IE:I Form 12
n 75) (Rev)

U. S. NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

IE Inspection Report No: 50-29/75-05

Docket No: 50-29

Licensee: Yankee Atomic Electric Company

License No: DPR-3

20 Turnpike Road

Priority:

Westborough, Massachusetts 01581

Category: C

Safeguards Group:

Location: (Yankee Rowe)

Type of Licensee: PWR 175 MWe (W)

e of Inspection: Special, Announced

Dates of Inspection: May 5, 1975

Dates of Previous Inspection: 3/11/75 - 3/13/75

Reporting Inspector: Jacque Durr — May 16, 1975
Jacque Durr, Reactor Inspector — DATE

Accompanying Inspectors: None — DATE

DATE

DATE

Other Accompanying Personnel: None — DATE

Reviewed By: R. C. Haynes (for) — 5-19-75
R. C. Haynes, Senior Reactor Inspector — DATE

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SUMMARY OF FINDINGS

Enforcement Action

A. Items of Noncompliance

None

B. Deviations

None

Licensee's Action on Previously Identified Enforcement Items

Not applicable

Design Changes

None identified

Unusual Occurrences

None identified

Other Significant Findings

A. Current Findings

1. Acceptable Areas

a. Correlation Between the Facility's Requirements and As-Built Status for Fire Stops on Electrical Safety-Related Cables and Penetration Seals

A visual examination was performed of the installation of fire barriers and compartment boundary seals, and the application of fire-retardant coating for safety-related cables. There is correlation between this construction and the facility's documented requirements. (Details, Paragraph 3)

b. Invokement of Facility Requirements for Fire Stops on Electrical Safety-Related Cables and Penetration Seals in Maintenance and Modification Procedures

There are no requirements for fire stops in this plant and, therefore, they are not addressed in the maintenance and modification procedures. (Details, Paragraph 4)

2. Unresolved Items

None

B. Status of Previously Reported Unresolved Items

Not inspected

Management Interview

At the conclusion of the inspection the inspector held a meeting at the site with the following personnel to discuss the inspection findings:

Yankee Atomic Electric Company

Mr. R. Autio, Plant Superintendent
Mr. W. Jones, Assistant Plant Superintendent
Mr. J. Thayer, Assistant Engineer
Mr. P. Laird, Maintenance Supervisor

The following items were discussed and the inspector's findings were acknowledged by the licensee.

A. Purpose of the Inspection

The inspector stated that the purpose of this special, announced inspection was to examine the documented facility requirements for fire stops on safety-related cables and penetration seals, to visually inspect these items for conformance with the requirements, to examine the licensee's provisions for invoking the requirements during maintenance and modification work and to determine the status of the licensee's efforts with respect to the actions listed in IE Bulletins 75-04 and 75-04A. (Details, Paragraph 2.b)

B. Current Findings: Acceptable Areas

The inspector stated that his review of the following areas revealed acceptable areas:

1. Correlation Between the Facility's Requirements and As-Built Status for Fire Stops on Electrical Safety-Related Cables and Penetration Seals

   The inspector performed a visual examination of all safety-related cable tray penetrations within the scope of the inspection and found the flame barrier requirements were met. (Details, Paragraph 3)

2. Invokement of Facility Requirements for Fire Stops on Electrical Safety-Related Cables and Penetration Seals in Maintenance and Modification Procedures

   The inspector stated that fire stops are not addressed in maintenance and modification procedures. However, there are no requirements for them. (Details, Paragraph 4)

3. Status of Licensee's Efforts re Bulletins 75-04 and 75-04A

   The licensee provided the inspector with a status report of his efforts to comply with IE Bulletins 75-04 and 75-04A. (Details, Paragraph 5)

DETAILS

1. Persons Contacted

Yankee Atomic Electric Company

Mr. H. Autio, Plant Superintendent
Mr. V. Jones, Assistant Plant Superintendent
Mr. J. Thayer, Assistant Engineer
Mr. P. Laird, Maintenance Supervisor

2. General

a. Plant Status

The plant was operating during the inspection.

b. Purpose of Inspection

The purpose of this inspection was to examine the documented facility requirements for fire stops on safety-related cables and penetration seals, to visually inspect these items for conformance with the requirements, to examine the licensee's provisions for invoking the requirements during maintenance and modification work and to determine the status of the licensee's efforts with respect to the actions listed in IE Bulletins 75-04 and 75-04A.

3. Correlation Between the Facility's Requirements and As-Built Status for Fire Stops on Electrical Safety-Related Cables and Penetration Seals

a. Requirements

The information for the installation of cable trays is found on the plant drawings. An example of this can be found on plant drawing number 9699-FE-36G-7 which has details of specific penetration construction.

The normal penetration is depicted as going from cable trays into conduit sleeves through floors and walls.

There are no requirements for flame barriers or fire retardant coatings on the drawings or in the FSAR.

b. Observations

The inspector examined the following areas with the results indicated:

(1) Control Room

(a) Main Console

The cables pass through slots cut in the floor. All penetrations were sealed with duct seal from above and a fiber-glass type insulation from below.

(b) Safety Injection Cabinet

The penetrations are conduit sleeves through the floor. All penetrations were sealed with a fiber-glass type of insulation.

(c) Control Room Walls

Several cable trays pass through the floor against the walls. The fit up between the cable trays and floor was very close. The front side of the trays were covered with sheet metal while the backside (approximately 3 inches from the wall) was open. The inspector could not ascertain if flame barrier material was installed. The licensee stated that flame barrier material was installed.

The inspector took a small sample of the fiber-glass type insulation and applied a flame to it. It would not burn.

(2) Switch Gear Room

This room is directly below the main control room and all wall penetrations are either conduit or cable tray to conduit sleeves. Cable tray penetrations through the ceiling are closed with Masonite Board and duct seal compound.

(3) Cable Tray House

This room is directly above the control room and most cabling-to-primary-containment penetrations pass through

here. All cabling comes up through the floor through conduit sleeves. There is no insulation material packed in these sleeves.

The reactor coolant pump leads are asbestos-cloth wrapped for additional protection.

(4) Primary Auxiliary Building

All areas had the cabling enclosed in conduit except for several runs of mineral insulation cable in cable trays.

(5) Safety Injection Building

All areas had the cabling enclosed in conduit. However, there is an area, "Manhole #3", which is all safety injection cabling that transitions from underground conduits to short sections of unprotected cables and then back to conduits.

(6) Emergency Diesel - Generators Nos. 1, 2, and 3

All cabling is enclosed in conduit. Each diesel-generator is in a separate room with interconnecting fire doors.

