

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-410/86-26

Docket No. 50-410

License No. CPPR-112

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard, West
Syracuse, New York 13202

Facility Name: Nine Mile Point Nuclear Station, Unit 2

Inspection At: Scriba, New York

Inspection Conducted: May 20-23, 1986

Inspectors: A. E. Finkelfer
C. Petrone, Lead Reactor Engineer

June 12, 1986
date

A. E. Finkel
A. Finkel, Lead Reactor Engineer

June 12, 1986
date

Approved by: J. Johnson
J. Johnson, Chief, Operational Programs
Section, OB, DRS

June 12, 1986
date

Inspection Summary: Routine unannounced inspection on May 20-23, 1986 (Report No. 50-410/86-26).

Areas Inspected: Routine unannounced inspection by two region-based inspectors of licensee action on TMI Action Plan items; maintenance organization; maintenance activities; maintenance staffing; measuring and test equipment program; QA/QC interfaces; and emergency operating procedures.

Results: No violations were identified.

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DETAILS

1.0 Persons Contacted

Niagara Mohawk Power Corporation

- *R. Abbott, Station Superintendent
- *G. Afflerbach, Startup Engineer
- *C. Beckman, Operational Quality Assurance
- *M. Boyle, Engineer
- *J. Buckley, Quality Control Supervisor
- *K. Dahlberg, Station Superintendent of Maintenance
- *J. Drake, Jr., Supervisor Startup
- *B. Drews, Technical Superintendent
- *P. Eddy, Site Engineer
- *M. Falise, Superintendent of Mechanical Maintenance
- *L. Fenton, Audit Lead Engineer
- *G. Griffith, Site License Engineer
- *W. Hansen, Manager Quality Assurance Operations
- *A. Kovac, Quality Assurance Audit Supervisor
- *T. Lee, Special Projects
- *R. Matlock, Projects
- *C. Millian, Lead Senior Engineer
- *F. Osypiewski, Site Auditor
- *T. Prouis, Test Engineer
- *M. Ray, Manager Special Projects
- *T. Perkins, Generator Superintendent
- *K. Sweet, Electrical Maintenance
- *C. Terry, Project Quality Assurance Manager
- *P. Wilder, Operation Supervisor

U.S. Nuclear Regulatory Commission

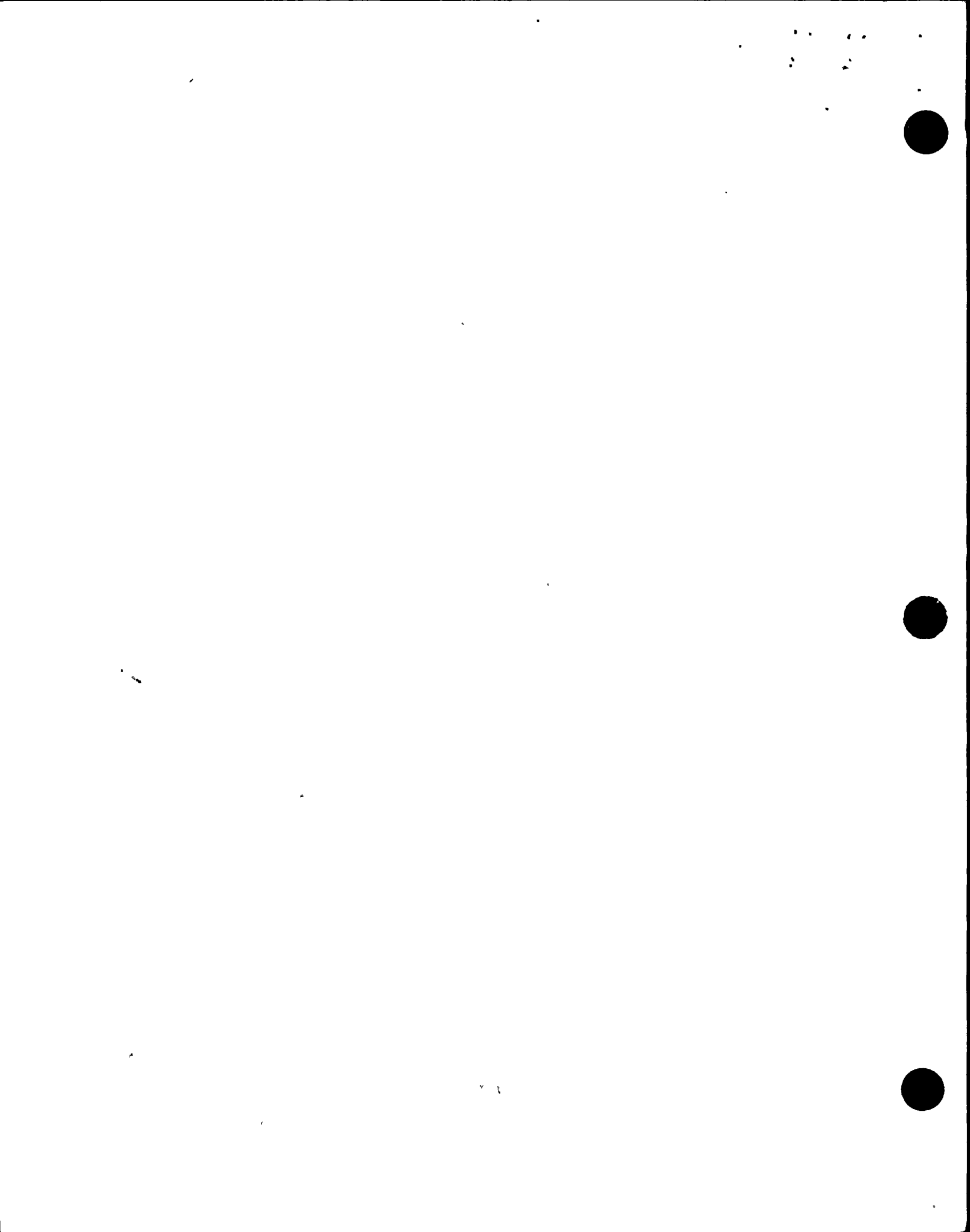
- *R. Gramm, Senior Resident Inspector

The inspectors also held discussions with managers, supervisors and other licensee employees during the course of inspection, including operations, technical and administrative personnel.

