIG with temperature at 155°F for a minimum of 10 minutes as read on the official test gauge at the top of the pressurizer.

(10) Depressurizing to 2400 PSIG and holding for detailed inspection of all welds and mechanical joints.

(11) All assembled inspection teams passing into containment and to their respective areas of inspection.

(12) Accompanying inspection teams into containment and inspecting welds on reactor pressure vessel penetrations, pressurizer, steam generators, residual heat removal system, surge line, spray line, instrument lines and incore tubes.

(13) Use of allowable heatup rates, cooldown rates, pressurizing rate, depressurizing rate and maximum allowable differential pressures and differential temperatures.

5.7 Independent Measurements

(1) Temperature the inspector made independent measurements of temperature at the following areas; Reactor pressure vessel upper, lower and flange areas; steam generators flange and lower head areas; pressurizer upper, lower, and shell areas including surge line and spray line; and reactor coolant loop lines; with a portable platinum tipped hand held pyrometer.

(2) Pressure The inspector timed the increase and decrease of pressure at the various plateaus while monitoring the "heise" official and backup pressure gauges using a hand held portable stop watch.

(3) Time The inspector timed rates of change of temperature increases and decreases as well as rates of change of pressure increases and decreases along with timing the hold time at 3110 PSIG hydrostatic test pressure.

(4) Vibration The inspector made independent measurements of vibration of the Reactor Coolant Pumps using a portable hand held vibration meter.

The calculations and measurements made by the inspector in the areas of pressure, temperature, time, vibration, flow, and rates of change in parameters in addition to test results observed by the inspector, indicated that acceptance criteria had been met.

Findings The inspector established by records review, by independent calculations and measurements, by direct observations, and by test witnessing, that testing was conducted in accordance with approved procedures. The inspector independently verified the acceptability of the test results, and evaluated the performance of the licensee personnel involved in the test.

No items of noncompliance were identified.

6. New Fuel Receipt Inspection and Storage

References

EN	31068	New Fuel Inspection Machine Functional Check
OP	3211A	New Fuel Assembly and RCCA Receipt and Inspecton
OP	3303A	Spent Fuel Bridge
OP	3303B	New Fuel Elevator
OP	3303C	Fuel Transfer System
OP	3303D	Fuel Handling Tools
OP	3303G	New Fuel Handling Crane
OP	3303H	New Fuel Receiving Crane
T3305-P		Spent Fuel Pool Cooling and Purificaiton Test
T3303-1I02		Fuel Handling Machine Load Cell Monitor
T3303-1M02		Spent Fuel Bridge Crane

T3303-1E04 New Fuel Handling Crane
T3314-C1M05 Fuel Building Dampers and Valves
T3314-C1M01 Fuel Building Normal Exhaust Fan
T3314-C1E01 Fuel Building Normal Exhaust Fan
T3305-1M03 Spent Fuel Pool Cooling and Purification Valve Tests
T3305-1M02 Spent Fuel Pool Purification Pump
T3305-1M01 Spent Fuel Cooling Pump
T3305-1I01 Spent Fuel Pool Cooling And Purification Instrumentation
T3305-1E03 Spent Fuel Pool Submersible Dewatering Pump
T3305-1E01 Spent Fuel Cooling Pump
T3305-1E02 Spent Fuel Pool Purification Pump
T3305-1F01 Fuel Pool Cooling and Purification System Flush
T3303-1E09 New Fuel Inspection Station
T3303-1M05 Reactor Fuel Handling Tools
T3303-1E07 New Fuel Elevator
T3303-1E10 Spent Fuel Bridge Crane
T3303-1E05 New Fuel Receiving Crane Test
T3303-P001 Fuel Transfer System Test

Letter to B. J. Youngblood, NRC, from W. G. Council, NNECO, dated March 14, 1985, titled: Control of Heavy Loads
NRC IE Information Notice 80-01
NRC IE Information Notice 85-12
SER Section 9
FSAR Section 4, NNECO Unit 3 Application for Special Nuclear Materials License, USNRC Materials License SNM-1950 dated April 16, 1985

6.1 Introduction

The objective of this inspection was to ascertain whether nuclear fuel received at the construction site is properly accepted and safeguarded, and whether it is stored in accordance with the NRC license requirements. This was accomplished by direct observation of activities and review of documentation at various times over a period of three weeks prior to the issuance of the NRC materials license and the arrival of the first shipment of nuclear fuel, and by witnessing of the first shipment of fuel, from its arrival at the main gate, to its final storage place in the spent fuel pool.