(7) Screen House

All cabling is enclosed in conduit.

(8) Additional Features - Smoke Detection System

A smoke detection system has been installed in the following critical areas:

(a) Cable Tray House
(b) Main Control Console
(c) Switch Gear Room
(d) Control Room Ceiling
(e) Safety Injection Building
(f) Vault (documentation)

4. Invokement of Facility Requirements for Fire Stops on Electrical Safety-Related Cables and Penetration Seals in Maintenance and Modification Procedures

The inspector determined that the licensee did not have any maintenance or modification procedures for fire stops on electrical safety-related

cables and penetration seals. The inspector further determined that there were no requirements for fire stops in the plant specifications, drawings and FSAR.

5. Status of Licensee's Efforts re IE Bulletins 75-04 and 75-04A

The inspector requested a status report from the licensee regarding IE Bulletins 75-04 and 75-04A. The licensee stated that a survey of the requirements of Bulletins 75-04 and 75-04A relative to the plant has been made and an evaluation is in progress. (The licensee has mailed the NRC a letter, No. WYR 75-47, dated April 24, 1975, from J. L. French (Yankee Atomic Electric Company) to J. P. O'Reilly (U.S.N.R.C.). This letter provides a schedule for eleven different types of surveys and reviews being conducted by the licensee in response to Bulletins 75-04 and 75-04A. The first plant surveys are scheduled for completion on 5/15/75; the final plant policy review is scheduled for completion on 9/30/75.)

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

MAR 14 1975

Yankee Atomic Electric Company
Attention: Mr. G. Carl Andognini
Assistant to Vice President
20 Turnpike Road
Westborough, Massachusetts 01581

License No. DPR-3
Insp. No. 50-29/75-03

Gentlemen:

This refers to the inspection conducted by Messrs. Streeter and Davis of this office on February 25-27, 1975 at the Yankee Nuclear Power Station, Rowe, Massachusetts of activities authorized by AEC License No. DPR-3 and to the discussions of our findings held by Messrs. Streeter and Davis with Messrs. Heider and Autio and other members of your staff at the conclusion of the inspection, and to a subsequent telephone discussion between Mr. Streeter and Mr. Autio on March 3, 1975.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

Our inspector also verified the steps you had taken to correct the Items of Noncompliance brought to your attention in our letters dated November 11, 1974, and January 10, 1975. We have no further questions regarding Items A.1., A.2., A.3., and B.1.(a) of our January 10 letter. Your actions on items II.2. and III.1. of our November 14 letter and items A.4. and B.1.(b) of our January 10 letter have not yet been completed and will be inspected at a later date.

In addition, our inspector examined those activities conducted under your license relating to the subjects covered in your letters to the Division of Reactor Licensing dated January 31, 1975, (discrepancies between calculated and measured control rod worths) and dated January 20, 1975, (temporary licensee inspection activities). We have no further questions regarding these matters.

Two Deficiencies identified through your internal management system for which corrective action was initiated were reviewed by our inspector and are described in the attached inspection report. No additional information is needed for these items at this time.

During this inspection, it was found that one of your activities was not conducted in accordance with a commitment contained in your Final Hazards Summary Report. This item and references to the pertinent commitment is listed in the enclosure to this letter. Please furnish us with information as to corrective steps which will be taken by you and the date when these steps will be completed.

In accordance with Section 2.790 of the AEC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must include a full statement of the reasons on the basis of which it is claimed that the information is proprietary, and should be prepared so that proprietary information identified in the application is contained in a separate part of the document. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

Eldon J. Brunner, Chief
Reactor Operations Branch

Enclosures:
1. Description of Deviation
2. IE Inspection Report No. 50-29/75-03

cc: H. Autrey, Plant Superintendent
Donald G. Allen, President

bcc:
IE Chief, FS&EB
IE:HQ (4 cpys ltr., 5 cpys report)
IE Files
Central Mail & Files
Directorate of Licensing (4 cpys ltr., 13 cpys report)
Regulatory Standards (1 cpy ltr., 3 cpys report)
PDR
Local PDR
NSIC
TIC
REG:I Reading Room
Region Directors (II, III, IV) (Report Only)
OGC
State of Massachusetts

ENCLOSURE 1

NOTICE OF DEVIATION

Yankee Atomic Power Company
Docket No. 50-29
License No. DPR-3

Based on the results of a NRC inspection conducted on February 25-28, 1975, it appears that certain of your activities were not conducted in accordance with a commitment contained in your Final Hazards Report as indicated below:

Section 213 of the Final Hazards Summary Report states under "Primary Rod Position Indication" that this indication system provides individual control rod position indication with an accuracy of ±3 inches.

Contrary to the above, individual rod positions for rods 4,6,8,9, 14, and 17 on February 27, 1975, were observed by the inspector to be between 4 and 16 inches below the actual positions.

RO:I Form 12
(Jan 75) (Rev)

U.S. NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

IE Inspection Report No: 50-29/75-03 Docket No: 50-29

Licensee: Yankee Atomic Electric Company License No: DPR-3

20 Turnpike Road Priority:

Westborough, Massachusetts 01581 Category: C

Location: Rowe, Massachusetts 01367 Safeguards Group:

Type of Licensee: PWR, 600 MWt (W)

Type of Inspection: Routine, Unannounced

Dates of Inspection: February 25-27, 1975

Dates of Previous Inspection: February 12-14, 1975

Reporting Inspector: _____ 3/13/75
J. F. Streeter, Reactor Inspector — Date

Accompanying Inspectors: _____ 3/13/75
A. B. Davis, Senior Reactor Inspector — Date

_____ Date

_____ Date

_____ Date

Other Accompanying Personnel: NONE

_____ Date

Reviewed By: _____ 3/13/75
A. B. Davis, Senior Reactor Inspector — Date
PWR Section, Reactor Operations Branch

SUMMARY OF FINDINGS

Enforcement Action

A. Items of Noncompliance

None

B. Deviations

Contrary to Section 213 of the Final Hazards Summary Report, the Primary Rod Position Indication was found to not be accurate within ±3 inches.

