

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 86-29  
Docket No. 50-410  
License No. CPPR-112 Category B  
Licensee: Niagara Mohawk Power Corporation  
300 Erie Boulevard  
Syracuse, New York 12302  
Facility: Nine Mile Point, Unit 2  
Location: Scriba, New York  
Dates: June 1, 1986 to July 13, 1986  
Inspectors: W. A. Cook, Senior Resident Inspector  
R. A. Gramm, Senior Resident Inspector  
J. C. Linville, Section Chief  
G. W. Meyer, Project Engineer  
J. R. Stair, Reactor Engineer

Reviewed by: J. R. Stair 7-17-86  
J. R. Stair, Reactor Engineer Date

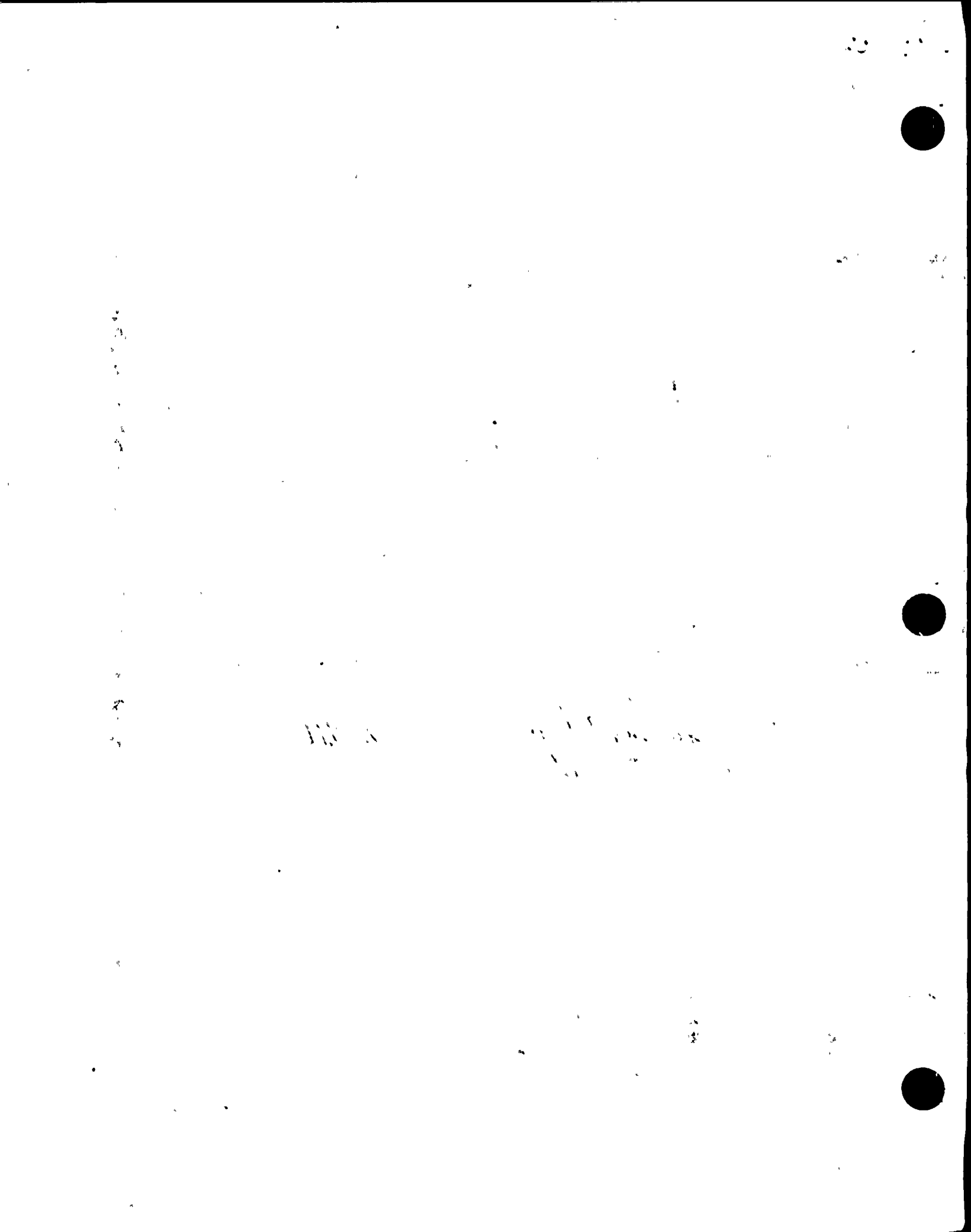
Approved by: J. C. Linville 7/17/86  
J. C. Linville, Chief, Reactor Projects Section 2C, DRP Date

Inspection Summary: Inspection on June 1, 1986 to July 13, 1986 (Report No. 50-410/86-29)

Areas Inspected: Routine inspection by resident and regional inspectors of work activities, procedures and records relative to TMI Action Plan items, IE Bulletins and Circulars, NRR open items, QIP follow-up, preoperational test procedure review, test witnessing, and test results review. The inspectors also reviewed licensee action on previously identified items and performed plant inspection tours. The inspection involved 139 hours by the inspectors.

Results: No violations were identified.

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## DETAILS

### 1. Summary

Twenty one (21) items out of twenty four (24) previous inspection items were closed. Three IE Bulletins and two IE Circulars were reviewed and closed. An allegation concerning Diesel Generator fuel oil line bolting torque requirements was closed. Five additional Three Mile Island (TMI) action plan items were identified as being required to be reviewed by the Region I staff prior to fuel load. The status of Region I followup of selected NRR open items was summarized. One (1) preoperational test procedure and portions of two (2) additional test procedures were reviewed. A follow-up review of the QIP improvement items was conducted. Review of the Region I inspection program showed that preoperational test results reviews remain incomplete, selected operational readiness inspection items remain, and numerous open item closeouts are yet to be accomplished.

#### Project Organizations:

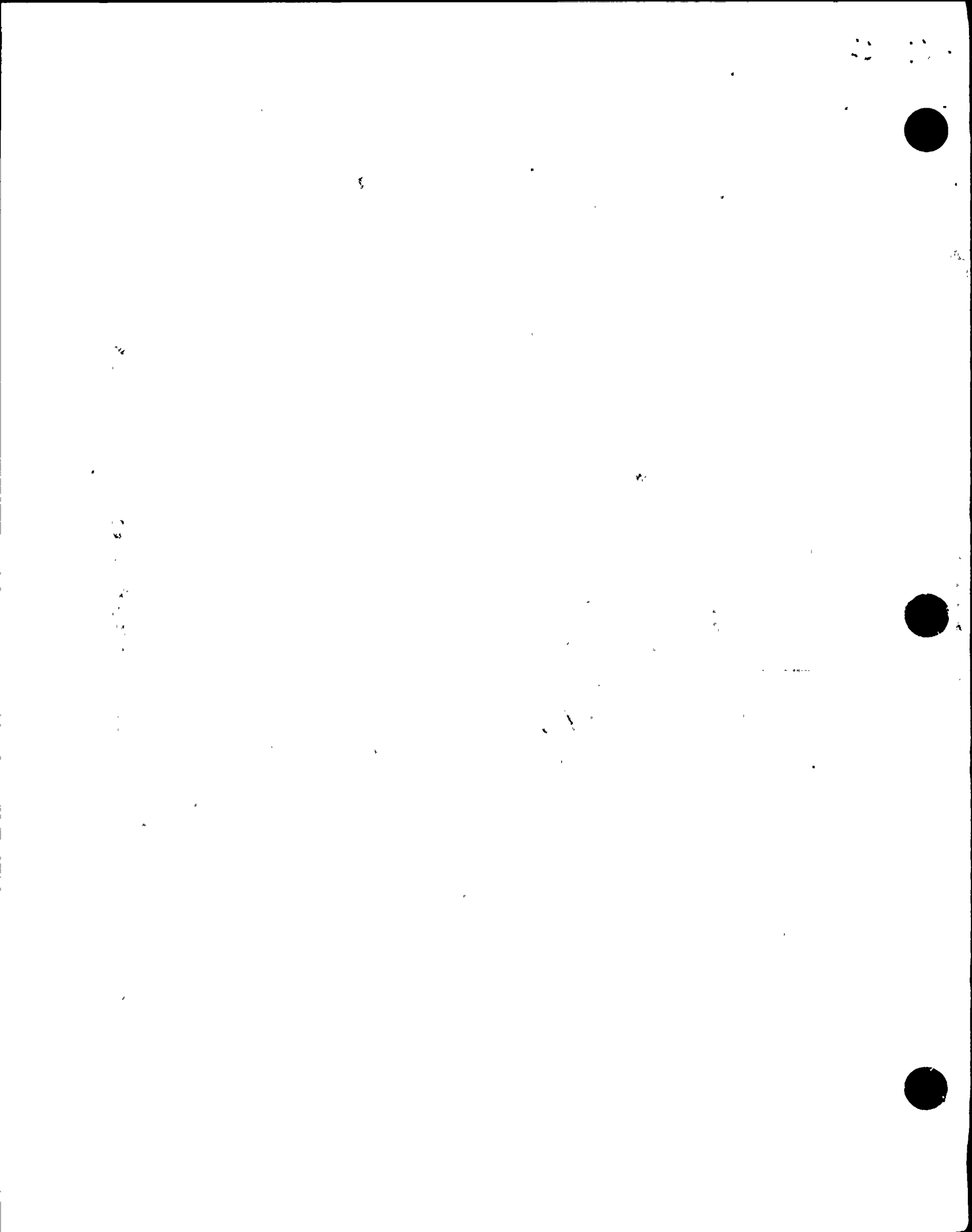
Niagara Mohawk Power Corporation (NMPC)  
Nuclear Energy Services (NES)  
Stone and Webster Engineering Corporation (SWEC)  
ITT-Grinnell (ITT)  
General Electric Company (GE)  
Reactor Controls Incorporated (RCI)

### 2. Plant Inspection Tours

The inspector observed work activities in-progress, completed work and plant status in several areas during general inspection tours. Work was examined for any obvious defects or noncompliance with regulatory requirements. Particular note was taken of the presence of quality control inspectors and quality control evidence such as inspection records, material identification, nonconforming material identification, housekeeping and equipment preservation. The inspector interviewed craft supervision personnel and quality inspection personnel in the work areas. Observations are noted below:

The inspector observed installation activities for area radiation monitor mineral insulated cables. SWEC Quality Control monitored the inprocess activity. The craftsmen took all necessary precautions to avoid cable damage during the installation process. The inspector reviewed Work Control Request 013124 and had no further questions.