*Denote those present at the exit meeting on May 23, 1986.

2.0 Follow-up of Revisions Inspection Findings

(Closed) TMI Action Plan Item, II.K.1.10, Operability Status - "Review and modify as necessary your maintenance and test procedures to ensure that they require:



- a. Verification by test or inspection, of the operability of redundant safety-related systems prior to the removal of any safety-related system from service.
- b. Verification of the operability of all safety-related systems when they are returned to service following maintenance or testing,
- c. Explicit notification of involved reactor operational personnel whenever a safety-related system is removed from and returned to service."

Administrative procedure No. AP-3.3.1, Control of Equipment Markups, Revision 1, July 2, 1985, para 3.1.1 states that, "an operability test shall be performed on the remaining redundant system prior to removal of a safety-related system from service". In addition, a licensed operator, independent of the person performing the test, shall verify that the equipment is correctly returned to the normal operable status.

The release, return of systems and or equipment for maintenance or surveillance and acceptance of such equipment for return to service is the responsibility of the Station Shift Supervisor (SSS) or his delegate the SRO. It is then the responsibility of the SSS or his delegate to assure that the Control Room Operator (CRO) is informed of changes in equipment status and the effects of such changes. Whenever a markup is applied to or cleared from equipment or systems important to safety, the placing and removal of tags shall be performed by an operator possessing knowledge of the system/equipment. In addition, whenever a markup is applied or cleared, a licensed operator independent of the person applying or removing the tags, shall verify that the markup has been correctly applied or cleared and that the status of the equipment is correct for the status on record in the control room."

The inspector randomly selected 10 electrical/mechanical maintenance procedures and verified that the requirements of AP 3.3.1 and 5.0, have been transcribed into the selected maintenance procedures and that personnel training on the AP revisions has occurred.

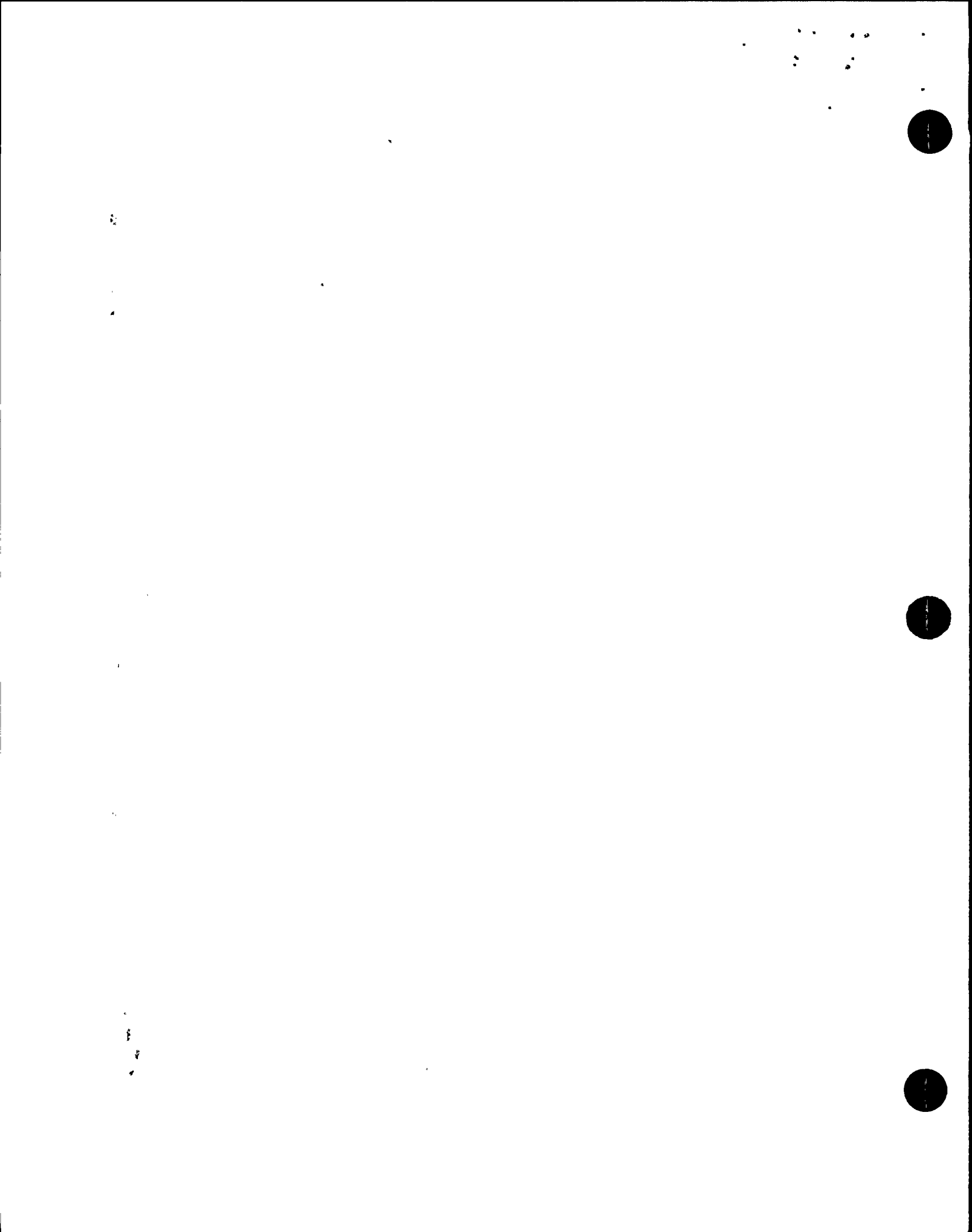
This item is closed.

