UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report No.: 50-416/85-27

Licensee: Mississippi Power and Light Company
Jackson, MS 39205

Docket No.: 50-416 License No.: NPF-29

Facility Name: Grand Gulf

Inspection Conducted: July 29 - August 2, 1985

Inspector: _____ 9/11/85
M. F. Runyan Date Signed

Accompanying Personnel: J. H. Moorman, III, Region II

Approved by: _____ 9/11/85
G. A. Belisle, Acting Chief Date Signed
Quality Assurance Programs Section
Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection entailed 68 inspector-hours on site in the areas of QA program review, QA/QC administration, surveillance testing and calibration control, and measuring and test equipment.

Results: One violation was identified - Failure to promptly evaluate measuring and test equipment found out of calibration.

REPORT DETAILS

1. Persons Contacted

Licensee Employees

M. Asmus, Instrumentation and Control (I&C) Planning Supervisor
*J. Bailey, Compliance Coordinator
*J. Cross, General Manager
*L. Daughtery, Compliance Superintendent
R. Harrison, Production Aide
J. Holder, I&C Supervisor
B. Lee, Quality Assurance (QA) Supervisor, Audits
A. Malone, In Service Inspection Coordinator
*R. Moomaw, I&C Superintendent
*J. Roberts, Technical Support Superintendent
*R. Rogers, Assistant to the General Manager
*S. Tanner, Manager, Nuclear Site QA
L. Temple, I&C Supervisor
J. Yelverton, Manager, Plant Support
G. Zinke, Technical Engineering Supervisor

NRC Resident Inspectors

*R. Butcher
J. Caldwell

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 2, 1985, with those persons indicated in paragraph 1 above. The inspector described the areas inspected and discussed in detail the inspection findings listed below.

Violation, Failure to Promptly Evaluate Measuring and Test Equipment (M&TE) Found out of Calibration, paragraph 8.a.

Inspector Followup Item, Environmental Conditions in the M&TE Calibration Lab, paragraph 8.b.

As a result of Region II management review, a portion of the violation was removed and made an unresolved item. The licensee was informed of this action during a telephone conversation conducted on August 29, 1985.

Unresolved Item, Evaluations of Installed Process Instruments, paragraph 7.

The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

4. Unresolved Items*

One unresolved item was identified relating to evaluating installed process instrumentation and is discussed in paragraph 7.

5. QA Program Review (35701)

Reference: 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants

The inspector reviewed the licensee QA Program required by the above reference to verify that these activities were conducted in accordance with regulatory requirements. The following criteria were used during this review to assess overall acceptability of the established program:

- Personnel responsible for preparing implementing procedures understand the significance of changes to these procedures.

- Licensee procedures were in conformance with the QA Program.

The procedures discussed throughout this report were reviewed to verify conformance with the QA Program. The inspectors reviewed QA Program implementation as a part of the inspection. Each specific area is detailed in other paragraphs of this report. Problem areas, if identified, are detailed in the specific area inspected.

6. QA/QC Administration (35751)

Reference: 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants

The inspector reviewed the licensee QA/QC administration program required by the reference to verify that activities were conducted in accordance with regulatory requirements. The following criteria were used during this review to determine the overall acceptability of the established program:

- Licensee QA program documents identified those structures, systems, components, documents, and activities to which the QA program applies.

*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.

- Procedures and responsibilities were established for making changes to these documents.

- Administrative controls were established for QA/QC department procedure review, inspection, and auditing. These controls assured review and approval prior to implementation, provided methods to make changes and revisions, and established methods for distribution and obsolete procedure recall.

- Responsibilities were established to assure QA program review for overall effectiveness.

- Administrative controls were established to modify the QA program based on identified problems areas.

The documents listed below were reviewed to verify that these criteria were incorporated into the licensee's administrative procedures for QA/QC administrative activities.

MP&L Operational Quality Assurance Manual, MPL-TOP-1A, Revision 4

Policy 2	Quality Assurance Program
Policy 5	Instructions, Procedures, and Drawings
Policy 8	Identification and Control of Materials, Parts and Components
Policy 16	Corrective Action
Policy 18	Audits
QAP 2.10	Quality Assurance Status Report to Management, Revision 5
QAP 5.10	Procedure Preparation; Procedure and Manual Revision, Distribution, and Control, Revision 13
QAP 6.10	Performance and Documentation of Reviews, Revision 18
QAP 18.10	Quality Assurance Audits, Revision 16
QAP 18.14	Quality Assirance Monitoring Audits, Revision 9

The site Quality Assurance department was recently reorganized to encompass the function of the Plant Quality department. It appears that this reorganization will have a positive effect on the function of quality inspections.