The inspector reviewed Power Conversion Products letter dated March 4, 1986 to the NRC Office of Inspection and Enforcement regarding the use of Class IE battery chargers at Nine Mile Point 2. The inspector asked the licensee whether the site vendor wiring inspection had identified deficiencies within the battery chargers.



The inspector was informed that SWEC had not found any adverse wiring conditions for those components. The inspector had no further questions.

The inspector observed work activity on the feedwater check valve FWS\*V12B. The inspector was informed that the valve had failed a local leak rate test. The inspector reviewed Rework Control Form M-1509, Work Control Request 15368 and Vendor Instruction Manual 1979-0. The inspector had no further questions.

The inspector met with licensee test personnel and discussed the following problems with the standby diesel generators: fuel control valves; air start valves; fuel line vibration; and fuel line fitting cracks. The inspector examined the associated items in the field. The problems have been reported by the licensee in accordance with 10 CFR 50.55(e). The inspector had no further questions.

The inspector found portable weld oven 157 in a de-energized state. The E7018 covered electrodes were at ambient temperature. The inspector subsequently reviewed weld material requisition 513716 which stated that the welding was Category II and all affected material was scrapped. The inspector had no further questions.

The inspector reviewed SWEC Interoffice Memorandum identifying current 10 CFR 50.55(e) items. Two items involving heat tracing and temperature elements are currently under review for reportability by SWEC. The inspector had no further questions.

No violations were identified.

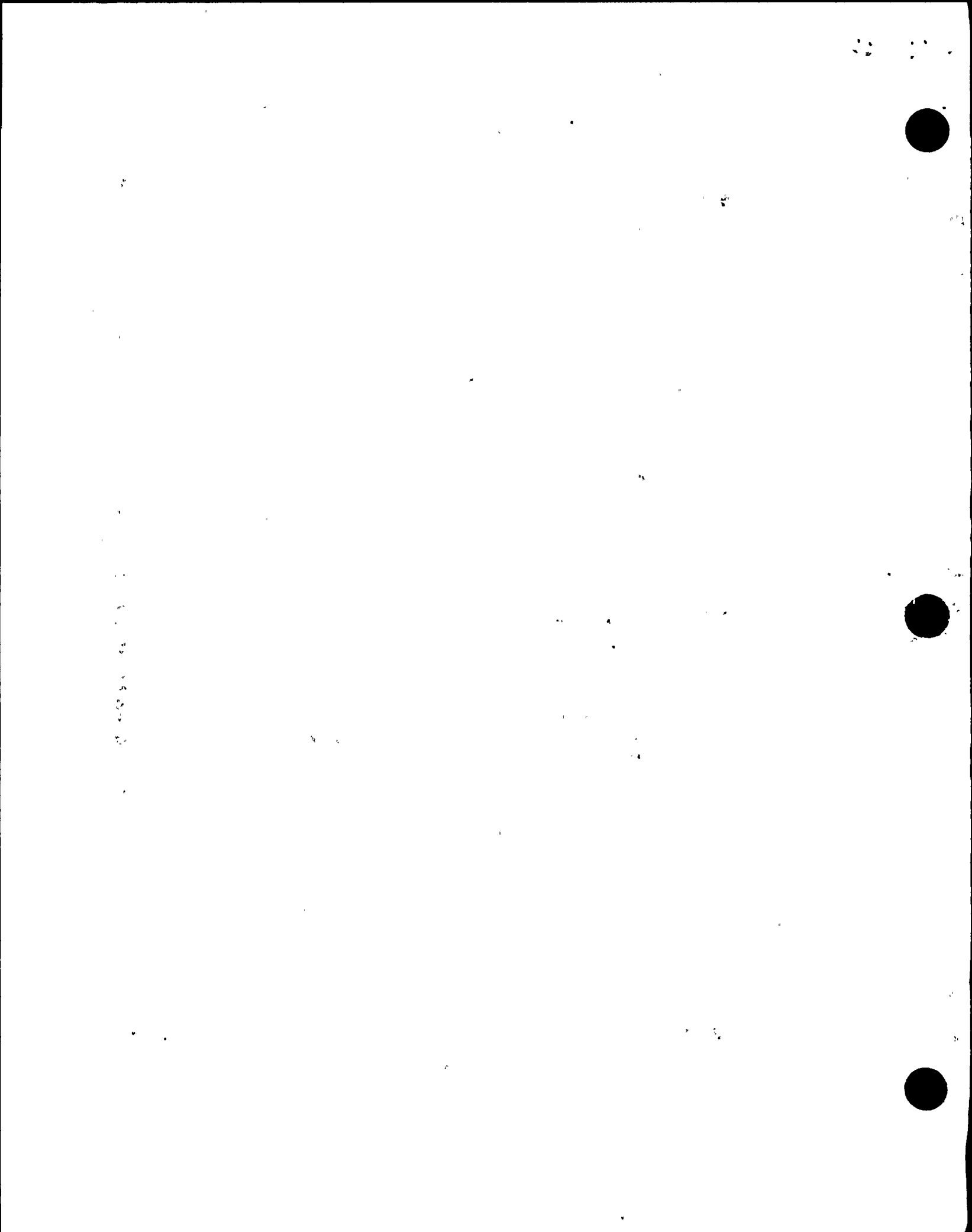
### 3. Licensee Action on Previously Identified Items

a. (Open) FOLLOWUP ITEM (83-01-08): Debris in tube steel members. The inspector reviewed the following documents:

- Engineering and Design Coordination Report C01737.
- NMPC Surveillance Report (SR) 820-83 and 1932-83.
- ITT QC procedure FQC-4.2-14.
- SWEC QC Inspection Plan N20P301FA0001.
- SWEC Engineering Division Memo EMD-82-03.

SWEC engineering directed that open ended tube steel members be provided weep holes to preclude accumulation of condensation.

The QC procedures were amended to include a vent hole verification attribute.



The inspector examined installed tube steel members in primary containment and identified flammable and non-flammable debris within the tube steel. The licensee was asked to clarify how the support members will be cleaned out. This item remains open.

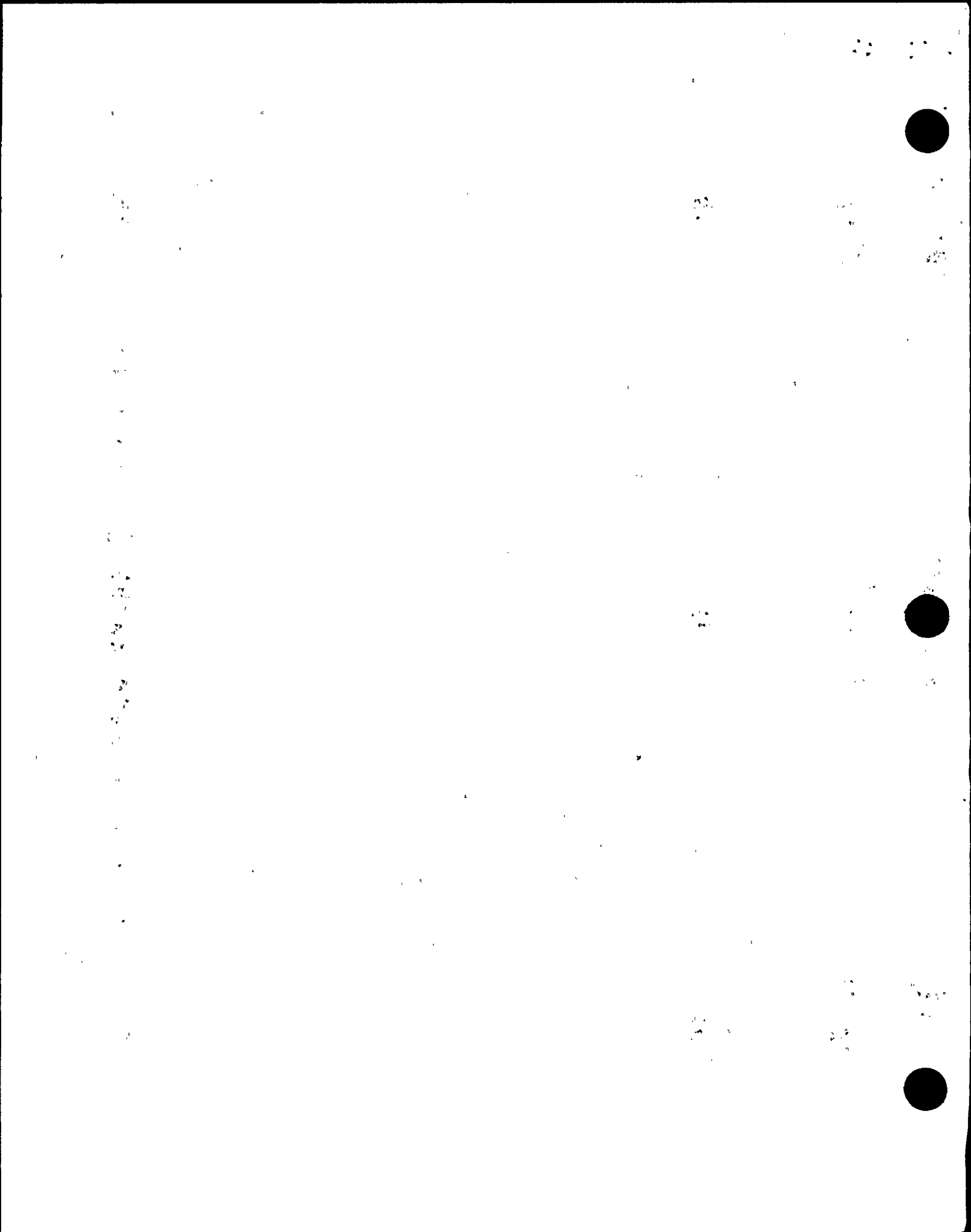
- b. (Closed) UNRESOLVED (83-16-07): High strength bolted connections. The inspector reviewed the following documents:

- Engineering and Design Coordination Reports (E&DCR) F13570A and F11416.
- GE Field Deviation Disposition Requests (FDDR) KG1-0727 Rev 0 and Rev 1, and KG1-0210.
- Work Control Report 14917.
- NMPC letter 8528.
- GE letters NMP2-5925, NMP2--5979, NMP2-6685, NMP2-6912, NMP2-6977, and NMP2-6877.
- SWEC letters 9M2-17,590, 9M2-18572, and 9M2-18,695.
- Licensing Document Change Notice 2146.
- NMPC Corrective Action Request 84.0003

The licensee has replaced A325 high strength bolt and washer material as necessary on the Control Rod Drive restraint beam to achieve conformance with AISC criteria. SWEC engineering satisfactorily reviewed GE design practices relative to industry codes and standards. This item is closed.