(Closed) TMI Action Plan Items I.C.1 and I.C.8, Emergency Procedure Review:

On April 14, 1983, in a letter from C.V. Mangan to Darrel G. Eisenhut, Niagara Mohawk committed to provide procedures based upon NRC-approved BWR Owners Group Emergency Procedure Guidelines.

During this inspection the inspector verified that the Emergency Procedures had been prepared in accordance with the BWR Owners Group guidelines. See paragraph 7 of this report for further details.

This item is closed.



3.0 Maintenance Organization

The Site Maintenance Superintendent, who reports directly to the General Superintendent of Nuclear Generation, is responsible for the overall conduct of maintenance activities at both Nine Mile units. Two Maintenance Superintendents, one electrical, the other mechanical, each having responsibility for both units, report to the Maintenance Superintendent. Mechanical and electrical supervisors report to the two Maintenance Superintendents.

The intermixing of Unit 1 maintenance personnel with the Unit 2 maintenance force has increased the awareness of operating quality during the conduct of maintenance activities. The use of Unit 1 and 2 similar procedures has enabled fully developed procedures to be available in the Unit 2 maintenance program.

The centralized use of existing Unit 1 maintenance procedures for the Unit 2 program has provided planned and coordinated maintenance activities between the electrical and mechanical functions. Work Request (WR's) are processed, and resultant work packages; including work orders, personnel requirements, tagging request, radiation exposure permits, tool requirements etc., can be identified and assembled by designated personnel knowledgeable in the function of the system from their Unit 1 experience.

The maintenance organization has issued the following Unit 2 maintenance procedures which reflect the requirements of Administrative Procedures (AP) 3.3.1, Control of Equipment Markups, and 5.0, Procedure For Repair:

	Required	Approved/Issured
-- Electrical Maintenance Procedures	121	120
-- Mechanical Maintenance Procedures	187	187

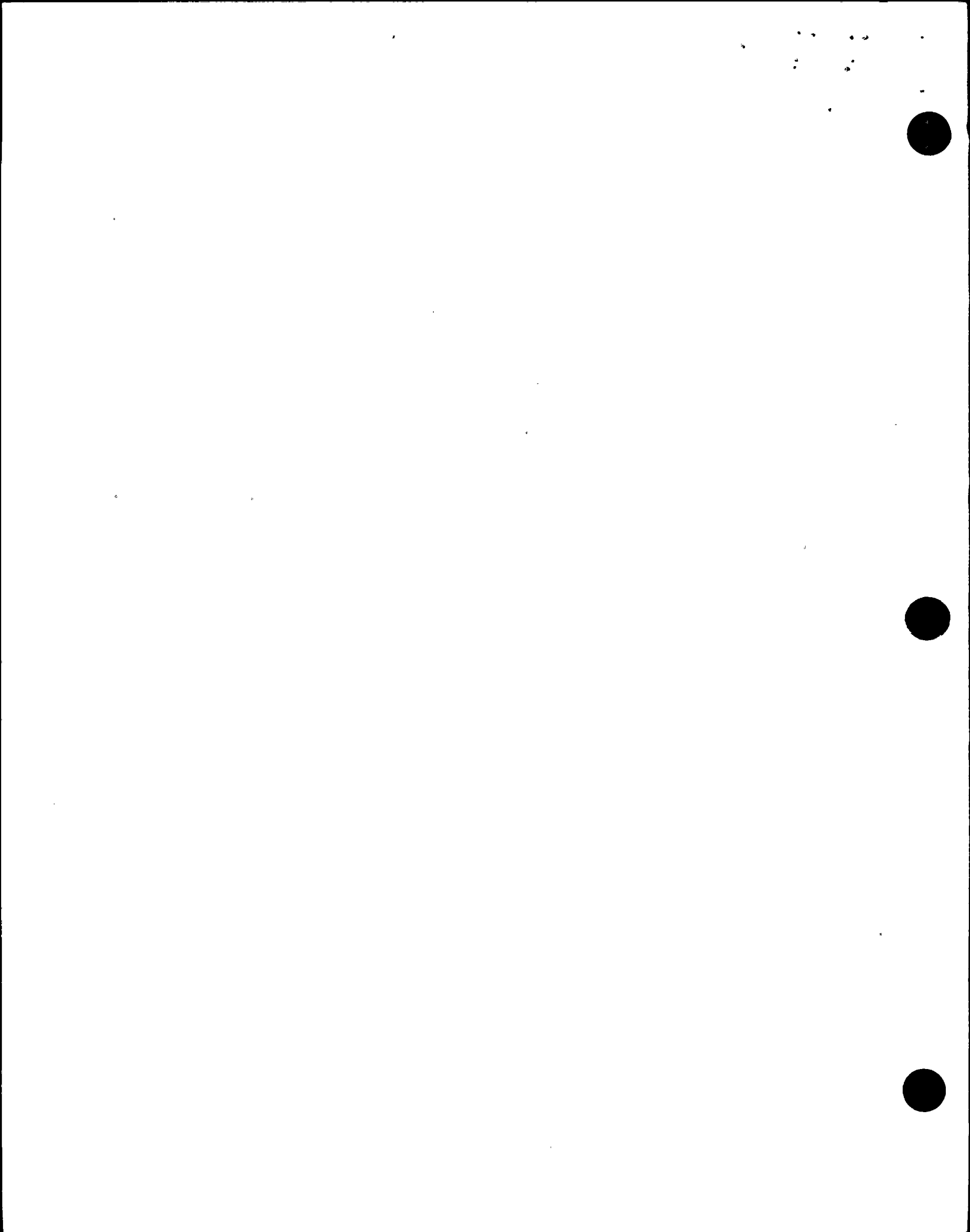
The inspector randomly selected 10 electrical/mechanical maintenance procedures and verified that the requirements of AP 3.3.1 and 5.0 have been transcribed into the selected maintenance procedures. The inspector also verified that the electrical/mechanical maintenance personnel have received training on the referenced AP's.