Within this area no violations or deviations were identified.

7. Surveillance Testing and Calibration Control (61725)

References: (a) 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants

(b) Regulatory Guide 1.33, Quality Assurance Program Requirements (Operations), Revision 2

(c) ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants

(d) Technical Specifications, Section 4

The inspector reviewed the licensee surveillance testing and calibation control program required by references (a) through (d) to verify that the program had been established in accordance with regulatory requirements, industry guides and standards, and Technical Specifications. The following criteria were used during this review to determine the overall acceptability of the established program:

- A master schedule for surveillance testing and calibration delineated test frequency, current status, and responsibilities for performance.

- The master schedule reflected the latest revisions of the Technical Specifications and operating license.

- Responsibilities were assigned to maintain the master schedule up-to-date and to ensure that required tests are performed.

- Detailed procedures with appropriate acceptance criteria were approved for all surveillance testing requirements.

- The program defined responsibilities for the evaluation of surveillance test data as well as the method of reporting deficiencies and malfunctions.

The inspector also verified that similar controls were established for calibrating instruments used to verify safety functions but not specifically identified in the Technical Specifications (TS). The documents listed below were reviewed to verify that these criteria were incorporated into the surveillance testing and calibration control program:

MP&L Operational Quality Assurance Manual, MPL-TOP-1A, Revision 4
- Policy 5 Instructions, Procedures, and Drawings
- Policy 11 Test Control
- Policy 15 Nonconforming Materials, Parts, or Components
- Policy 16 Corrective Action

01-S-03-3 Material Nonconformance Reports, Revision 14
01-S-06-12 GGNS Surveillance Program, Revision 9
01-S-07-8 Control of Permanent Plant I&C Equipment Calibration, Revision 6
01-S-07-10 Preservice and Inservice Inspection, Revision 2

The following site QA audits were reviewed as a means of determining where the licensee had discovered problems in the area of surveillance testing and calibration:

MAR 84-30	Emergency Core Cooling System, 3/14/84
MAR 84-69	Control of Permanent Plant I&C Equipment Calibration, 5/18/84
MAR 84-75	Implementation of Surveillance Procedure 06-IC-1E12-M-1010, Interface Valve Pressure Functional Test, 5/9/84
MAR 84-76	Implementation of Surveillance Procedure 06-IC-1E51-0003, Suppression Pool High Water Level, (RCIC) Functional Test, 5/22/84
MAR 84-78	Implementation of Surveillance Procedure 06-IC-1E12-R-0002, RHR Pump Discharge Pressure (ADS), 5/14/84
MAR 84-82	Implementation of Surveillance Procedure 06-OP-1E21-M-0001, LPCS Monthly Functional Test, 5/9/84
MAR 84-103	Implementation of Surveillance Procedure 06-IC-1C51-Q-0002, Average Power Range Monitor Calibration, 7/23/84
MAR 84-116	Control of Permanent Plant I&C Equipment Instrumentation, 7/12/84
MAR 84-123	ASME, Section XI, Repair/Replacment Program, 9/20/84
MAR 84-139	Control of Permanent Plant I&C Functional Testing, 8/28/84
MAR 85-34	Seismic Monitoring Instrumentation Set points, 5/9/85
MAR 85-39	Radiation Monitoring Instrumentation, 4/17/85

An incident report identified that a data package was reviewed and found to have previously undiscovered "as-found" data exceeding TS limits. Another discrepancy involved the use of a superseded surveillance test procedure. Further licensee investigation identified that procedure change routing slips were not being returned to Document Control. Other discrepancies were primarily administrative in nature and corrective action appeared to be adequate.

The inspector reviewed the surveillance test master schedule which consisted of a computer data base for TS, inservice inspection (ISI), and industry requirements. For each procedure, the standing maintenance work order, last completion date, next due date, latest due date (considering grace periods), and applicable plant modes were delineated. Methods used to schedule tests, verify completion, and anticipate testing requirements for changing plant modes appeared to be adequate.