Licensee Action on Previously Identified Enforcement Items

A. Items of Noncompliance, IE:I Inspection Report 50-29/74-16, Details 13.b.(2), 13.b.(3), 15.b.(3), 16.b.(7), and 16.b.(3)

The licensee's corrective actions with respect to these items were reviewed by the inspector and found complete. (Details, 18, 24, 25)

B. Items of Noncompliance, IE:I Inspection Report 50-29/74-14, Details 2.c.(2) and 2.c.(3); Report 50-29/74-16, Details 13.b.(6) and 15.b.(2)

The licensee's corrective actions with respect to these items were reviewed by the inspector and found to be in progress and not yet complete. (Details 23 and 27)

Design Changes

None Identified

Unusual Occurrences

None Identified

Other Significant Findings

A. Current Findings

1. Acceptable Areas

No inadequacies were identified during inspection of the following areas:

a. Abnormal Occurrences (Detail 4)

b. Flooding Effects of Failure of Non-Safety Related Equipment. (Detail 15)

c. Administration

2. New Unresolved Items

The following item will require additional information from the licensee in order to evaluate acceptability:

Normalization of Calculated Boron Concentration with Measured Values. (Detail 2.b.)

3. Infractions and Deficiencies Identified by Licensee

The following Deficiencies were identified by the licensee and corrective action was completed or initiated in a timely manner.

a. Procedure for Controlling Makeup to Boric Acid Tank (Detail 2.e.)

b. Safety Injection Actuation Signal Surveillance (Detail 16)

B. Status of Previous Unresolved Items*

1. The following items have been resolved:

a. Special Orders. (Detail 3.b.(3))
b. Control Rod Surveillance Program. (Detail 6)
c. Control Rod Banking (Detail 7)
d. Increase in Core and Loop ΔTs. (Detail 8)
e. Performance Discharge Tests of Station Batteries. (Detail 10)
f. Availability of Battery Charger. (Detail 11)
g. Control Rod Worth Discrepancies. (Detail 13)
h. Operating Memos. (Detail 14)
i. Use of the Term "N/A". (Detail 17)
j. Emergency Power Under Voltage Relays (Detail 21)
k. Control of Revisions to Plant Drawings and Procedures (Detail 26)
l. Recalibration of Safety Classified System Instrumentation. (Detail 28)

*Includes item previously identified as "open".

2. The following items remain unresolved:

   a. Hanger Adjustments. (Detail 3.d.(4))
   b. Revision of In-Plant Audit Procedure. (Detail 5)
   c. Inspection of ECCS Circuit Breakers. (Detail 20)
   d. Procurement Control. (Detail 22)
   e. Correlation Data - % Flow vs. MCP Current. (Detail 19)
   f. Polar Crane Control Circuit Failure. (Detail 12)

Management Interview

A management interview was held at the site on February 27, 1975:

Persons Present

Mr. H. A. Autio, Plant Superintendent
Mr. L. X. Bozek, Quality Control and Audit Technician
Mr. M. W. Ebert, Plant Reactor Engineer
Mr. L. H. Heider, Manager of Operations
Mr. W. G. Jones, Assistant Plant Superintendent
Mr. N. N. St. Laurent, Technical Assistant to the Plant Superintendent

Items Discussed

A. Purpose of the Inspection

The inspector stated that the purpose of the inspection was to review; (1) previous open and unresolved items, (2) previous identified Items of Noncompliance, (3) plant operations, (4) abnormal occurrences, (5) safety limits, limiting safety system settings, and limiting conditions for operation.

B. Review of Items of Noncompliance

The items discussed are as identified under the "Enforcement Action" and "Other Significant Findings" sections of this report.

C. Review of Previous Unresolved Items

The items discussed are itemized in the "Status of Previous Unresolved Items" section of this report.

D. Review of Previous Items of Noncompliance

The items discussed are itemized in the "Licensee Action on Previously Identified Enforcement Items" section of this report.

E. Review of Other Findings

The items discussed are itemized in the "Other Significant Findings" section of this report.

F. Status of Proposed Change 112 (Detail 30)

G. Method of Handling Licensee Audit Findings (Detail 31)

DETAILS

1. Persons Contacted

Yankee Atomic Electric Company

Mr. D. Army, Engineering Assistant
Mr. H. A. Autio, Pleant Superintendent
Mr. E. D. Barry, Control Room Operator
Mr. R. L. Berry, Technical Assistant
Mr. W. D. Billings, Chemistry and Health Physics Supervisor
Mr. R. L. Boutwell, Engineering Assistant
Mr. L. X. Bozek, Quality Control and Audit Technician
Mr. T. P. Danek, Operations Supervisor
Mr. R. E. Durfey, Engineering Assistant
Mr. M. W. Ebert, Plant Reactor Engineer
Mr. J. A. Flanigan, Plant Health Physicist
Mr. J. Gedutis, Technical Assistant - Chemistry
Mr. C. W. Goodwin, Control Room Operator
Mr. L. H. Heider, Manager of Operations
Mr. W. G. Jones, Assistant Plant Superintendent
Mr. K. E Jurentkuff, Shift Supervisor
Mr. B. L. Kirk, Shift Supervisor
Mr. L. J. Laffond, Control Room Operator
Mr. P. E. Laird, Maintenance Supervisor
Mr. A. Lepage, Control Room Operator
Mr. R. L. Paradis, Control Room Operator
Mr. L. L. Reed, Quality Control and Audit Coordinator
Mr. I. Seybold, Technical Assistant
Mr. J. H. Shippee, Instrument and Control Supervisor
Mr. J. L. Staub, Technical Assistant
Mr. R. H. Streeter, Storekeeper
Mr. N. N. St. Laurent, Technical Assistant to the Plant Superintendent
Mr. E. A. Walsh, Shift Supervisor

2. Safety Limits (SLs), Limiting Safety System Settings (LSSSs), and Limiting Conditions for Operations (LCOs)

The inspector reviewed selected SLs, LSSSs, and LCOs for the systems listed below to determine compliance with Technical Specification requirements. The review consisted of direct observations of process instrumentation, monitoring of operations, direct observation of consoles, review of instrumentation charts, review of computer printouts, and review of data sheets.

a. Reactor Coolant System

The inspector reviewed the recorder chart for fuel assembly exit thermocouples for the period of August 8 - 14, 1974. Three instances were observed wherein heatup and cooldown rates of the reactor coolant exceeded 50°F/hr for short periods as follows:

(1) Approximately 2045, August 6, 1974
60°F/hr heatup over ¼ hour period

(2) Approximately 0330, August 11, 1974
66°F/hr cooldown over ½ hour period

(3) Approximately 2340, August 11, 1974
80°F/hr cooldown over ½ hour period

Technical Specifications section D.2.d(8) limits the heatup and cooldown rate of the main coolant system to 50°F/hr. For those cases delineated above the average rate over an hour did not exceed 50°F/hr. The licensee's interpretation of this specification was that the average rate for an hour could not exceed 50°F/hr. The inspector had no further questions concerning this matter.