- c. (Closed) VIOLATION (83-18-79): SWEC Procurement Quality Assurance (PQA) Programs. The inspector reviewed the following documents:

- SWEC Nonconformance and Disposition Reports 5986, 6796, and 7056
- NMPC QA Surveillance Reports M-84-494, W-84-492, E-84-599, E-84-636, and W-84-603
- SWEC Interoffice Memorandums dated March 6, 1984, July 31, 1984, August 13, 1984, August 30, 1984 and May 25, 1984
- NMPC Internal Correspondence QA 481032 and QA 840916
- SWEC Inspection Reports E4008375, E4008408, and M4022708
- SWEC Quality Assurance Inspection Plans (QAIPs) N20E015FP001, N20P232GP0001, and N20P304LP0001





Associated NRC open item 83-18-78 has been previously closed in Inspection Report 85-25. The Reactor Water Cleanup System pump motors were replaced with proper motors. The licensee performed a field survey of motor ratings and engineering reviewed the discrepancies. Engineering found that the installed motors would not affect the electrical load design calculations. SWEC revised receiving inspection plan N20QAD77FA001 to require verification of motor data at the site.

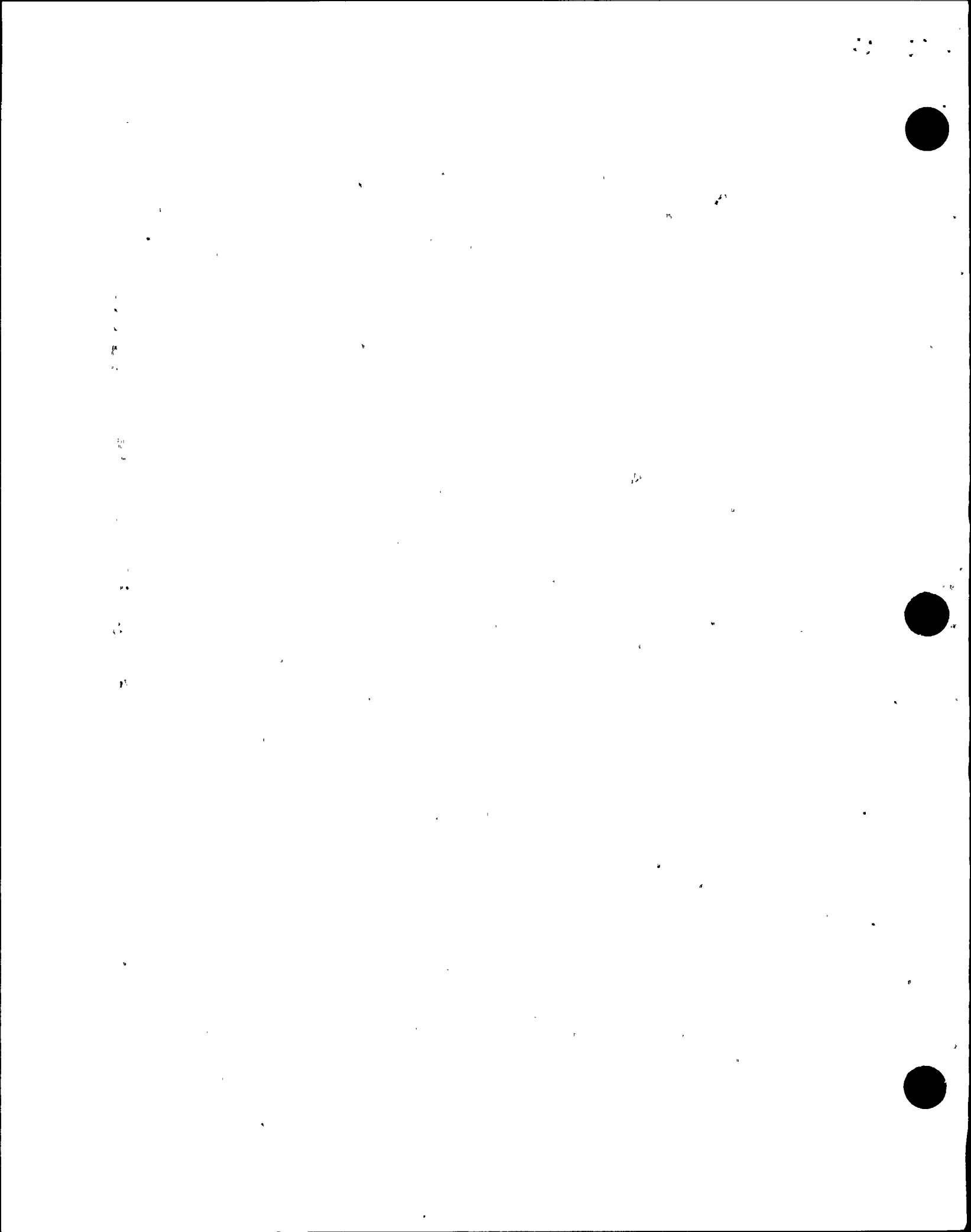
Associated NRC open items 83-18-20, 83-18-61 and 83-18-81 have been previously closed in NRC Inspection Report No. 85-25. The Gould Motor Control Center shipping split bolts were found equivalent to the bolts used during seismic qualification testing. The licensee similarly found the battery rack bolts to be equivalent to those used during the rack seismic qualification tests. The inspector previously examined the mechanical and electrical bolting hardware and found it satisfactory.

Associated NRC open items 84-00-02, 84-18-48 and 84-18-49 regarding the CIVES shop welds have been previously closed in NRC Inspection Report 86-21. The inspector has previously reviewed the results of the licensee weld reinspection program and associated engineering evaluations. The inspector examined cable tray and structural steel weldments and found them in conformance with the Visual Weld Acceptance Criteria. The inspector reviewed training records associated with PQA training to AWS D1.1 visual examination requirements.

Associated NRC open item 83-00-14 regarding the battery charger wiring has been closed in NRC Inspection Report No. 86-28. The inspector reviewed N&D 7056 that directed replacement of diodes, sensing modules and potentiometers to make the chargers functional. The inspector reviewed several PQA inspection plans that were amended to provide verification of vendor performance of wiring checks and for PQA sampling of equipment wiring.

Associated NRC open item 85-04-03 regarding site reverification of electrical equipment was closed in NRC Inspection Report No. 86-01. The site quality control organization assured that internal wiring and terminations were in conformance with design requirements.

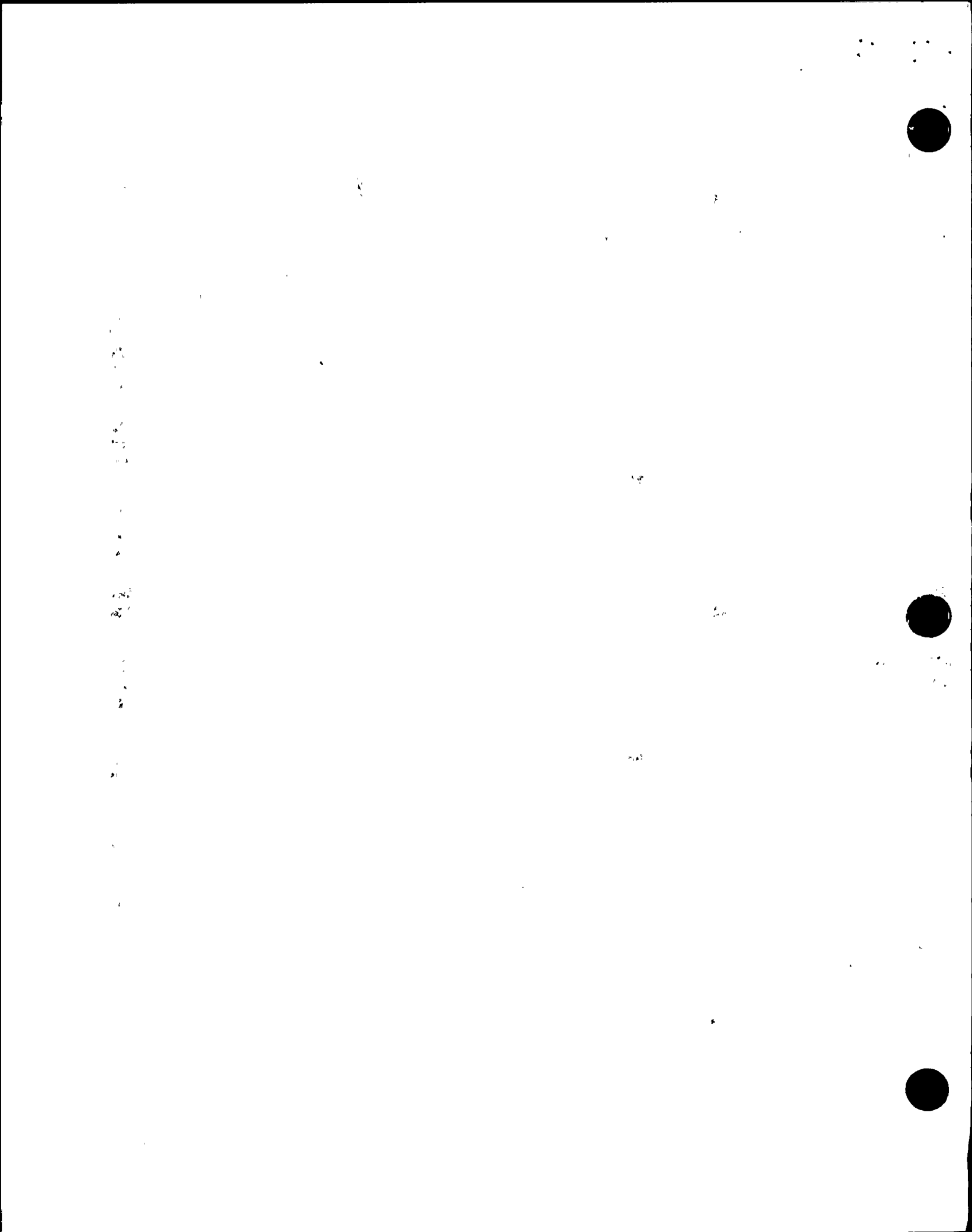
The inspector reviewed NMPC QA records that reflected participation in SWEC vendor audits at CIVES and COPES VULCAN. The inspector reviewed NMPC verification that applicable electrical QAIPs were revised to include attributes for wiring checks, witness of functional tests and bolting inspections. The inspector reviewed SWEC summary reports regarding site inspections of electrical and mechanical components. This item is closed based upon corrective actions instituted by site and procurement quality assurance.