The inspector had no further question in this area.

4.0 Maintenance Activities

4.1 Administrative Controls

The inspector reviewed and evaluated the licensee's program controlling safety-related maintenance activities to assess if the administrative controls established were consistent with the plant Technical Specification (TS), Regulatory Guide 1.33, ANSI N18.7, and Appendix B to 10 CFR-50. Documents reviewed are listed in Attachment 1 to this report.



4.2 Program Implementation

The inspector held discussions with the electrical and mechanical maintenance superintendents to evaluate those controls in place to identify, schedule, track, complete and document both preventive and corrective maintenance. The Work Request Form (WR) is used for ordering, scheduling, dispatching and recording the results of corrective maintenance work and associated post-maintenance tests. The maintenance program status is tracked in the Work Tracking System (WTS).

The inspector reviewed the records of both random and selected maintenance activities performed on safety-related equipment to verify that:

- Required administrative approvals were obtained prior to initiation of work activities;
- Appropriately approved procedures, instructions and or drawings were used;
- Appropriate post maintenance testing was completed prior to returning equipment to operation;
- Hold points were appropriately identified and completed or in the processes of being completed;
- Qualified Test equipment and Tools used were identified;
- Procedures and appropriate data sheets were properly completed;
- Acceptance criteria were met; and,
- Records were assembled, stored, and retrievable as part of the maintenance history.

Also, during the course of the inspection, observations were made of the following in-progress corrective maintenance activities:

- Repair of Standby Liquid Control Pump, 2SLS * PIA leakage; and,
- Degreasing of Limitoque motor operated valve (MOV) 2SWP * MOV 93B.

The inspector observations verified that the following maintenance tasks were accomplished:

- Work requests (WR) were issued to perform the tasks and all required portions were filled in.



- Approved, up-to-date procedures were used and followed by the maintenance personnel.
- Procedures were adequately detailed to assure satisfactory performance. For example, the Standby Liquid Control Pump (SLC) procedure N2-MMP-36.1. was detailed to the point that during disassembly (as found condition) of the "Stuffing Box" it was readily discernible that the plunger packing was installed incorrectly at the factory, thus causing the leakage problem of the SLC.
- Operational personnel were notified prior to and upon completion of each repair prior to testing.
- Properly specified parts and materials were identified for the each activity.
- Calibrated test equipment was used as required for the task.

The inspector reviewed the qualification summary records for the electrical and mechanical maintenance personnel performing corrective maintenance on the Standby Liquid Control Pump 2SLS * P1A and Limitorque Motor Operated Valve 2SWP * MOV 93B. The inspector determined through discussions with maintenance personnel and witnessing their corrective maintenance work on the above equipment that they were in compliance with their training program criteria and maintenance procedures.