6.2 Discussion

The inspector reviewed documents in the following areas pertaining to the receipt, inspection and storage of new fuel for Unit 3, such as Nuclear Materials License, Qualifications and Training, Fire Protection, Health Physics and Radiation Protection, Physical Security, and Preoperational Testing.

Documents reviewed and discussed with licensee representatives were:

(1) Application for SNM License
(2) Nuclear Materials License
(3) Health Physics and Radiation Protection Procedures
(4) Security Plan Procedures for Fuel Receipt and Storage
(5) Training Procedures
(7) Preoperational Test Procedures
(8) Material Transfer Log
(9) Material Accountability Log
(10) Fuel Assembly Receipt and Inspection Form
(11) Thimble Plug Receipt and Inspection Form
(12) Spent Fuel Pool Map For Fuel Assembly Location
(13) New Fuel Receiving Crane Check List
(14) New Fuel Handling Crane Check List
(15) New Fuel Inspection Station Check List
(16) New Fuel Elevator Check List
(17) Spent Fuel Bridge Check List
(18) Visitor Control Access List Area Authorization
(19) Daily Log of Access and Exposure Control
(20) Radiation Survey Sheets
(21) Radiation Work Permit
(22) Test Certification Reports On All Cranes Used
(23) Shipping Container Receipt and Inspection Sheet
(24) Prerequisites and Precautions For New Fuel Receipt Under the SNM License
(25) Bill of Lading, C & H Transportation Company
(26) Consignment of Fuel From Westinghouse Electric Company to Northeast Utilities
(27) Product Shipment Notice Westinghouse Electric Company
(28) Quality Release Westinghouse Electric Company
(29) Prerequisite and Initial Conditions Sign Off Sheet
(30) Precautions Sign Off Sheet
(31) Fuel Assembly Receipt and Inspection
(32) Thimble Plug Assembly Inspection
(33) Burnable Poison Assembly Inspection

The inspector witnessed receipt, preparation, cleaning, inspection, and storage of 14 fuel assemblies from arrival at the fuel building truck bay to storage in the spent fuel pool. The activities included radiation surveys of the truck and outer metal casks; opening of the casks; the initial survey of the two fuel assemblies in each cask; the removal, cleaning and inspection of each fuel assembly one at a time; the final inspection and measurements at the new fuel inspection station; and the final storage of each fuel assembly in the spent fuel pool. The inspector observed the use of the new fuel receiving crane, the new fuel inspection station, the new fuel handling crane, the new fuel elevator and the spent fuel bridge including the use of the new fuel handling tool as well as the use of the spent fuel handling tool.

The inspector discussed with licensee representatives IE information notices 80-01 and 85-12, having to do with recent fuel handling events. Discussions with the licensee representatives and review of documentation verified that the licensee had taken proper action in the area of procedures, precautions, prerequisites, and alarms and interlocks so that these events cannot occur at Millstone Unit 3.

The inspector also reviewed documentation and made observations, on a sampling basis, during this evolution, in the areas of Administration, Physical Security, Health Physics and Radiation Control, Reactor Engineering, Quality Assurance and Quality Control. QA and QC provided coverage for the entire fuel receipt evolution.

Findings

The inspector verified that receipt, inspection, cleanliness, assembly and storage, including documentation of completed fuel assemblies was accomplished in accordance with NRC license requirements. The inspector also verified that all license requirements had been implemented for new fuel receipt, inspection and storage; security controls were exercised; health physics and radiation protection controls were implemented in the areas of swipes, surveys, air monitoring, and personnel protection and dosimetry; control of the environment of the fuel storage and assembly area; verification of documentation, procedures, and records review such as fuel manufacturer, transportation, quality assurance and quality control; inspection of shipping casks; reportable events; and qualification of personnel involved in management and implementation of receipt, inspection, and storage of nuclear fuel. The inspector witnessed the evolutions and verified documentation and proper use of procedures for fuel movement within the fuel building and spent fuel pool locations.

No items of noncompliance were identified and no discrepancies were noted during these inspections. The inspector will continue to observe and inspect this evolution of new fuel receipt, inspection, handling and storage on subsequent inspections until all fuel is on site. The inspector has no further questions at this time.