- d. (Closed) FOLLOWUP ITEM (83-18-108): Procurement Quality Control inspection and vendor audit activity. The concerns regarding vendor audits are addressed as NRC open item 83-18-79 as discussed in paragraph 3.c. of this report. This item is closed.
- e. (Closed) FOLLOWUP ITEM (83-18-116): SWEC QA program surveillance inspections. SWEC increased the level of site audit activities with added emphasis on hardware installations. The SWEC QA surveillance program was enhanced with additional QA engineers and revised surveillance procedures. The SWEC trending programs were revised to properly trend applicable Type C Inspection Reports which involve contractor overview. Based upon the increased level of SWEC QA surveillance activities, this item is closed.
- f. (Closed) FOLLOWUP ITEM (83-18-115): Management control of Quality Assurance (QA) and Quality Control (QC) programs. The licensee implemented the following actions:
- Revised QC inspection procedures to include enhanced definition of inspection attributes.
  - Project personnel were trained regarding proper use of Nonconformance and Disposition reports.
  - SWEC accelerated the resolution and closure of Type C Inspection Reports.
  - SWEC QA trending efforts were enhanced to assure detection of adverse trends detected during surveillance of contractor activities.
  - The NMPC site audit program was amended to emphasize the adequacy of hardware.
  - Site corrective action systems were evaluated for adequacy.
  - Site QA/QC personnel changes were implemented.

Associated NRC open items 83-18-65, 83-18-92 and 83-18-88 were closed in NRC Inspection Reports 85-25, 85-27 and 85-44 respectively. This item is closed.

- g. (Open) CONSTRUCTION DEFICIENCY (84-00-46): Incorrectly wired Clow valve switches. The inspector reviewed the following documents:
- SWEC letter 9M2-18357.
  - Nonconformance and Disposition reports (N&Ds) 11901 and 15031.



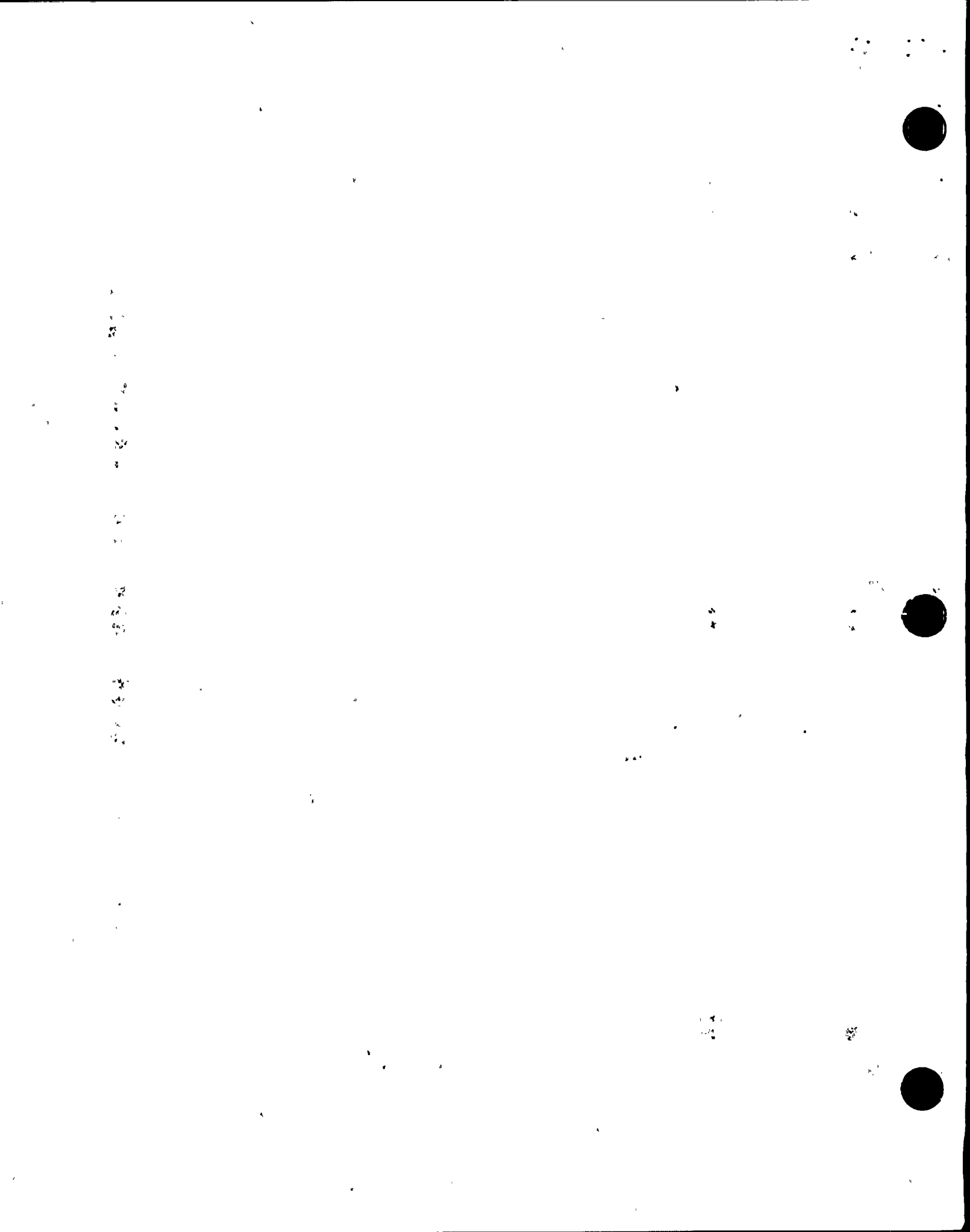
- Engineering and Design Coordination Reports (E&DCRs) F20604, C24959A, F20605, C53607, C90084, and P02032.
- Work Requests (WRs) 7445, 7446, 7447, 7448, 7449 and 7450.
- Rework Control Form (RCF) M1143.
- SWEC Inspection Reports (IRs) MGA30238 and M6A30106.

The licensee informed the inspector that Ultrasonic (UT) examinations had been performed on all but three installed Clow valves to determine the valve orientation. Engineering reviewed the documentation associated with the reorientation of safety related valve 2RHS\*MOV8B. The valve manufacturer and SWEC engineering directed that several counterweights be relocated and that measures be taken to account for scale build up on the valve shafts in the vicinity of the bronze bearing surface. The inspector reviewed the records associated with the relocation of the counterweight keyways.

The inspector was informed that Clow had seismically analyzed the worst case operator orientation for acceptability.

Pending licensee clarification of the scope of the UT examinations and completion of the torque switch wiring checks, this item remains open.

- h. (Closed) FOLLOWUP ITEM (84-99-01): Resolution of TMI Action Plan Items II.K.1.5, Assurance of Proper Measures to Mitigate Small Break LOCAs and Loss of Feedwater Accidents. This issue will be tracked under NRC open item 86-09-20. This item is closed.
- i. (Closed) FOLLOWUP ITEM (85-25-04): Reactor Pressure Vessel (RPV) as-built information. The inspector had previously reviewed the RPV as built records with the exception of RCI installation measurements for the feedwater sparger. The inspector reviewed RCI Surveillance Inspection Report Jan 86-1 that documented the feedwater sparger nozzle dimensions. The inspector additionally reviewed the RPV installation photographs. This item is closed.
- j. (Closed) FOLLOWUP ITEM (85-44-01): Resolution of GE system walkdown items. The inspector reviewed the following documents:
  - NMPC file code NMP-16004, "GE System Walkthrough Action Items Assignments".
  - GE letter NMP2-237, "Reactor Water Cleanup System Walkthrough".
  - GE letter NMP2-282, "RHR System Walkthrough".



- GE letter NMP2-246, "Drywell Cooling System Walkthrough".
- GE letter NMP2-267, "CRD System Walkthrough".
- GE letter NMP2-242, "RCIC System Walkthrough".