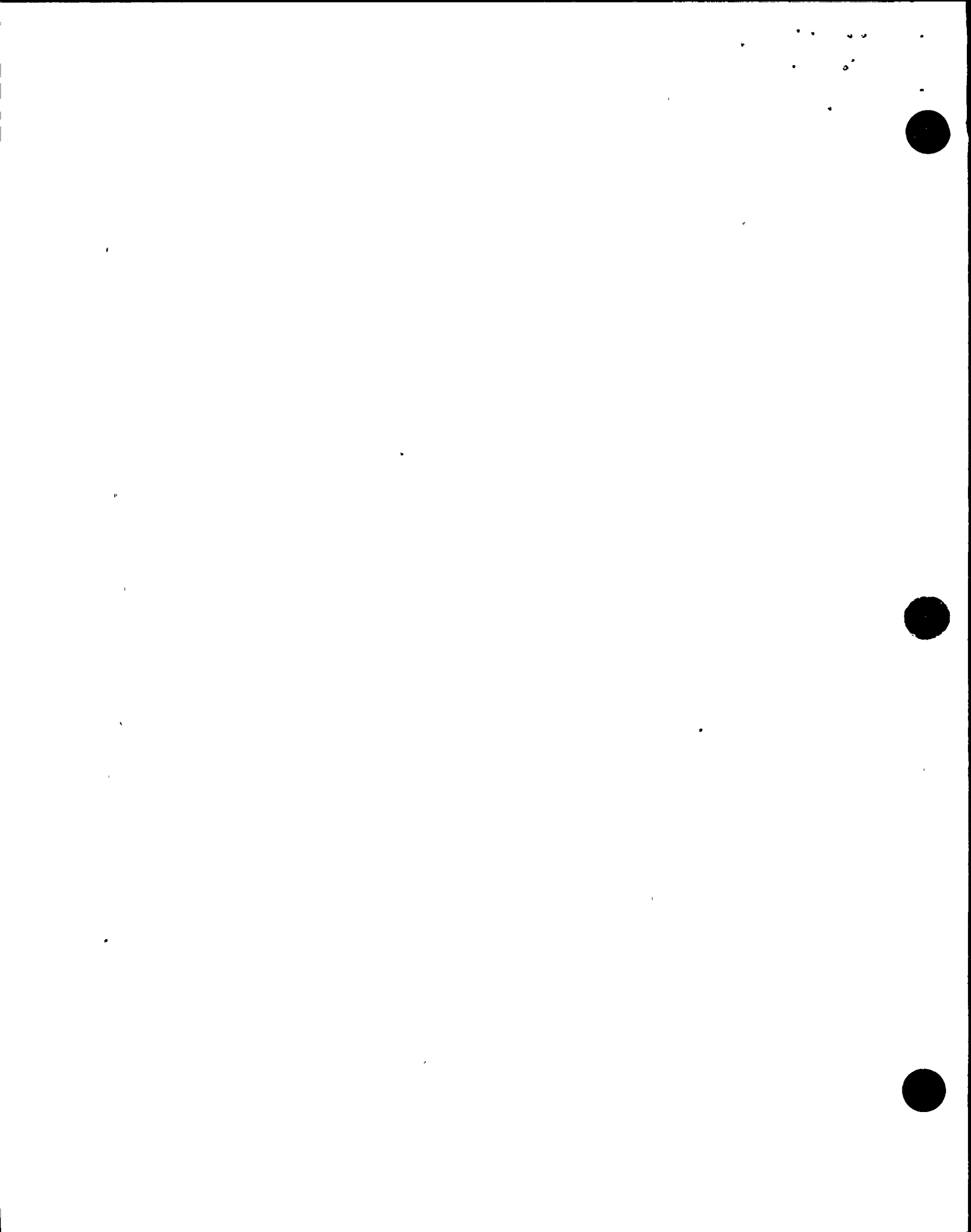
4.3 Maintenance Staffing

The Electrical and Mechanical maintenance staff supports both Units 1 and 2. As of May 21, 1986 the number of maintenance personnel appears to be adequate to perform current maintenance. As an example, the Mechanical Maintenance Superintendent has three supervisors, six assistant supervisors, 18 chief mechanics, 91 mechanics, 42 utility mechanics and 3 generation engineering mechanics. The Electrical Maintenance Superintendent has a similar staffing level.

No unacceptable conditions or violations were observed.

5.0 Measuring and Test Equipment (M&TE) Program

Administrative Procedure (AP) 8.4, Control and Calibration of Equipment Used In Tests and Inspections, Revision 2, October 17, 1985 is effective for Unit 1. A separate procedure is being used for Unit 2 while it is in the startup and N2-SAP-115 test phase. Prior to complete delivery of Unit 2 systems and components to the Nuclear Generation Department for operations and maintenance, a revision of AP-8.4 will be prepared to provide a uniform procedure for Unit 1 and Unit 2.



The review and implementation of the revision of AP-8.4 will be evaluated by the NRC during a future inspection.

6.0 Quality Assurance and Quality Control Interface (QA/QC)

The Vice President of Quality Assurance has onsite personnel who independently monitor daily station activities. Discussions were held with the station Manager of Quality Assurance Operations and the Quality Assurance Audit Manager.

The first audit of the operations maintenance program was started on May 19, 1986. Since this audit program has just started in the operational area the review and evaluation of the results of this audit report will be reviewed during a later NRC inspection.