*b. Reactivity and Power Control

The inspector reviewed Rowe Power Station Log - No. 1 for the periods January 1-7, 1975 and February 18-23, 1975 and determined that in all cases while at 100% power and with the existing reactor coolant pressure, the core inlet temperature was below 520°F which is more conservative than the limits for brazed stainless steel clad and zircaloy clad fuel assemblies in Figures 16.3.2-1 and 16.3.2-3 of Chapter 16 of the proposed Technical Specifications.

By review of Procedure OP-4601, Rev. 1, "Nuclear Instrumentation Surveillance Checks," the inspector determined that the power trip was less than 108% when tested on December 3, 1974, December 18, 1974, and January 21, 1975, and February 20, 1975.

By discussions with a licensee representative, review of the incore instrumentation mimic panel, and observations of a temperature recorder the inspector determined the following:

(1) Two fission chambers were available to traverse 20 available incore paths, one of which was the hot channel.

(2) More than 16 thermocouples were available to monitor radial core fuel exit temperatures.

The inspector observed a plot of boron concentration versus burnup for the present core. Extrapolation of this core appeared to intersect the abscissa at the expected core burnup at end of life. The licensee had not normalized the calculated boron concentration with this measured value to determine how well this core is meeting predictions, but agreed to do so. This matter is unresolved pending fullfillment of this commitment.

c. Core and Internals

The inspector determined by review of the Chemistry Log Book for the periods of January 2-20, 1975, January 22, 1975, February 6, 1975, and February 20, 1975 that the O_2, Cl^-, and F^- concentrations in primary coolant bleed samples were <0.01, <0.1, $<.01$ respectively. These values are within those specified in Section 106 of the Final Hazards Summary Report and in proposed Technical Specifications 16.4.18.

d. Power Conversion Systems

The inspector reviewed procedure OP-6100 Attachment K, "Functional Test of Scram Circuits." This procedure demonstrated that a turbine trip caused a reactor trip. It is performed each time the reactor has been subcritical for more than eight hours.

The inspector reviewed parts of a report prepared byestinghouse entitled "Steam Turbine Inspection Report." In the period May 13, 1974 - August 17, 1974, during the refueling outage,turbine maintenance was performed and trip points were adjusted. The as left trip set points were:

(1) Low vacuum - 16.3 in. Hg.
(2) Thrust bearing - 70 to 73 psig oil pressure

(3) Low lube oil pressure - 2 psig
(4) Overspeed trip - 23 to 25 psig oil pressure to move weight

In addition, the manual trip was demonstrated to be operable.

The inspector also determined that procedure OP-2102, "Turbine Startup", requires the following to be accomplished after a maintenance outage or incidental outage that has been preceded by 2 or more months of continuous operation:

(1) Control valve exercise
(2) Thrust bearing trip test
(3) Overspeed trip oil test
(4) Overspeed trip test
(5) Low bearing oil pressure trip test.

The inspector reviewed procedure OP-4605, "Steam Generator Narrow Range Level Trip Calibration," to determine proper trip settings. This procedure is performed on a 15 month frequency. Trip settings were satisfactory (i.e. no more than 15" below normal level) for SG-1(6/6/74), SG-2(5/30/74), SG-3 (5/29/74), and SG-4(5/28/74).

e. Auxiliary Systems

By review of engineering flow diagrams the inspector determined that two operable paths exist for boron injection to the reactor coolant system. One path was the emergency boration path; the other was from the boric acid tank to the low pressure storage tank.

By direct observation of the boric acid tank, the inspector determined that 330 gal. (versus a Technical Specification requirement of 1500 gal. minimum) of liquid existed in the tank. By review of chemistry analysis sheets, the inspector determined the tank content varied between 11.9% and 13% HPO_3 for five analyes made between 1/2/75 and 2/20/75. By direct observations of a temperature gauge the inspector determined the tank temperature to be 152^{o}F. These results were acceptable.

In reviewing the data to determine the boric acid concentration in the boric acid tank, it was determined that a procedure was not issued to cover the interactions between the chemistry and operations departments in controlling the makeup to the tank and to assure an analysis after makeup was accomplished. This evaluation was being performed by informal, oral communication. This finding was also

made by an internal licensee audit. This is contrary to Technical Specification D.1. which states in part that "...plant operations which have a significant direct or potential effect on the reactor and its auxiliary systems shall be conducted in accordance with written procedures."

To correct this situation, a procedure is being prepared. The inspector reviewed a handwritten draft of the procedure and obtained a commitment that an approved procedure would be issued by March 31, 1975. This Item of Noncompliance identified by the licensee is considered to be a Deficiency.

f. Electrical System

By review of Memorandum to File H-30 dated November 6, 1973, entitled "Plant Load Reduction to Repair Damage Caused by Electrical Fault," the inspector determined that the required reactor power reduction from 600 MWt to <450 MWt was made when power from bus Z-126 was lost due to a fault at Harriman Station. This was the last loss of a 115Kv line which has occurred. Licensee action was consistent with Technical Specification requirements.

g. Emergency Power

The inspector reviewed procedure OP-4209 Rev. 1, which was performed in June 1974 for all three diesel generators. The procedure tested the automatic starting of each diesel after iniating loss of voltage on the three associated emergency buses. The results were satisfactory for each diesel generator.

The inspector review procedure OP-426 and Abnormal Occurrence AO-73-8 to determine if each operable diesel generator was started within 2 hours to demonstrate operability after one diesel generator was found inoperable. The following satisfactory information was obtained:

(1) DG#1 was inoperable on May 30, 1974 at 1000
(2) DG#2 was started on May 30, 1974 at 1135
(3) DG#3 was started on May 30, 1974 at 1145

By direct observation the inspector determined the quantity of fuel oil stored in the three day tanks and the diesel fuel oil storage tank. All tanks exceeded minimum requirements which are 210 gal in each day tank and 8000 gal. in the average tank.

The inspector determined by conversation with a licensee representative that diesel oil acceptance testing consists of a moisture test. The inspector informed the licensee that the standard specifications being prepared for newer plants required more acceptance testing.

h. Emergency Core Cooling System

By direct observation in the plant and by review of procedure OP-4204 Rev. 2 for weekly periods from 1/3/75 to 2/20/75 the inspector verified that the Safety Injection System was in a condition of readiness to inject borated water into the reactor. This determination was made by observing valves to be in the properly opened or locked open positions in the LPSI, HPSI and Accumulator piping and by reviewing weekly operating data which documented recirculation operation of the HPSI and LPSI pumps.

i. Other Engineered Safety Feature

By review of procedure OP-2100 (and its contained stepwise checkoff initials), the inspector determined that vapor containment integrity was established at the appropriate time during plant startup from cold shutdown on August 25, 1974.