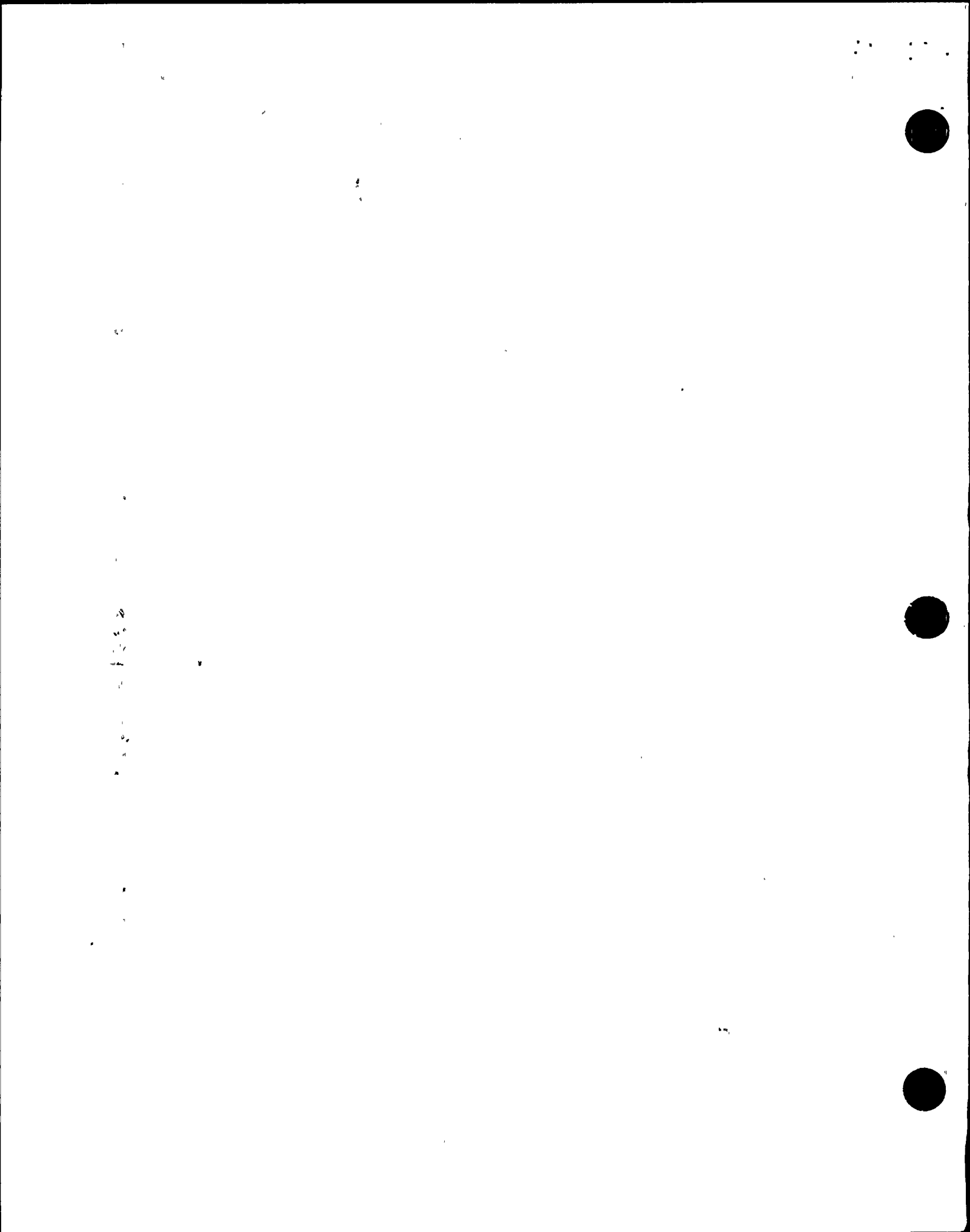
The inspector compared the NMPC action items with the GE walkthrough results for consistency. The inspector found that all Category A items, recommended for completion prior to startup, were appropriately defined by NMPC. This item is closed.

- k. (Closed) UNRESOLVED (85-45-01): Reactor Building fire barriers and fire detection systems. Based upon closure of associated NRC open items 85-34-04 and 85-34-03 in NRC Inspection Report 86-21 and licensee commitments to complete fire barrier installations and detection system testing prior to fuel load, this item is closed.
- l. (Closed) FOLLOWUP ITEM (85-99-01): Control of high strength bolting. The resolution of AISC high strength bolting concerns was tracked under NRC open item 83-16-07 as discussed in paragraph 3.c. of this report. This item is closed.
- m. (Closed) FOLLOWUP ITEM (85-99-08): Conduct of inspection activity. The inspector has not identified any detrimental Quality Control (QC) inspection conduct caused by adverse schedular pressures. This item is closed.
- n. (Closed) FOLLOWUP ITEM (85-99-13): Implementation of licensee corrective action programs. NRC inspections have continued to identify instances of incomplete licensee corrective actions. The licensee has addressed the NRC concerns involving electrical separation in the PGCC area, duplicate radiographic film, Tubeline supplied material, and instrument tubing damage.

The licensee implemented the following additional actions in response to the NRC concerns:

- Performed additional separation inspections of the PGCC panels.
- Re-radiographed weldments to establish the validity of the radiographic film in the vault.
- Re-reviewed material receiving records to identify further Tubeline material.
- Established a program for final walkdown of instrument tubing to identify any damage that occurred during the construction stages.

This item is closed based upon the licensee actions taken in response to the specific concerns identified above.

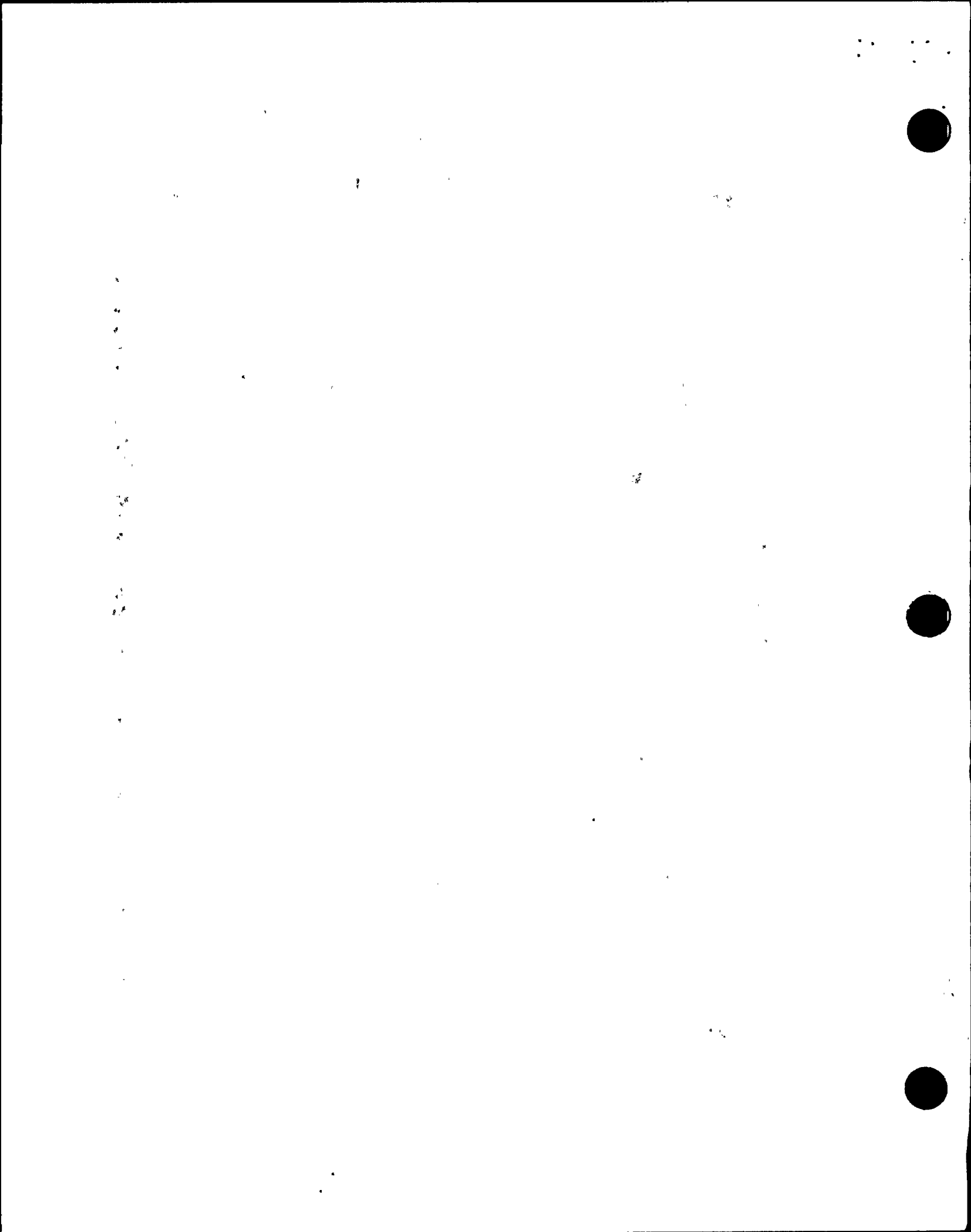




- o. (Closed) FOLLOWUP ITEM (85-99-16): Review of design change documents. Based upon the satisfactory review of Advance Change Notices (ACNs), Engineering and Design Coordination Reports (E&DCRs), and Nonconformance and Disposition Reports (N&Ds) documented in NRC inspection Report 86-13, this item is closed.
- p. (Closed) FOLLOWUP ITEM (85-99-18): Conduct of the FSAR verification process. The licensee verification of FSAR accuracy and control of other licensing commitments will be tracked under NRC open item 85-04-02. This item is closed.
- q. (Closed) CONSTRUCTION DEFICIENCY (86-00-01): Increased secondary containment drawdown time. The inspector reviewed the following documents:
  - SWEC letter 9M2-18,660.
  - Engineering and Design Coordination Reports (E&DCRs) Z93133A and Z93141.
  - SWEC calculation 27-G, "LOCA Doses Versus Secondary Containment Overpressurization Time".

The licensee modified the filter demineralizer supports and the regenerative heat exchanger base to provide seismic stability for the components. The inspector was informed that the remainder of the Reactor Water Cleanup System (RWCU) was found properly supported. This item is closed.