7. Quality Assurance and Quality Control Interface

AS described in Paragraphs 3, 5, and 6, and as indicated in Paragraph 1, QA and QC were involved with many aspects of testing, the RCS cold hydro test, and with final fuel receipt, inspection, and storage. QA maintained assigned personnel coverage and audited the entire hydrostatic test performance. The RCS cold hydrostatic test and the arrival of new fuel are both major milestones in the Millstone 3 preoperational test program schedual and a QA/QC interface was in evidence in each phase of the test program.

8. Plant Tours

The inspector made several tours of the facility including the containment structure, auxiliary building, turbine building, service building, control building, emergency safety features building, emergency diesel generator rooms, battery rooms, control room, auxiliary boiler area, fuel building, circulating and service water pump house and hydrogen recombiner building.

Particular attention was given to the emergency diesel generator set problems and repair work in progress, preparations being made for the receipt of fuel and the eventual witnessing of the new fuel receipt inspection and storage; the preparations being made for the RCS hydro test and the eventual witnessing of the RCS cold hydrostatic test, and other testing and work in progress. Items of inspection also included housekeeping, cleanliness controls, storage and protection of components, piping and systems. No items of noncompliance were observed during these tours.

9. Unresolved Items

Unresolved items are matters about which more information is required to accertain whether they are acceptable items, items of noncompliance or deviations. An unresolved item, resulting from this inspection is discussed in Paragraph 4.

10. Exit Interview

At the conclusion of the site inspection on April 26, 1985, an exit meeting was conducted with the licensees' senior site representatives (denoted in Paragraph 1). The findings were identified and previous inspections items were discussed.

At no time during this inspection was written material provided to the licensee by the inspector.

ATTACHMENT A

TEST PROCEDURE REVIEW

(1) T3314 - FP Revision 0, Approved April 10, 1985
Control Building HVAC System

(2) 3-INR - 2001 Computer Programs
Test Appendix 3J2 Revision 0, Approved March 21, 1985
Reactor Coolant System Heatup/Cooldown Rate

(3) 3-INT - 3000 Hot Functional Testing
Appendix 3029 Revision 0, Approved April 10, 1985
Chemistry Guidelines

(4) T3316 - BP Revision 0, Approved April 3, 1985
Steam Dump Controls

(5) T3315 - DA Revision 0, Approved March 25, 1985
Technical Support Center Ventilation

(6) T3314 - AP Revision 0, Approved March 27, 1985
Auxiliary Building HVAC System

(7) T3304 - AP001 Revision 0, Approved April 6, 1985
Charging Letdown and Purification System

(8) T3305 - P Revision 0, Approved April 11, 1985
Spent Fuel Pool Cooling Purification Test

(9) T3303-P001 Revision 0, Approved April 10, 1985
Fuel Transfer System Test

(10) T3303 - 1M05 Revision 0, Approved March 20, 1985
Reactor Fuel Handling Tools

(11) T3305 - 1E01 Revision 0, Approved November 11, 1983
Spent Fuel Pool Cooling Pump 3 SFC-P1A and P1B

(12) T3305 - 1E02 Revision 0, Approved December 1, 1983
Spent Fuel Pool Purificaiton Pump 3 SFC-P2A and P2B

(13) T3305 - 1E03 Revision 0, Approved January 30, 1984
Spent Fuel Pool Submersible Dewatering PUmp 3 SFC-P4

(14) T3305 - 1F01 Revision 0, Approved March 12, 1985
Fuel Pool Cooling and Purification System Flush

(15) T3305 - 1T01 Revision 0, Approved November 11, 1983
Spent Fuel Pool Cooling and Purification Instrumentation 3 SFC

(16) T3305 - 1M01 Revision 0, Approved November 14, 1983
Spent Fuel Cooling Pump 3 SFC-P1A and P1B

(17) T3305 - 1M02 Revision 0, Approved June 6, 1984
Spent Fuel Pool Purification Pump 3 SFC-P2A and P2B

(18) T3305 - 1M03 Revision 0, Approved November 14, 1985
Spent Fuel Pool Cooling and Purification Valve Tests

(19) T3314 - C1E01 Revision 0, Approved December 17, 1983
Fuel Building Normal Exhaust Fan 3HVR-FN9