7.0 Emergency Procedures

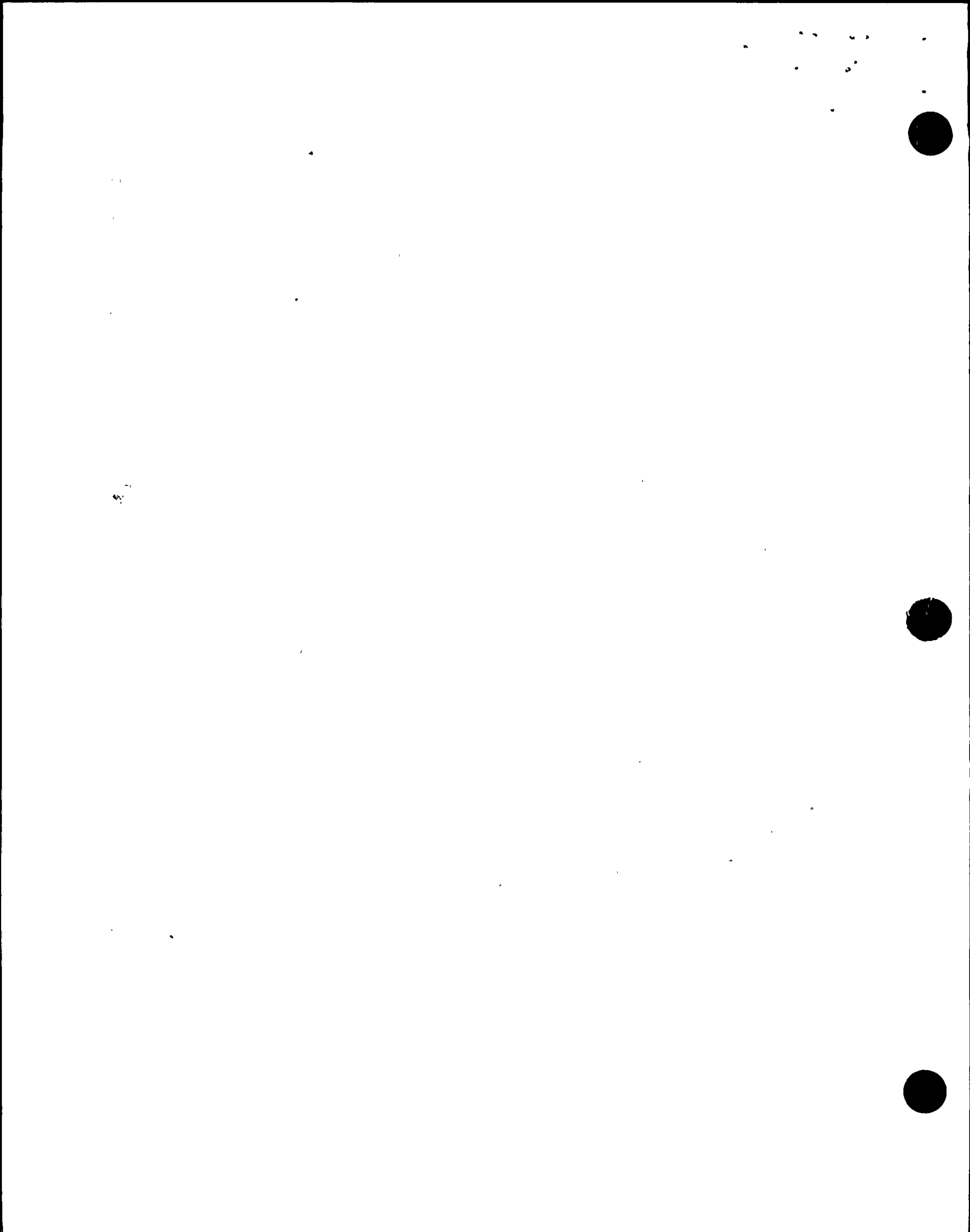
The inspector reviewed the licensee's index for Interim Operating Procedures (IOP's) and Emergency Operating Procedures (EOP's) and verified that procedures for abnormal, offnormal, or alarm conditions and procedures for combating emergencies had been written, approved and issued. These procedures covered the requirements specified in Regulatory Guide 1.33, Rev 2, paragraphs 4 and 5. Many of the IOP's were in their second or third revision. Most of the EOP's were being revised for the first time and were awaiting SORC approval of Revision 1. Review of these procedures indicated they were comprehensive and well prepared. The later revisions reflected mostly minor changes to the procedures, indicating that the procedures were prepared well in advance of projected fuel load dates.

The licensee's EOP's were written using the BWR Owners Group "Emergency Procedure Guidelines". The inspector reviewed the EOP's listed in Attachment 2.

The inspector verified that these EOP's had been prepared, verified, and validated in accordance with the detailed instructions contained in administrative controls of procedures N2-EOP-1,-2,-3, and -4.

The EOP's were prepared by SRO licensed operations personnel. Discussions with these personnel confirmed they were very knowledgeable of the necessary emergency actions.

Procedure N2-EOP-3, "Emergency Operating Procedure Validation" allows several methods of validating the quality of these procedures.



The inspector reviewed the Unit 2 EOP validation data sheets and verified that the required validations had been completed for all EOP's. In addition to the required procedure review validation, a simulator validation had also been performed for all eighteen EOP's except for the four dealing with the secondary containment which could not run on the simulator. Numerous accident scenarios were run to ensure that each step of the EOP's had been validated. For example, during the simulator validation of EOP-RL, RPV Water Level Control, scenarios included: a small LOCA in the drywell; anticipated transient without scram (ATWS); feedwater pump trip and subsequent high pressure core spray pump trip; feedwater pump trip with loss of level indication; and alternate shutdown cooling. During the performance of these validation scenarios, procedure deficiencies were identified, documented and subsequently corrected. The inspector concluded that this rigorous review and validation process would ensure acceptable emergency procedures.

The inspector also reviewed two of the sequence of events flow charts with licensee personnel and verified that the flow charts accurately reflected the information contained in the EOP's. These full size flow charts are a compilation of the flow charts contained in the EOP's. The inspector noted that the full size flow charts are easier to follow than the EOP's because the recovery steps aren't spread over several pages. The licensee plans to maintain these full size flow charts in the control room and the TSC for ready reference in the event of an emergency.