- r. (Closed) UNRESOLVED (86-01-03): Standby Liquid Control (SLC) System pump capacity. The inspector reviewed NMPC Letter NMP2L-0698 dated May 2, 1986. The licensee stated that the SLC pump capacity was 41.2 gpm and that the sodium pentaborate weight percent would be increased to 13.57 to achieve compliance with 10CFR50.62. The inspector reviewed LDCN GE335 that amended the FSAR accordingly. The inspector had been previously informed that site testing had confirmed actual pump capacity greater than 43 gpm. The inspector reviewed section 3/4.1.5 of the Final Draft Technical Specification and verified correct pump capacity and boron concentration limits. This item is closed.
- s. (Closed) CONSTRUCTION DEFICIENCY (86-00-05): Unqualified cable supplied with Category 1 flow element and flow switches. The inspector reviewed the following documents:
  - Approved Advance Change Notice (ACN) 46310.
  - Nonconformance and Disposition report (N&D) 15029.
  - SWEC Inspection Reports (IRs) E6A40810, E6A40877 and E6A41023.

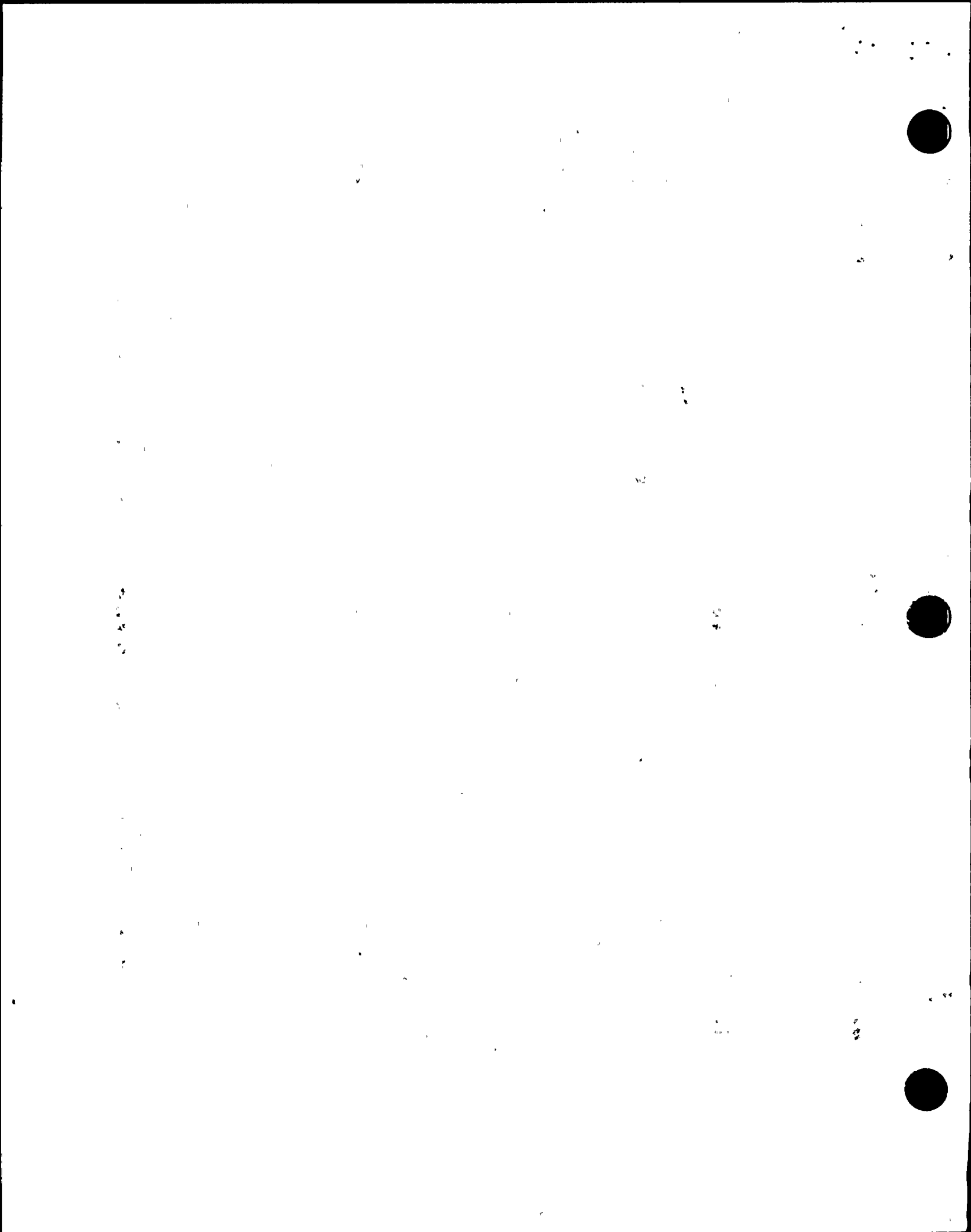


The unqualified cables were replaced with qualified cables for the subject instruments. The inspector reviewed selected QC inspection records for the qualified cable installations. This item is closed.

- t. (Closed) VIOLATION (86-01-02): Review of preoperational test procedures. The inspector reviewed test procedure N2-POT-100B, "HPCS Diesel Generator" Revision 3. The procedure was amended to include acceptance criteria regarding the five starts without recharging and the capability to recharge the receivers in less than thirty minutes. The inspector reviewed procedure section 4.4 that covered the receiver recharge testing. The inspector reviewed the process where commitments are identified and extracted from the FSAR. The inspector interviewed the Level III independent reviewer that verifies fulfillment of the FSAR commitments. The inspector was informed that applicable FSAR information is additionally forwarded to the responsible test engineer. The inspector was informed that only eight preoperational test procedures remain to be reviewed by the licensee. The inspector was informed that some procedures have been amended as a result of the review process. This item is closed based upon the corrected test procedure and licensee review of the majority of system test procedures for FSAR conformance.
- u. (Open) FOLLOWUP ITEM (86-02-04): Main steam safety and relief valve testing. The inspector reviewed the following documents:
- FSAR section 5.2.2.10 Amendment 25.
  - Technical Specification 4.4.2.2.
  - Pump and Valve Change Request IWV-CR-29.
  - Inservice Testing Program - Valves dated 11/25/85.
  - NMPC procedure N2-MSP-MSS-R1, "Main Steam Safety and Relief Valve Verification".

The inspector verified that the FSAR, Technical Specifications and procedure N2-MSP-MSS-R1 require that 50% of the safety/relief valves be tested each refueling outage for setpoint verification. The Inservice Testing Program has been revised by NMPC to include the correct frequency for setpoint verification. The inspector asked the licensee to provide the appropriate procedure that addresses additional requirements for pneumatic power actuator opening and closing, testing of bolted closures, and testing of pneumatic actuator leakage as specified in FSAR section 5.2.2.10. This item remains open.

- v. (Closed) UNRESOLVED (86-09-43): Diesel generator room ambient temperature control. The inspector reviewed the following documents:



- NMP2 Technical Specifications 3.8.1.1 and 4.8.1.1.2.a.4.
- Licensing Document Change Notice NMPC-497.

The licensee determined that the alarm setpoint would remain at 65 degrees F. The inspector reviewed the Technical Specifications and revised FSAR Question F430.74 response for consistency. This item is closed.

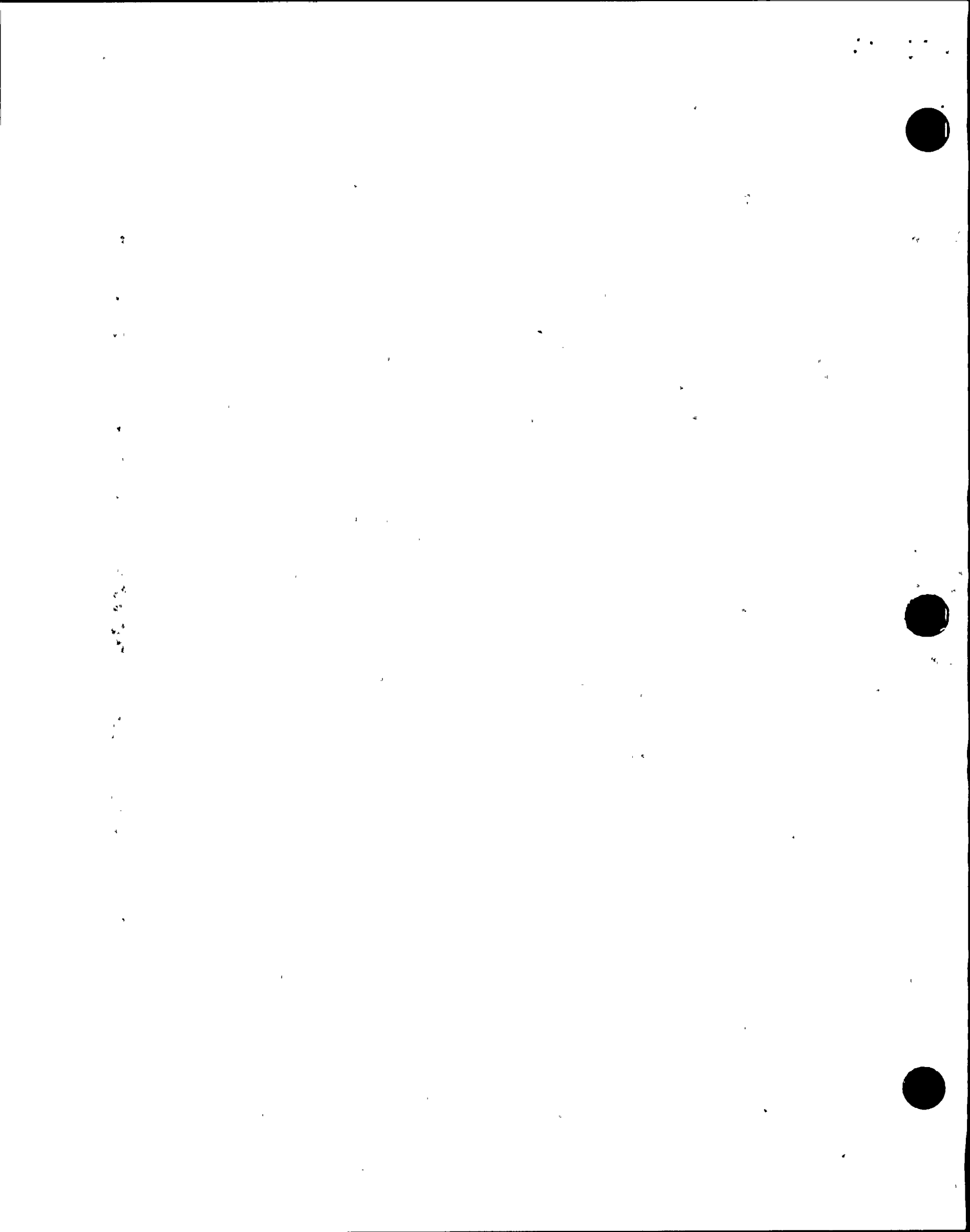
- w. (Closed) FOLLOWUP ITEM (86-18-02): Diesel generator fuel oil fill procedure. The inspector reviewed operating procedures N2-OP-100A and N2-OP-100B. The procedures detail the process to add fuel oil in the event the normal fill path to the storage tank outside the diesel generator building is not available. The oil will be pumped into the day tank drain line to fill the below ground storage tank. The inspector examined the configuration of the fuel oil piping for consistency with the operating procedures. The inspector identified that valve 2EGF\*V98 was not properly tagged. The licensee issued Deficiency Report 21131 to procure the appropriate valve tag. The inspector questioned the lack of missile protection for the day tank vent piping. The licensee provided Licensing Document Change Notice 1760 and Engineering Change Notice EGF-22 that added a loop seal on each day tank to provide the necessary vacuum breaking function. The inspector noted that FSAR figures 9.5-40b and 9.5-40c had not been revised to depict the new venting arrangement for the day tanks. The inspector was provided LDCN 2265 that corrected the FSAR figures.