(20) T3314 - C1M01 Revision 0, Approved August 26, 1983
Fuel Building Normal Exhaust Fan 3HVR-FN9

(21) T3314 - C1M05 Revision 0, Approved March 12, 1984
Fuel Building Dampers and Valves

(22) T3341 - A1M06 Revision 0, Approved May 7, 1983
NSST/Fuel/Waste Fire Protection Water

(23) T3404 - 1I01 Revision 0, Approved March 25, 1985
Fuel Building Area Radiation Monitors

(24) T3303 - 1E05 Revision 0, Approved November 11, 1983
New Fuel Receiving Crane Test

(25) T3303 - 1E07 Revision 0, Approved October 12, 1984
New Fuel Elevator

(26) T3303 - 1E09 Revision 0, Approved May 12, 1984
New Fuel Inspection Station

(27) T3303 - 1E10 Revision 0, Approved August 10, 1984
Spent Fuel Bridge Crane

(28) Letter to B. J. Youngblood NRC, from W. G. Council NNECO dated
March 14, 1985 titled Control of Heavy Loads

(29) T3303 - 1I02 Revision 0, Approved April 3, 1985
Fuel Handling Machine Load Cell Monitor

(30) T3303 - 1M02 Revision 1, Approved May 21, 1983
Spent Fuel Bridge Crane

(31) T3303 - 1E04 Revision 0, Approved March 30, 1985
New Fuel Handling Crane

(32) EN 31068 Revision 0, Approved April 18, 1985
New Fuel Inspection Machine Functional Check

(33) OP 3211A Revision 0, Approved April 22, 1985
New Fuel Assembly and RCCA Receipt and Inspection

(34) OP 3303A Revision 0, Approved April 23, 1985
Spent Fuel Bridge

(35) OP 3303B Revision 0, Approved April 16, 1985
New Fuel Elevator

(36) OP 3303C Revision 0, Approved April 23, 1985
Fuel Transfer System

(37) OP 3303D Revision 0, Approved April 15, 1985
Fuel Handling Tools

(38) OP 3303G Revision 0, Approved April 21, 1985
New Fuel Handling Crane

(39) OP 3303H Revision 0, Approved April 19, 1985
New Fuel Receiving Crane

(40) T3346 - AP003 Revision 0, Draft Copy
Emergency Diesel Generator A Licensing Test

(41) T3346 - AP004 Revision 0, Draft Copy
Emergency Diesel Generator B Licensing Test

(42) T3323 - AA001 Revision 1, Approved April 10, 1985
Electro Hydraulic Control

ATTACHMENT B

TEST RESULTS EVALUATION

(1) T3345 - BP001 Revision 0, Approved March 5, 1984
Channel 1 120 VAC Vital
Test Results Approved March 27, 1985

(2) T3345 - BP002 Revision 0, Approved March 5, 1984
Channel 2 120 VAC Vital
Test Results Approved March 27, 1985

(3) T3345 - BP003 Revision 0, Approved March 5, 1984
Channel 3 120 VAC Vital
Test Results Approved March 27, 1985

(4) T3345 - BP004 Revision 0, Approved March 5, 1984
Channel 4 120 VAC Vital
Test Results Approved March 27, 1985

(5) T3345 - BP005 Revision 0, Approved May 23, 1984
Channel 5 120 VAC Non-Vital
Test Results Approved March 27, 1985

(6) T3303 - 1E05 Revision 0, Approved November 11, 1983
New Fuel Receiving Crane
Test Test Results Approved April 16, 1985

(7) T3303 - 1I02 Revision 0, Approved April 3, 1985
Fuel Handling Machine Load Cell Monitor
Test Results Approved April 22, 1985

(8) T3303 - 1E04 Revision 0, Approved March 30, 1985
New Fuel Handling Crane
Test Results Approved April 18, 1985

(9) T3303 - 1M02 Revision 0, Approved May 21, 1983
Spent Fuel Bridge Crane
Test Results Approved April 18, 1985

(10) T3303 - 1M05 Revision 0, Approved March 20, 1985
Reactor Fuel Handling Tools
Test Results Approved April 19, 1985

(11) T3303 - 1E07 Revision 0, Approved October 12, 1984
New Fuel Elevator
Test Results Approved April 22, 1985

(12) T3303 - 1E10 Revision 0. Approved August 10, 1984
Spent Fuel Bridge Crane
Test Results Approved April 18, 1985