3. Review of Plant Operations

a. The inspector reviewed the following logs and operating records:

Shift Supervisor Log	2/1/75-2/10/75
Rowe Station Log No. 1	2/1/75-2/10/75
Rowe Station Log No. 2	2/1/75-2/10/75
Primary Plant Log Sheets	2/1/75-2/10/75
Secondary Plant Log Sheets	2/1/75-2/10/75
Special Order Book	1/1/75-2/25/75
Maintenance Request Log	12/19/74-2/26/75
Bypass of Safety Function and Jumper Control Requests	Nos. 74-48 and 75-1
Plant Information Reports	Nos. 25, 26, and 27

The above records were reviewed to determine if:

(1) Control room log sheets were filled out and signed.

(2) Auxiliary (primary plant) log sheets were filled out and signed.

(3) Shift Supervisor Log was being maintained in accordance with the applicable plant procedure.

(4) Log book reviews were being conducted by the plant staff.

(5) Jumpers or bypasses did not contain bypassing discrepancies with Technical Specification requirements.

(6) Plant Information Reports confirm that reported problems do not involve noncompliances with Technical Specifications requirements.

b. The inspector had the following comments on the above listed logs and records:

(1) Logs were being maintained in accordance with established procedures.

(2) Jumpers and bypasses and Plant Information Reports did not involve noncompliances with Technical Specification requirements.

(3) Improvements had been made by the licensee in the upkeep of the Special Order Book. The concern documented in IE Inspection Report 50-29/74 16, Detail 4.b.(2), is resolved.

c. The inspectors toured the general plant accessible areas on February 25 and toured the Vapor Containment on February 27. Observations were made of the following:

(1) Monitoring instrumentation;

(2) Annunciator alarms;

(3) Duty control room personnel;

(4) Radiation exposure control;

(5) Housekeeping;

(6) Fluid leaks and piping vibrations;

(7) Pipe hanger adjustments;

(8) Valve positions;

(9) Equipment tag status; and

(10) Discussions with control room personnel.

d. The inspector had the following comments on items observed during the tours:

(1) The multi-channel recorder paper on the Radiation Monitoring System Console was not properly timed. The licensee adjusted the paper and the inspector had no further questions concerning this matter.

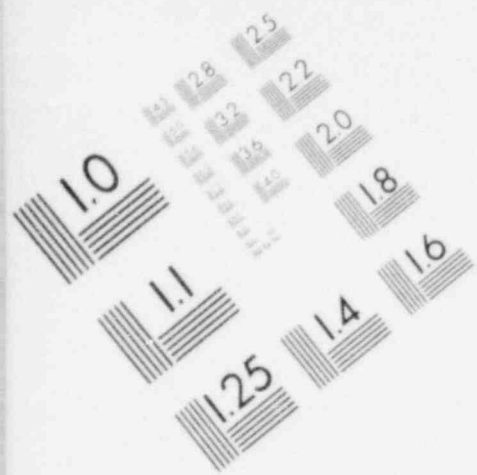
(2) The calibration sticker on a safety injection loop pressure transmitter indicated the instrument was past due for calibration and another transmitter did not have a sticker affixed. The licensee's calibration records indicated that the instruments were not overdue for calibration and the licensee affixed stickers on the two instruments that agreed with the calibration records. The inspector had no further questions concerning this matter.

(3) The Primary Rod Position Indication (individual rod indication) display on the main control board indicated that several rods were lower than the actual positions established through cross checks between visicorder calibration data and the Secondary Rod Position Indication (group indication). The following data was gathered from the main control board indicators on February 23:

Control Rod	Individual Indication (Inches Withdrawn)	Group (Actual) Indication (Inches Withdrawn)	Error (Inches
4	75	80 2/8	5 2/8
6	84	88 1/8	4 1/8
8	75	88 1/8	13 1/8
9	72	88 1/8	16 1/8
14	84	88 1/8	4 1/8
17	81	88 1/8	7 1/8

This lack of accuracy in the individual rod position indication system is contrary to the statement in Section 213 of the Final Hazards Suammary Report which states that "...the accuracy is sufficient for power plant operation, and is within #3 in." The inspector noted that this same statement had been incorporated into the licensee's proposed FSAR. This item is considered to be a Deviation and a response from the licensee addressing this matter is required. (Refer to Detail 7)

(4) The inspector observed that the spring hangers on the pressurizer surge line and the rigid hangers on the safety injection ring header had not been adjusted since the last site visit by the inspector. The licensee stated that he had recently issued a