The operating procedures were found to provide an alternate fill path for the storage tanks as discussed in FSAR section 9.5.4.3 and SER section 9.5.4.1. This item is closed.

- x. (Closed) FOLLOWUP ITEM (86-18-03): Diesel generator minimum loading. The inspector reviewed operating procedures N2-OP-100A and N2-OP-100B. The HPCS Division III diesel is procedurally limited to a maximum run time of 4 hours in an unloaded condition. The Division I and Division II diesels are procedurally limited to maximum run time of 6 hours in an unloaded condition. The procedures address the concern identified in the NMP2 Safety Evaluation Report (SER) section 9.5.5. This item is closed.

#### 4. Licensee Action on IE Bulletins and Circulars

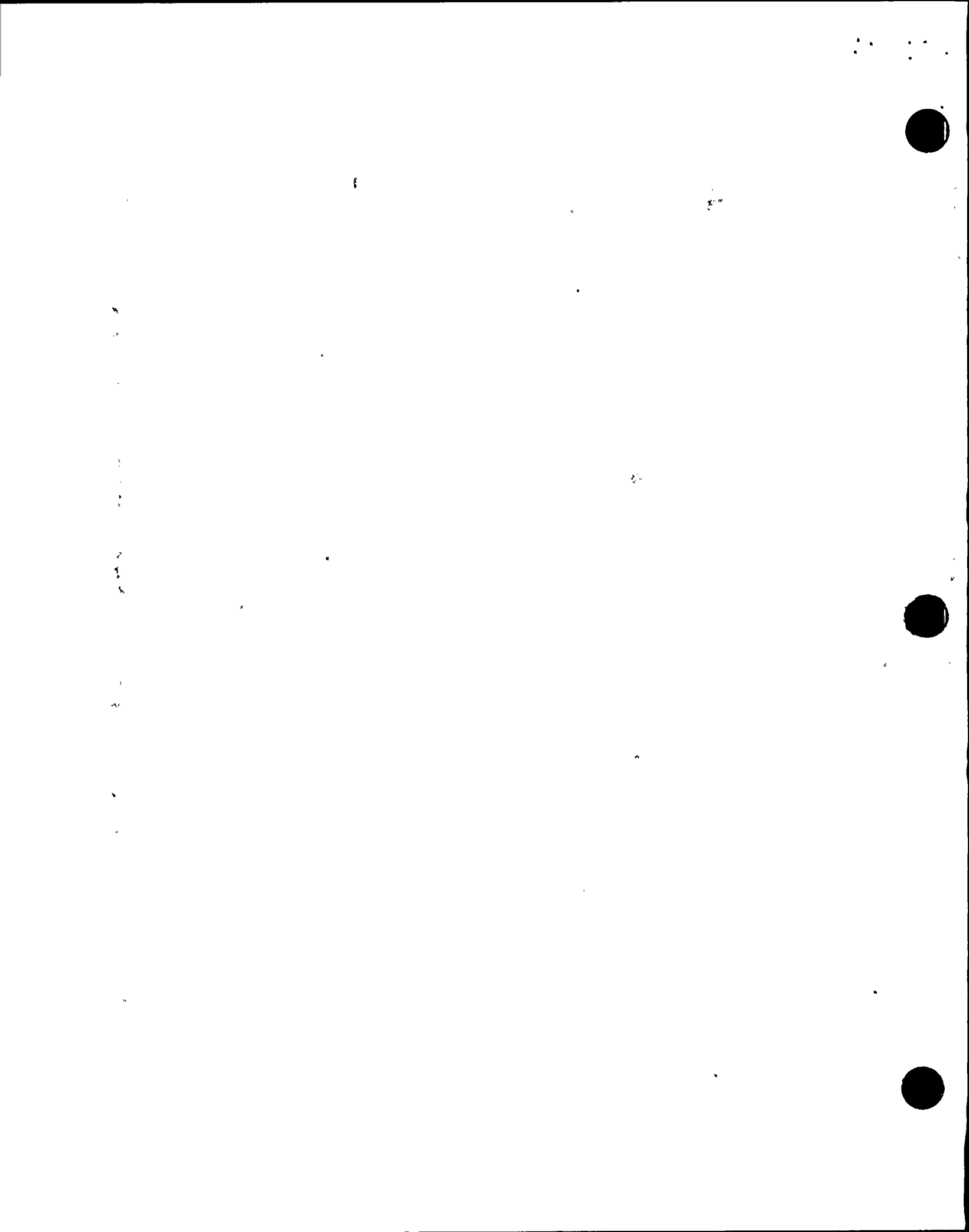
The inspector reviewed licensee records related to the IE Bulletins and Circulars identified below to verify that: the IE Bulletins and Circulars were received and reviewed for applicability; a written response was provided, if required; and the corrective action taken was adequate. The following IE Bulletins and Circulars were reviewed:



- IE Bulletin 76-02, Relay coil failures - GE Type HFA, HGA, HKA, HMA relays. The inspector examined the following documents:
  - GE letters NMP2-367, NMP2-6884, NMP2-6885, NMP2-6611, NMP2-6314, and NMP2-5129.
  - SWEC Excluded Equipment List.
  - GE Field Disposition Instruction TYGZ.
  - GE Service Information Letter (SIL) 44, "Possible Coil Spool (Bobbin) Failures on HFA Relays".
  - Engineering and Design Coordination Report (E&DCR) F41338.
  - Nonconformance and Disposition (N&D) report 6287.
  - GE data sheet 7292, "Type HFA 100 Century Series Protective Relays".
  - GE data sheet 7293, "Type HGA 100 Century Series Protective Relays".

GE has reviewed the use of the subject relays in the plant. GE assured that no HKA, HMA or HGA relays were used with nylon bobbins. The HFA relays were reworked to a upgraded model that does not use nylon bobbins. The subject relays were added to the Excluded Equipment List. The inspector visually examined several HGA, HMA and HFA relays in the PGCC panels and did not identify any white nylon bobbins. This item is closed.

- IE Circular 77-01, Malfunction of Limitorque valve operators. Based upon the review associated with IE Circular 81-13 discussed in this report. This item is closed.
- IE Bulletin 79-13, Cracking in feedwater system piping. The inspector was informed that the feedwater nozzle and sparger design is in accordance with GE topical report NEDE 21821-02. The design should preclude cracking caused by high cycle fatigue from fluctuating water temperature. This item is closed.
- IE Bulletin 79-27, Loss of Non-Class 1E Instrumentation and Control power system bus during operation. The licensee determined that cold shutdown can be achieved with the loss of non-Class 1E power. The UPS trouble alarm will alert the plant operator to voltage levels below 95% rated bus voltage. The inspector was informed that the UPS has both an alternate AC and DC backup power supply. NMPC letter NMP2L-0588 provided further information to NRR regarding confirmatory items 24 and 26. This item is closed.





- IE Circular 81-13, Torque switch electrical bypass circuit for safe-guard service valve motors. The inspector reviewed the following documents:
- NMPC procedure N2-EPM-V3, "Limitorque Motor Operated Valve Testing utilizing MOVATS-2000".
  - N2-EPM-R20, "AC Limitorque Operators (Type SMB, SB, and SMC) and Associated Motor Control Center (MCC) Unit"
  - N2-EPM-R21, "DC Limitorque Operators (Type SMB, SB and SMC) and associated Motor Control Center (MCC) Unit".
  - Procedure ED-GENE-014, "Motor Operated Valves"