To evaluate the surveillance test program implementation, the following TS requirements were traced to plant procedures and the master schedule:

TS	Plant Procedure
4.2.1.a	*06-RE-1J11-V-0001
A.3.2.1	06-OP-1000-D-0001
4.4.1.2.1	*06-RE-1B33-D-0001
4.4.2.2.1	*06-IC-1B21-M-1001
4.5.1.d.1	*06-OP-1B21-R-0009
4.6.1.2.f	06-ME-1M61-V-0001
4.7.1.2.a	06-OP-1P41-M-0001
4.8.1.1.2.a.5	*06-OP-1P75-M-0001

All plant procedures reviewed above were scheduled for periodic performance at the frequency specified by TS. Those procedures marked with an asterisk were specifically reviewed and determined to meet the intent of the corresponding TS requirement.

The following completed surveillance test data packages were reviewed for administrative and technical adequacy:

06-OP-1E22-Q-0005	HPCS Quarterly Functional Test, 3/9/85
06-IC-1B21-R-0008	Reactor Vessel Water Level, Channel E Calibration, 3/12/85
06-OP-1E12-M-0001	LPCS Monthly Functional Test, 5/11/85
06-IC-1C51-Q-0002	Average Power Range Monitor Calibration, 1/1/85

The above data packages were complete, properly reviewed, and met stated TS acceptance criteria. In the HPCS Functional Test, a HPCS jockey pump is correctly identified as being in the required action range for differential pressure. Corrective measures for this event are identified in the ISI program for pumps and valves and ASME Code XI, Sections IWP and IWV. The latest ISI program submittal was made June 28, 1985, as Revision 1 and is pending approval from Division of Licensing, NRR.

The licensee is required to establish a calibration program for installed process instrumentation associated with safety-related systems or functions. The following instruments were chosen at random and verified to be contained within the program

Diesel Driven Fire Pump A	Discharge Pressure PI-R008A Suction Pressure PI-R004A Discharge Flow FI-R005
RHR Pump A	Flow FI-R603A and FI-R200A

Safety-related instruments were calibrated every 18 months while non-safety-related instruments were calibrated every 36 months. These frequencies were consistent with good engineering practice.

Within this area, one unresolved item was identified. The Operational Quality Assurance Manual commits to Regulatory Guide 1.33 which endorses ANSI N18.7-1976. Section 5.2.16 of this standard requires that when calibration, testing, or other measuring devices are found out of calibration, an evaluation shall be made and documented concerning the validity of previous tests and the acceptability of devices previously tested from the time of the previous calibration. Evaluations are not being performed when installed process instruments used to verify TS acceptance criteria are found out of calibration. Plant installed process instrumentation used to verify safety-related activities (i.e., those required by TS) should be under the control of this requirement in that test results derived from this instrumentation could, when reevaluated, be identified as an unsafe condition and require further action in accordance with 10 CFR 50 regulations and the TS. However, due to the generic nature of this issue and the need for further consideration by NRC, a violation is not warranted at this time. Pending further resolution, this item will be identifed as Unresolved Item 416/85-27-02, Evaluations of Installed Process Instruments.

8. Measuring and Test Equipment Program (61724)

References:

(a) 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants

(b) Regulatory Guide 1.33, Quality Assurance Program Requirements (Operations), Revision 2

(c) ANSI N18.7-1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants

(d) Regulatory Guide 1.30, Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment, August 11, 1972

(e) ANSI N45.2.4-1972, IEEE Standard, Installation, Inspection, and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations

The inspector reviewed the licensee M&TE program required by references (a) through (e) to verify that the program had been established in accordance with regulatory requirements and industry guides and standards. The following criteria were used during this review to determine the overall acceptability of the established program:

- Responsibility was delegated and criteria established to assign and adjust calibration frequency for each type of M&TE.

- An equipment inventory list identified all M&TE used on safety-related components, the calibration frequency and standards, and the calibration procedure.

- Formal requirements existed for marking the latest calibration date on each piece of equipment.

- The program assured that each piece of equipment was calibrated on or before the date required or stored in a location separate from inservice M&TE

- Written requirements prohibit the use of M&TE which was not calibrated within the prescribed frequency.

- When M&TE was found out of calibration, the program required documented evaluations to determine the cause of the out-of-calibration condition and the acceptability of items previously tested.

- The program assured that new M&TE was added to the inventory list and calibrated prior to use.