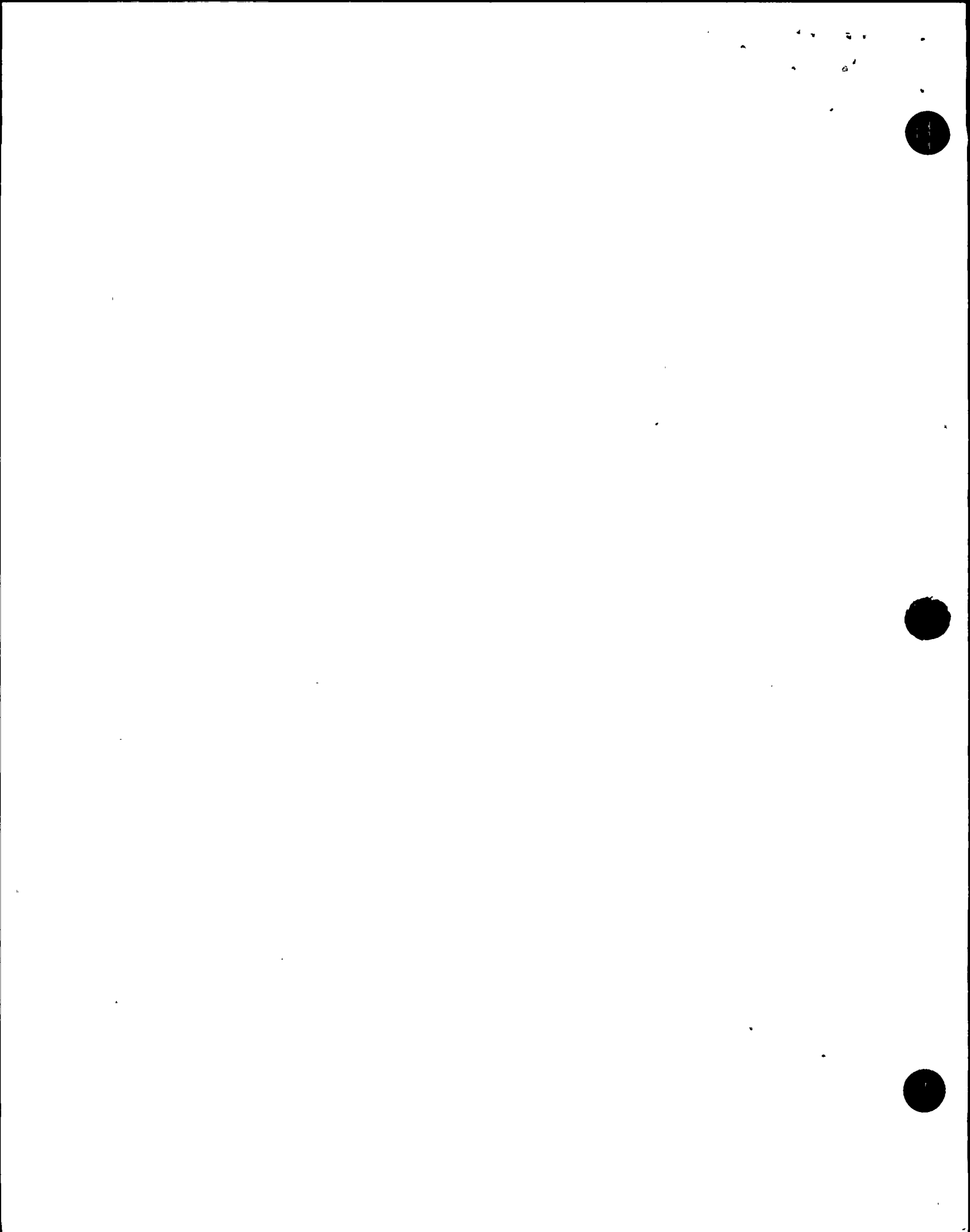
The inspector attended Station Operations Review Committee (SORC) meeting #86-47 and observed the review of revision 1 of the emergency procedures. The SORC members review identified that no formal method had been established to control the issue and revision of the full size flow charts since they were not actually referenced in the individual EOP's. The SORC deferred final approval of revision 1 until the full size flow charts could be added to the EOP's as an attachment to ensure they are updated and controlled. The SORC review appeared to be effective.

No deficiencies or violations were identified.

8.0 Exit Interview

The inspectors met with licensee management representatives (see section 1.0 for attendees) at an exit meeting on May 23, 1986. The inspectors summarized the scope and findings of the inspection at that time.

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



ATTACHMENT 1

Administrative Procedures (AP's)

- AP-3.3.1, Control of Equipment Markups, Revision 1, July 2, 1985.
- AP-8.2, Surveillance Testing and Inspection Program, Revision 1, March 11, 1986.
- AP-2.0, Production and Control of Procedures, Revision 5, April 1, 1986.
- AP-9.0, Administration of Training, Revision 1, March 14, 1986.
- AP-5.1, Site Welding Program, Revision 0, March 1, 1985.
- AP-5.0, Procedure for Repair, Revision 3, May 7, 1986.