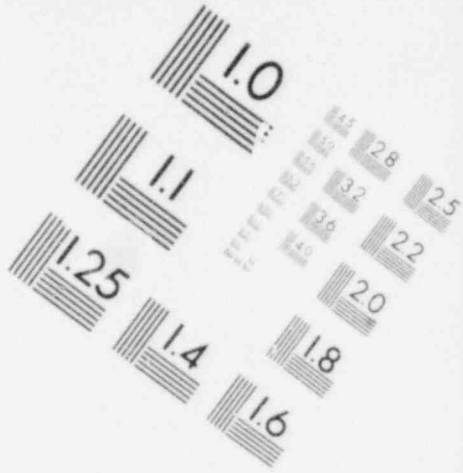
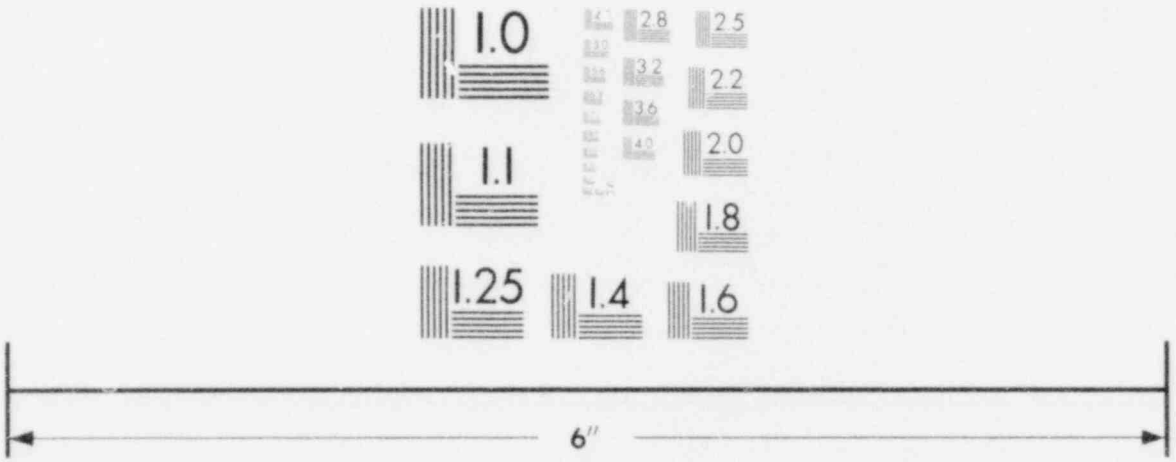
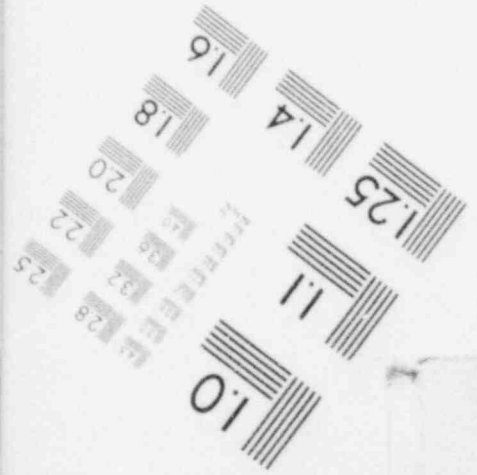
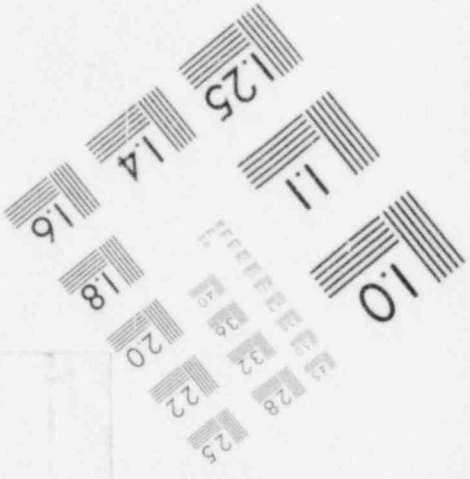


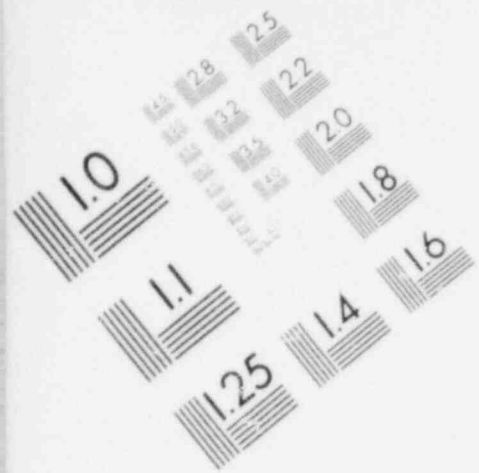
IMAGE EVALUATION
TEST TARGET (MT-3)



MICROCOPY RESOLUTION TEST CHART







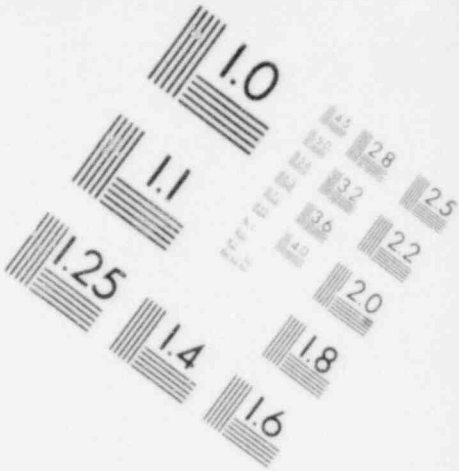
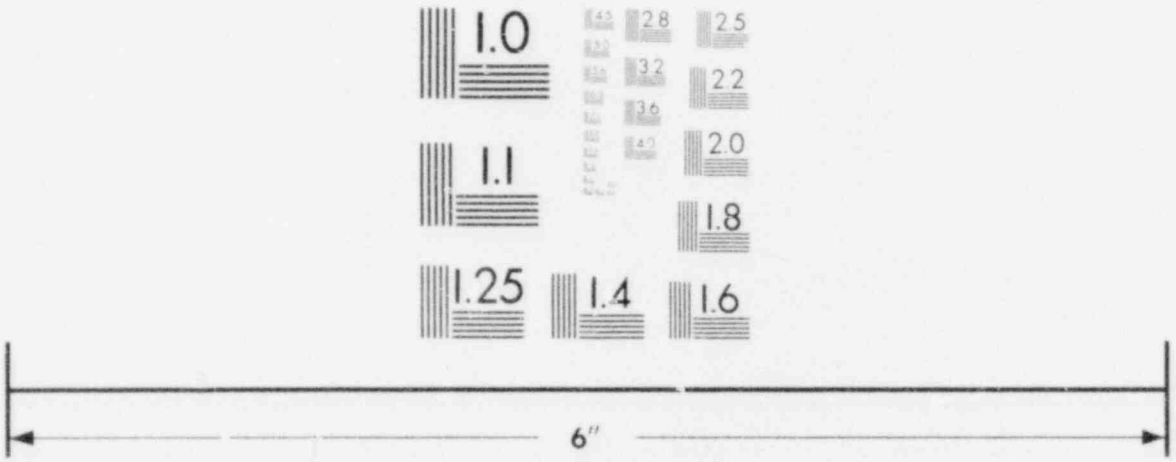
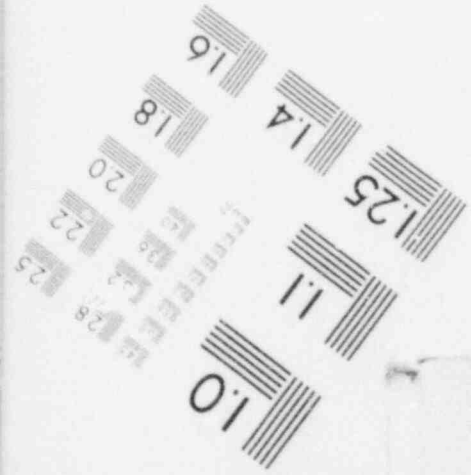


IMAGE EVALUATION
TEST TARGET (MT-3)



MICROCOPY RESOLUTION TEST CHART



procedure concerning this matter and the work was to be done soon. The inspector reviewed a copy of procedure OP-5107, "Inspection and Adjustment of Pipe Hangers," issued on 2/4/75 and had no further questions on this item at this time. The concern documented in IE Inspection Report 50-29/74-16, Detail 4.c.(8), remains unresolved pending completion of hanger adjustments.