The documents listed below were reviewed to verify that these criteria had been incorporated into the M&TE program:

MP&L Operational Quality Assurance Manual, MPL-TOP-1A, Revision 4
Policy 12 Control of Measuring and Test Equipment
Policy 15 Nonconforming Materials, Parts, or Components
Policy 16 Corrective Action
01-S-03-3 Material Nonconformance Reports (MNCRs), Revision 14
01-S-07-3 Calibration and Control of Measuring and Test Equipment, Revision 6

The inspector reviewed site QA audit MAR 84-157, Control and Calibration of Measuring and Test Equipment, September 26, 1984. The findings included a plant standard which was not marked with an identifying number or calibration status, M&TE with "cal void if seal broken" stickers broken, and M&TE utilization logs with improper entries. Corrective action appeared adequate.

Implementation of the M&TE control program was assessed in the calibration laboratory and two M&TE issue facilities, the upper and lower I&C shops. In the calibration laboratory where all on-site M&TE was calibrated, the following calibration procedures were chosen at random for review:

07-S-43-36 Calibration of the Fluke Model 8600A Digital Multimeter, Revision 3
07-S-43-72 Calibration of the L&N 5300 Wheatstone Bridge, Revision 2
07-S-43-102 Calibration of Mechanalysis Model 308 Sound/Vibration Meter, Revision 4
07-S-43-114 Calibration of Torque Wrenches, Revision 4
07-S-43-158 Calibration of Pressure Gauges, Revision 4
07-S-43-159 Calibration of Micrometers, Revision 1

The above procedures were properly reviewed and approved and appeared to provide sufficient guidance for performing the calibrations. Acceptance criteria was clearly stated. A problem concerning the stipulation of

prerequisite environmental conditions is addressed as an inspector followup item at the end of this section.

The following M&TE was selected at random from master listings at the Upper and Lower I&C shops to assess overall control and accountability:

Upper I&C

MP&L No.	Description
0311	Fluke 8600A Digital Multimeter
0642	R.M.S. Voltmeter
0847	Heise Gauge, 0-1500 psi
1334	Fluke 8600A Digital Multimeter
1693	Fluke 2180A RTD
5276	Fluke 8600A Ditigal Multimeter
7929	Microsystem Analyzer

Lower I&C

MP&L No.	Description
0360	Resistance Bridge
1634	Pre-Amp DC
3086	Fluke 8020A Digital Multimeter
5273	Fluke 8600A Digital Multimeter
5277	Fluke 8600A Digital Multimeter
5665	Digital Thermometer 450/AET

All M&TE items referenced above were either observed to be properly stored or documented in another location. Equipment utilization logs appeared adequate and calibration dates affixed to the above equipment agreed with the information on the master equipment index.

The licensee was required to evaluate the effect M&TE found out of calibration may have had on previous surveillance tests performed with this equipment. The following M&TE nonconformance reports were reviewed to assess adherence to this requirement:

Report No	MP&L No.	Description
1064	1985	Heise Gauge
1112	5257	Torque Multiplier
1120	3145	Heise Gauge
1132	3132	Dial Caliper
1189	0351	Heise Gauge
1244	0900	Digital Multimeter

Within this area, one violation and one inspector followup item were identified and are discussed in the following paragraphs.

a. Failure to Promptly Evaluate M&TE Found Out of Tolerance

10 CFR 50, Appendix B, Criterion XVI, states that measures shall be established to assure that conditions adverse to quality are promplty identified and corrected. The M&TE program does not contain measures to assure that out-of-calibration evaluations are promptly completed. Since December 1984, approximately 55 percent of the 151 evaluations issued have taken over a month to complete, while 35 percent have exceeded two months. Six evaluations have been open for greater than six months. Since these evaluations may result in safety-related corrective action or limiting conditions for operation, these time periods are not considered prompt for this activity. This failure to promptly evaluate M&TE found out of calibration is identified as violation 416/85-27-01.

b. Environmental Conditions in the M&TE Calibration Lab

The M&TE calibration lab environmental conditions such as temperature and humidity required for M&TE calibration are currently being controlled. Personnel in the lab understand the need to allow instrument temperatures to stabilize prior to performing calibrations. However, existing written instructions do not assure that the beforementioned actions are accomplished and do not specifically identify acceptable environmental condition criteria. Until these items are delineated procedurally, this item will be identified as inspector followup item 416/85-27-03.

9. Licensee Action on Previously Identified Inspection Findings (92701)

(Closed) Inspector Followup Item 416/84-09-01: Inclusion of QA Program Adequacy in Semi-Annual Report

The inspector reviewed PMI-84/9900, QA Semi-Annual Report to Management and verified that it addressed QA program adequacy as required by QAP 2.10, QA Status Report to Management.