Maintenance Procedures

Electrical Maintenance Procedures

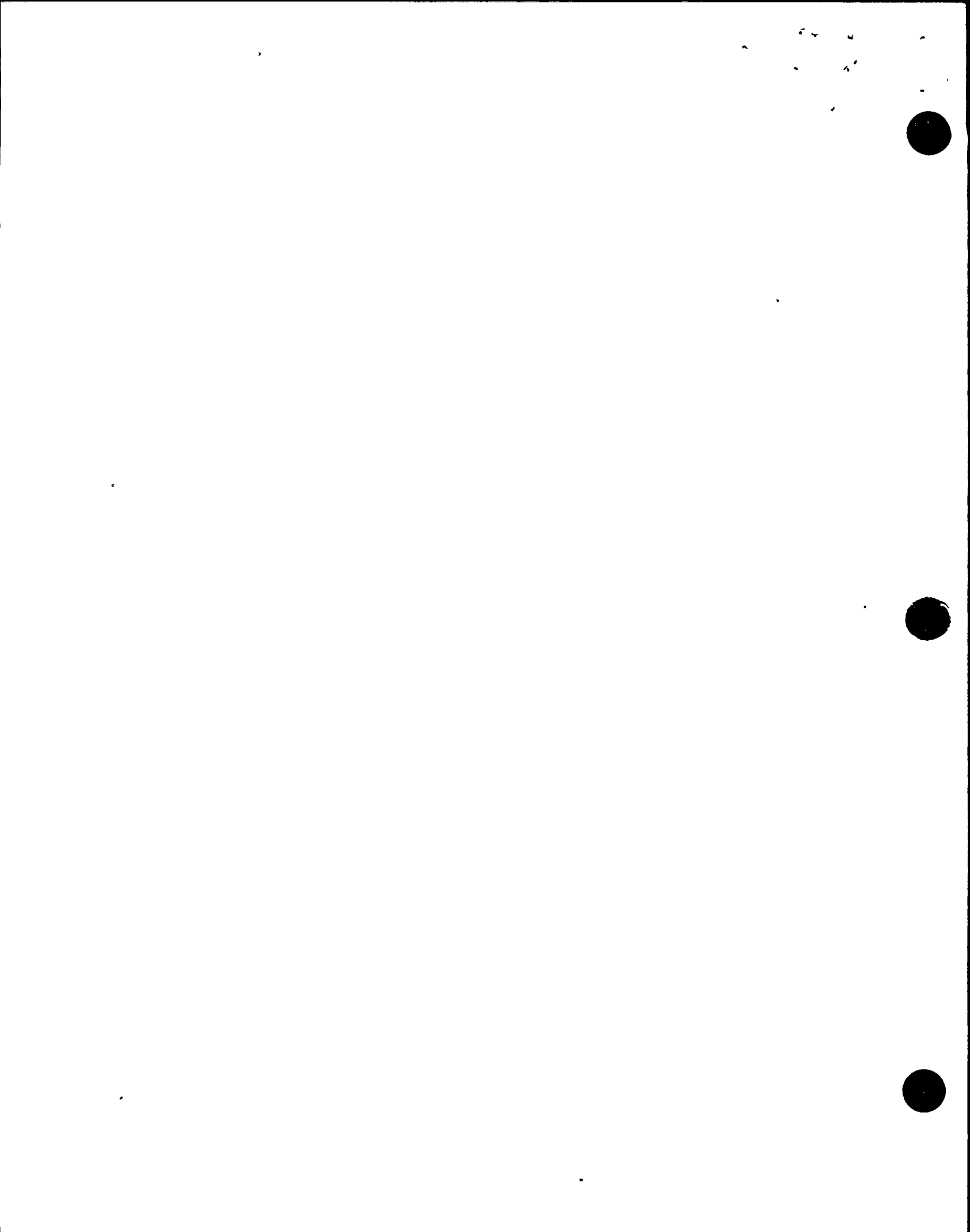
- N2-EMP-112.1 Solenoid Operated Valve Maintenance
- N2-EMP-114.1 Limitorque Disassembly and Assembly of Type SMB and SB Series Operators
- N2-EMP-119.1 Maintenance of Motor Operated Dampers
- N2-EMP-119.2 Maintenance of Ventilation Fans
- N2-EMP-71.8 Overhaul of GE 4.161KV Breakers
- N2-EMP-73.5 Station Batteries Cell and Intercell Connector Replacement
- N2-EMP-99.1 Maintenance of Drywell Penetrations
- N2-EMP-36.1 Standby Liquid Control (Poisoning) Pump Motors
- N2-EMP-62.1 Maintenance of Hydrogen Recombiners
- N2-EMP-3.1 Maintenance of Consensate Pump Motors

Mechanical Maintenance Procedures

- N2-MMP-1.10 Maintenance of Main Steam Isolation Valves
- N2-MMP-1.14 Installation and Removal of Reactor Vessel Service Platform
- N2-MMP-1.2 Removal of Reactor Vessel Head
- N2-MMP-101A Maintenance of Diesel Driven Fire Pump
- N2-MMP-101C Maintenance of Electric Motor Driven Fire Pump
- N2-MMP-115 Alignment of Pumps
- N2-MMP-29.1 Maintenance of Recirculation Pumps
- N2-MMP-33.4 Maintenance of High Pressure Core Spray Pump
- N2-MMP-6.1 Overhaul of Feedwater Pumps
- N2-MMP-53.7 Maintenance of Control Building Safety Related Dampers

Maintenance Work Requests, Unit 2

- WR No. 012858 - Limitorque Operator 2 SWP * MOV 93B
- WR No. 012953 - Liquid Control Pump 2 SLS * PIA



ATTACHMENT 2

Emergency Operating Procedures Administrative Controls

N2-EOP-1	Emergency Operating Procedure Development
N2-EOP-2	Emergency Operating Procedure Verification
N2-EOP-3	Emergency Operating Procedure Validation
N2-EOP-4	Emergency Operating Procedure Writer's Guide

Emergency Operating Procedures Reviewed

N2-EOP-RL	RPV Water Level Control
N2-EOP-RP	RPV Pressure Control
N2-EOP-RQ	RPV Reactivity Control
N2-EOP-SPT	Suppression Pool Temperature Control
N2-EOP-DWT	Drywell Temperature Control
N2-EOP-PCP	Primary Containment Pressure Control
N2-EOP-SPL	Suppression Pool Level Control
N2-EOP-SCT	Reactor Building Temperature Control
N2-EOP-SCR	Reactor Building Radiation Control
N2-EOP-SCL	Reactor Building Level Control
N2-EOP-RR	Radioactivity Release Control
N2-EOP-C1	Level Restoration
N2-EOP-C2	Emergency RPV Depressurization
N2-EOP-C3	Steam Cooling
N2-EOP-C4	Cooling Without Level
N2-EOP-C5	Alternate Shutdown Cooling
N2-EOP-C6	RPV Flooding
N2-EOP-C7	Level/Power Control

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