4. Abnormal Occurrences

The inspector noted that no abnormal occurrences had been reported to IE:I since the date of IE:I inpsection 50-29/74-16.

The inspector examined the following records to determine if the related events were reportable as abnormal occurrences or unusual events in accordance with Technical Specification E.2:

System	Records Examined	Description of Maintenance
Charging and Volume Control	MR 74-596 JO 74-206 Weld Data Sheet LP Inspection Report QA Inspection Record	Repaired crack in #1 charging pump suction strainer weld.
Steam Generator Level Control	MR 74-515 JO 74-185 OP-4604 OP-6264	Repaired low level alarm on #3 steam generator.

The inspector agreed that the events were not reportable as abnormal occurrences or unusual events and had no further questions concerning this matter.

5. In-Plant Audit Program

The inspector reviewed the status of the In-Plant Audit Program and noted that the yearly cycle of the audit program that was due for completion on 5/75 was completed in 12/74. This was accomplished by the licensee in order to convert from a cycle beginning and ending in May to a calendar year cycle.

The inspector reviewed a draft of procedure OOA-119, "In-Plant Audit Program." The procedure as reviewed would resolve the concerns documented in IE:I Inspection Report 50-29/74-16, Detail 5.b.(3). This item remains unresolved pending licensee issuance of final procedure.

6. Control Rod Surveillance Program

Reference: (1) NRR letter to licensee dated February 19, 1975
(2) Licensee letter to NRR dated February 14, 1975
(3) NRR letter to licensee dated January 22, 1975
(4) IE:I Inspection Report 50-29/74-16, Detail 6
(5) Licensee letter to Directorate of Licensing dated September 4, 1974.
(6) Licensee letter to Division of Reactor Licensing dated August 27, 1964.

The Office of Nuclear Reactor Regulation authorized in reference (1) a temporary 4 week extension of the current 12 week surveillance interval for control rod drop testing. The next control rod drop test must be performed not later than March 22, 1975. The concern documented in reference (4) is resolved.

7. Control Rod Banking

Reference: IE:I Inspection Report 50-29/74-16, Detail 7

The inspection reviewed data from control rod position checks made on 12/26/74, 1/9/75, 1/28/75, and 2/6/75. These checks are normally made every six weeks to provide a periodic program to insure proper control rod banking. The checks were conducted bi-weekly for a period to determine why rods 9, 10, 16, 22, and 24 were being found out of bank (lower) by about two inches.

The results of the latest surveillance tests mentioned above have reinforced the licensee's opinion that the rods are not slipping in. The problem is believed by the licensee to be that the subject rods cannot be moved with the remainder of the rods in the banks beyond 87 3/8." It has not been determined why certain rods cannot be moved beyond 87 3/8" and this will be the subject of a licensee investigation during the next refueling shutdown.

As stated in the IE:I Inspection Report 50-29/74-16, Detail 7, the licensee has evaluated the safety aspects of this problem and believes that safety of plant operations has not been reduced. The Plant Operations Review Committee (PORC) reviewed the banking problem in Meeting 75-8 on February 4. The inspector had no further questions concerning this matter at this time.

8. Increase in Core and Loop ΔT's

Reference: (1) IE:I Inspection Report 50-29/74-16, Detail 7
(2) IE:I Inspection Report 50-29/74-02, Detail 18
(3) Licensee's Semi-annual Operating Report for the period July 1, 1973, to December 31, 1973

The PORC has reviewed the increase in core and loop ΔT's that has been attributed by the licensee to scatter of temperature data. The inspector had no further questions concerning this matter at this time.

9. Main Coolant Pump and Check Valve Repairs

Reference: (1) IE:I Inspection Report 50-29/74-16, Detail 8
(2) IE:I Inspection Report 50-29/74-14, Details 2.c.(2) and 2.c.(3)
(3) Licensee letter to IE:I dated December 9, 1974.

The inspector verified that the licensee has drafted revisions to procedures OP-5200, "Main Coolant Check Valve Repair," and OP-5204 "Main Coolant Pump Inspection and Repairs"; however, since this action is incomplete these items remain unresolved.

10. Performance Discharge Tests of Station Batteries

The inspector reviewed procedure AP-5000, Rev. 1., "Maintenance Department Surveillance Schedule," and determined that the licensee plans to conduct station battery capacity tests every 3 years. The concern identified in IE:I Inspection Reports 50-29/74-06, Detail 5, and 50-29/74-14, Detail 19, dealing with the subject tests is resolved.

11. Availability of Battery Charger

The inspector reviewed a draft of Plant Design Change Request 74-14 which provides for a modification of No. 1 and 2 battery charger circuits that includes adding an alarm circuit to give an alarm in the Control Room whenever the charger fuses open. The provisions of PDCR 74-14 resolves the concern documented in IE:I Inspection Report 50-29/73-04, Detail 11.d.

12. Polar Crane Control Circuit Failure

The licensee has decided to modify the polar crane control circuit by providing a redundant and diverse upper limit interlock. The licensee is in the process of ordering parts for the modification and will probably make the modification during the next refueling shutdown. This concern identified in IE:I Inspection Report 50-29/74-06, Detail 16.b., remains unresolved.

13. Control Rod Worth Discrepancies

Reference: (1) Licensee letter to NRR dated January 31, 1975
(2) Licensee letter to IE:I dated September 18, 1974.

The inspector reviewed reference (1) in which the licensee concluded that operation at full power to end-of-life of Core XI with the measured rod worths is covered by the safety analysis conducted using calculated rod worths. The inspector had no further questions concerning this matter.

14. Operating Memos

Reference: (1) Licensee letter to IE:I dated February 12, 1975
(2) IE:I Inspection Report 50-29 75-01, Detail 2
(3) IE:I Inspection Report 50-29/74-16, Detail 10

The inspector reviewed the licensee's effort in eliminating all safety-related Operating Memos by cancelling the memos or incorporating them into new or existing plant procedures. The licensee had completed this action before the March 15, 1975, date established in reference (1). This matter is resolved.

15. Flooding Effects of Failures of Non-Safety Related Equipment

The inspector reviewed the temporary protective measures which were initiated by the licensee to protect vital areas from flooding in the event of a failure of non-safety related equipment. The licensee's action was as stated in his letter to the NRC dated January 20, 1975 (WYR 75-9). The inspector had no further questions concerning this matter at this time.

16. Safety Injection Actuation Signal Surveillance

The inspector reviewed surveillance data for the two containment air pressure switches that initiate a Safety Injection Actuation Signal. The inspector noted that the monthly operational checks of the switches were not made during January as required by FHSR Section 509 and Technical Specification D.2.i. The licensee provided the inspector with information that indicated the licensee had previously discovered this missed surveillance test and had taken appropriate corrective action to prevent recurrence. This Item of Noncompliance identified by the licensee is considered to be a Deficiency.

17. Use of the Term "N/A"

The licensee provided information that indicated the licensee is presently considering all "N/A" entries in procedures as changes to approved procedures. The "N/A" entries are being approved by two Senior licensed individuals and the PORC. The concern documented in IE:I Inspection Report 50-29/74-16, Detail 13.b.(4), is resolved.

18. Failure to Report an Abnormal Occurrence

Reference: (1) Licensee letter to IE:I dated February 7, 1975
(2) IE:I Inspection Report 50-29/74-16, Detail 13.b.(2)

The licensee's corrective action as stated in reference (1) is acceptable. This items is resolved.

19. Correlation Data - % Flow vs. MCP Current

Reference: (1) Licensee letter to NRC dated February 19, 1975
(2) NRR letter to licensee dated January 30, 1975
(3) Licensee letter to NRC dated January 31, 1975
(4) IE:I Inspection Report 50-29/74-16, Detail 13.b.(2)

The inspector stated that he had reviewed the referenced material and could not determine from the data if the main coolant pump low current set points were equivalent to a flow of no less than 80% of normal main coolant flow. The licensee stated that this problem had been referred to Westborough for resolution and that Westborough would resolve the issue with NRR. This item identified in reference (4) remains unresolved.

20. Inspection of ECCS Circuit Breakers

The licensee had drafted a revision of procedure OP-4506, "Inspection of ECCS Circuit Breakers," to resolve the concerns identified in IE:I Inspection Report 50-29/74-16, Detail 13.b.(8). This item remains unresolved pending issuance of the final procedure.

21. Emergency Power Under Voltage Relays

The licensee stated that verification testing of under voltage relay setpoints had been incorporated into the preventive maintenance program and would be performed during the next refueling outage. The concern documented in IE:I Inspection Report 50-29/74-16, Detail 13.b.(9), is resolved.

22. Procurement Control

The licensee stated that Guideline No. 1 is still under revision and an approved vendors list is being compiled. The revision effort should make Guideline No. 1 consistent with procedure AP-0211 in the area of vendors lists. This item identified in IE:I Inspection Report 50-29/74-16, Detail 14.b., remains unresolved.

23. Fire Proof Files

The licensee has received some additional fireproof files to be used for the storage of plant quality assurance records. This Item of Noncompliance identified in IE:I Inspection Report 50-29/74-16, Detail 15.b.(2), remains unresolved pending filing of QA records in these files.

24. Unapproved Changes to Procedures

Reference: (1) Licensee letter to IE:I dated February 7, 1975
(2) IE:I Inspection Report 50-29/74-16, Details 13.b.(3), 15.b.(3), and 16.b.(3)

The licensee's corrective action described in reference (1) is acceptable. This item is resolved.

25. Plant Drawings

References: (1) IE:I letter to licensee dated February 25, 1975
(2) Licensee letter to IE:I dated February 7, 1975
(3) IE:I Inspection Report 50-29/74-16, Detail 16.b.(7)

The licensee's corrective action described in reference (1) is acceptable. Procedure AP-0225 "Plant Drawings", was issued for use on February 20, 1975. This item is resolved.

26. Control of Revisions to Plant Drawings and Procedures

The licensee has revised procedure AP-0222, "Job Orders", to assure effective control over the identification and revision of drawings and procedures affected by design changes. The concerns identified in IE:I Inspection Report 50-29/74-16, Details 16.b.(6), 16.b.(7), and 16.c., are resolved.

27. Test Equipment Requiring Outside Calibration

Reference: (1) IE:I letter to licensee dated February 25, 1975
(2) Licensee letter to IE:I dated February 7, 1975
(3) IE:I Inspection Report 50-29/74-16, Detail 13.b.(6)

The licensee's corrective action described in reference (1) is acceptable. This item remains unresolved pending revision of procedure AP-0215.

28. Recalibration of Safety Classified System Instrumentation

The licensee stated that when measuring and test equipment used to perform calibrations on a safety classified system is found out of tolerance and the out of tolerance condition resulted in a less conservative safety system calibration, the Plant Superintendent will review and approve action on the matter. The concern documented in IE:I Inspection Report 50-29/74-16, Detail 13.b.(6), remains unresolved pending revision of procedure AP-6002 to incorporate the Plant Superintendent involvement.

29. Administration

The inspector reviewed the licensee's method for handling the review Items of Noncompliance identified by NRC inspectors and the method for processing proposed tests and experiments. Plant personnel were congizant of requirments and their responsibilities in these areas. The inspector had no further questions concerning this matter.

30. Status of Proposed Change 112

The licensee expessed concern over the NRC delay in reviewing and approving Proposed Change 112 to the Technical Specifications which was submitted by the licensee on January 3, 1974. This change included plant Technical Specifications in a format outlined in Regulatory Guide 1.70. To aid in the NRC review and approval of this change the licensee also provided the Final Hazards Summary Report rewritten in FSAR format.

The licensee submitted a letter to NRC on October 21, 1974, requesting that a program be established to expedite the review of this proposed change. The basis for this request was that approval of the change would substantially assist both the staff and the NRC in providing the necessary guidelines to prevent difficulties currently encountered with the present Technical Specifications and FHSR.

The inspector acknowledged the licensee's remarks and stated that RL had established a schedule for review and approval of the change. The expected completion date is September 1975.

31. Method of Handling Licensee Audit Findings

The inspector informed the licensee that all licensee findings identified by the licensee as Items of Noncompliance would be documented in IE Inspection reports as Items of Noncompliance. The inspector stated that a Notice of Violation would not be issued for such items unless the items were Violations or the licensee failed to take timely corrective actions.

The licensee expressed concern over the fact that he would be penalized for an effective program (i.e., the more Items of Noncompliance he discovers and properly resolves the worse his program appears). The licensee also indicated that there was no Regulatory requirement for him to document his findings as Items of Noncompliance. The inspector acknowleged the licensee's comments.