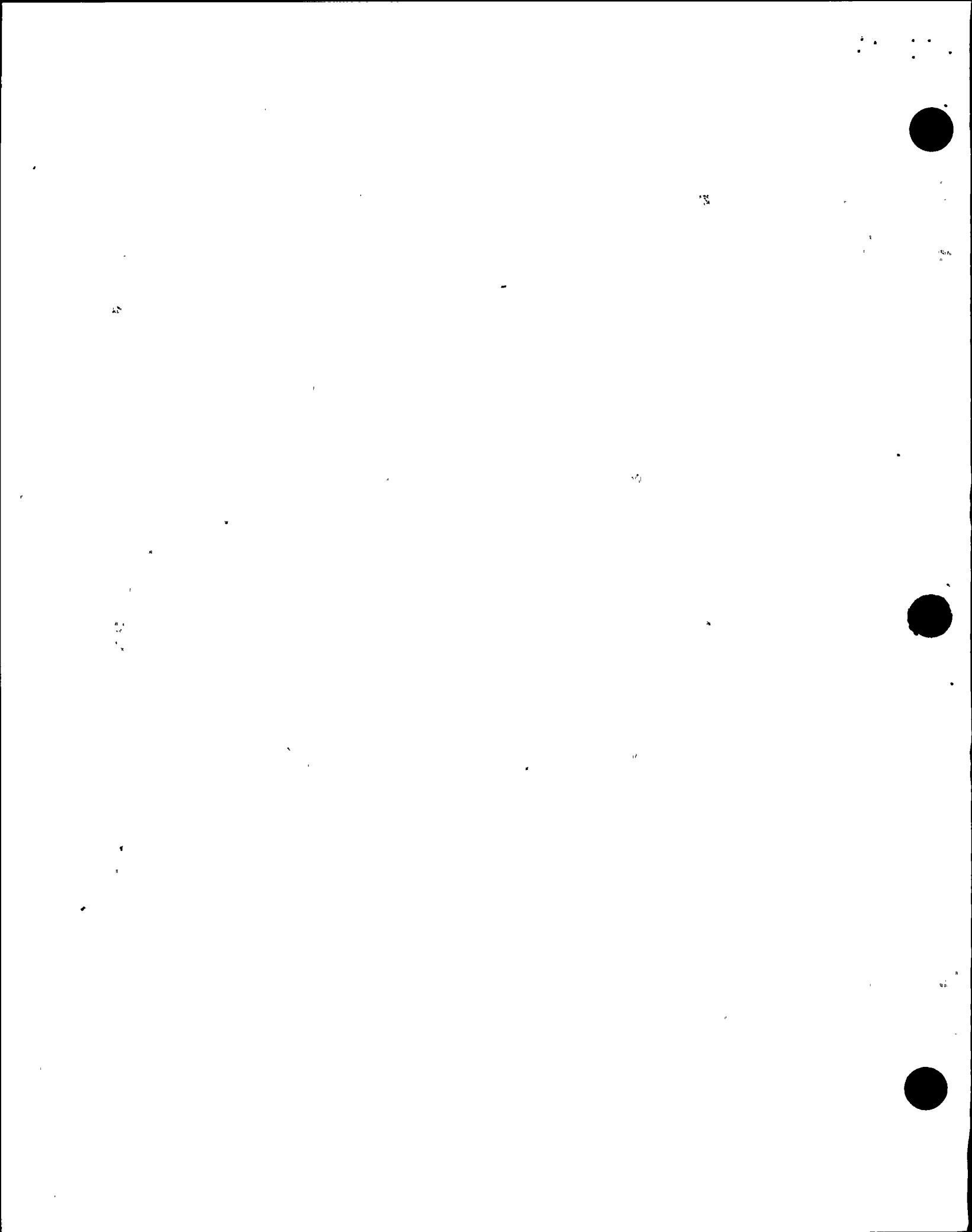
The preliminary procedures require that the bypass limit switch be set when the valve is opened or closed by 5% travel off the seat. The MOVATS procedure provides additional assurance that the torque switch is bypassed for 95% valve travel in the safety direction. The inspector reviewed the licensee MOVATS testing that has been completed on valves associated with the High and Low Pressure Core Spray systems, the Residual Heat Removal system and the Reactor Building Closed Loop Cooling system. This item is closed.

#### 5. Allegations

During the inspection period, the inspector conducted inspections and interviews in response to allegations presented to the NRC. The inspector and licensee actions resulting from the allegation are noted below.

(RI-85-A-112) Diesel Generator fuel oil line bolt torque requirements. The inspector reviewed the following documents:

- Rework Control Form (RCF) M1507.
- Bolted Joint Data Sheets 2EGF-P2A-CDB-001, 2EGF-P2B-CDB-001, and 2EGF-P2A-CDB-001.
- ASME Control Drawing 2EGF\*P2A CDB Rev 2.
- Machinery's Handbook, 19th Edition.
- Problem Report (PR) 4530.
- SWEC drawing EM-13A-8, "Machine Location Plan Standby Diesel Gen. Bldg."
- Section XI Form NIS-2 for EGF-1 and EGF-2 dated 7/1/86.



The licensee had determined, as a result of a Quality First program investigation, that the pump vendor had specified an incorrect torque requirement of 19 foot pounds for the 7/8 inch bolts. The bolt torque was revised to 190 foot pounds. The inspector was informed that the vendor manual was being revised. The inspector reviewed documentation associated with the bolt retorquing to 190 foot pounds.

As this issue had been previously rectified by the licensee, this allegation is considered closed.

#### 6. Preliminary Testing

- a. The inspector witnessed portions of preliminary test ES.0300.001, "Verification of Class IE Busses Voltage Profile Computer Model". The inspector verified use of the most current test procedure revision, use of calibrated test equipment, legibility of data entries, and conformance with the test procedure requirements.

The inspector was informed that the degraded voltage relay setpoint would be reviewed after the accuracy of the modeling program has been confirmed by SWEC engineering.

No violations were identified.

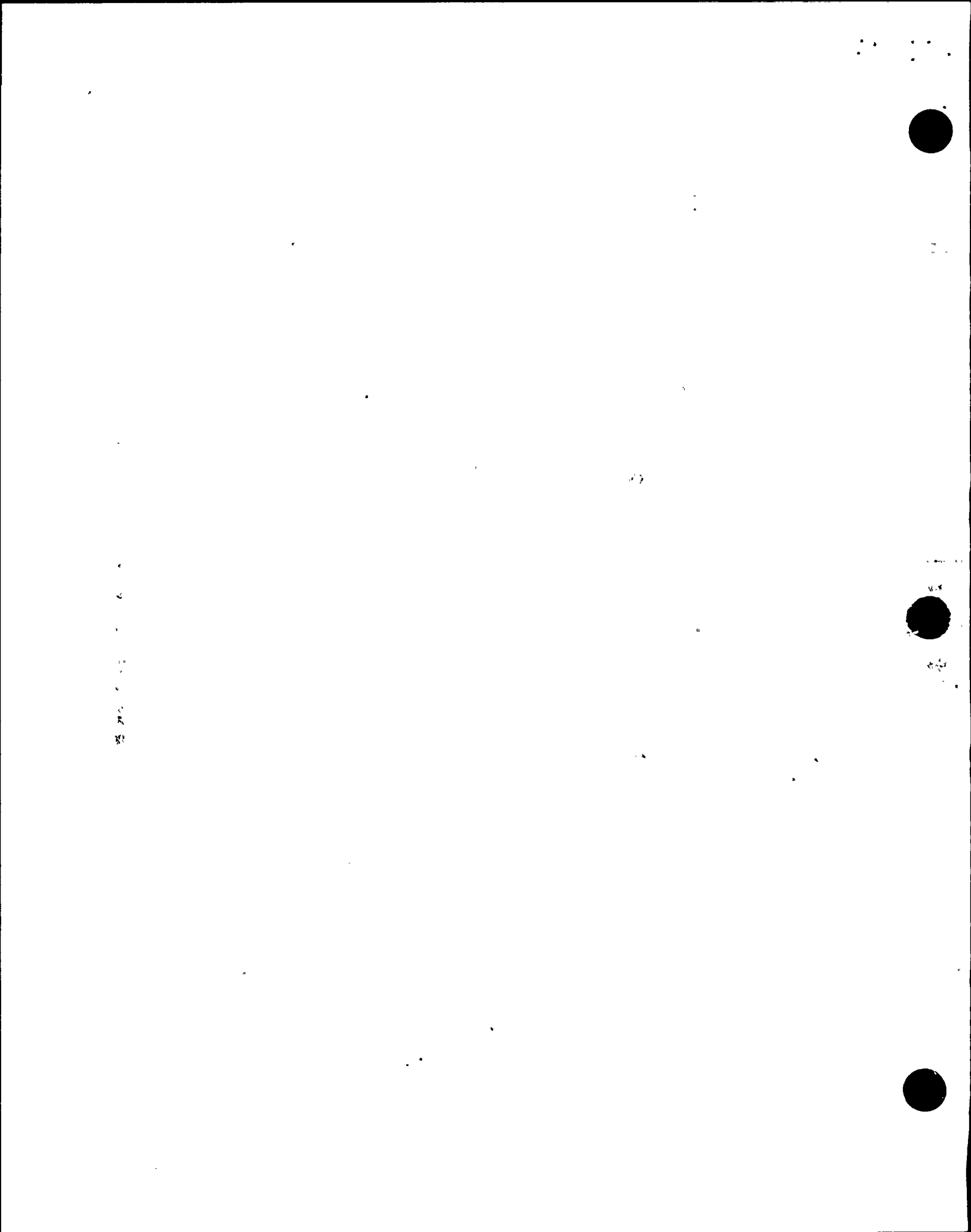
- b. The inspector reviewed the following documents related to pressure testing of the HPCS diesel auxiliaries:

- FSAR Table 430.50-1.
- E&DCR C46532A.
- FDDR KG1-4136.
- Pressure Test Results EGF-H-024, EGF-H-29, EGF-H-21, EGF-H-22, EGF-H-25, EGF-H-27, EGA-H-35 and EGA-H-34.

The pressure testing was accomplished in accordance with ASME Section III requirements and SWEC Quality Control and the ANI were appropriately involved.

The following pressure tests were performed:

<u>Piping</u>	<u>Test Pressure (psig)</u>	<u>Inspection Pressure (psig)</u>
Lube oil discharge	44	35
Lube oil return	44	35
Aftercooler	105	79
Cooling water	32	79



<u>Piping</u>	<u>Test Pressure (psig)</u>	<u>Inspection Pressure (psig)</u>
Cooling water discharge	105	29
Cooling water expansion tank	10	6.5
Lube oil cooler shell side	4	3
Air Start Upstream reg. valve	313	250
Air Start downstream reg. valve	250	200

The inspector asked the licensee to clarify the testing on the air start system as the FSAR stated a test pressure of 1.5 times the design instead of 1.25 times the design which was actually used. The inspector was presented LDCN NMPC-588 that corrected the FSAR. The inspector had no further questions.

#### 7. Preoperational Test Witnessing

a. The inspector witnessed portions of the following preoperational tests:

- N2-PQT-30, "Control Rod Drive Hydraulics".

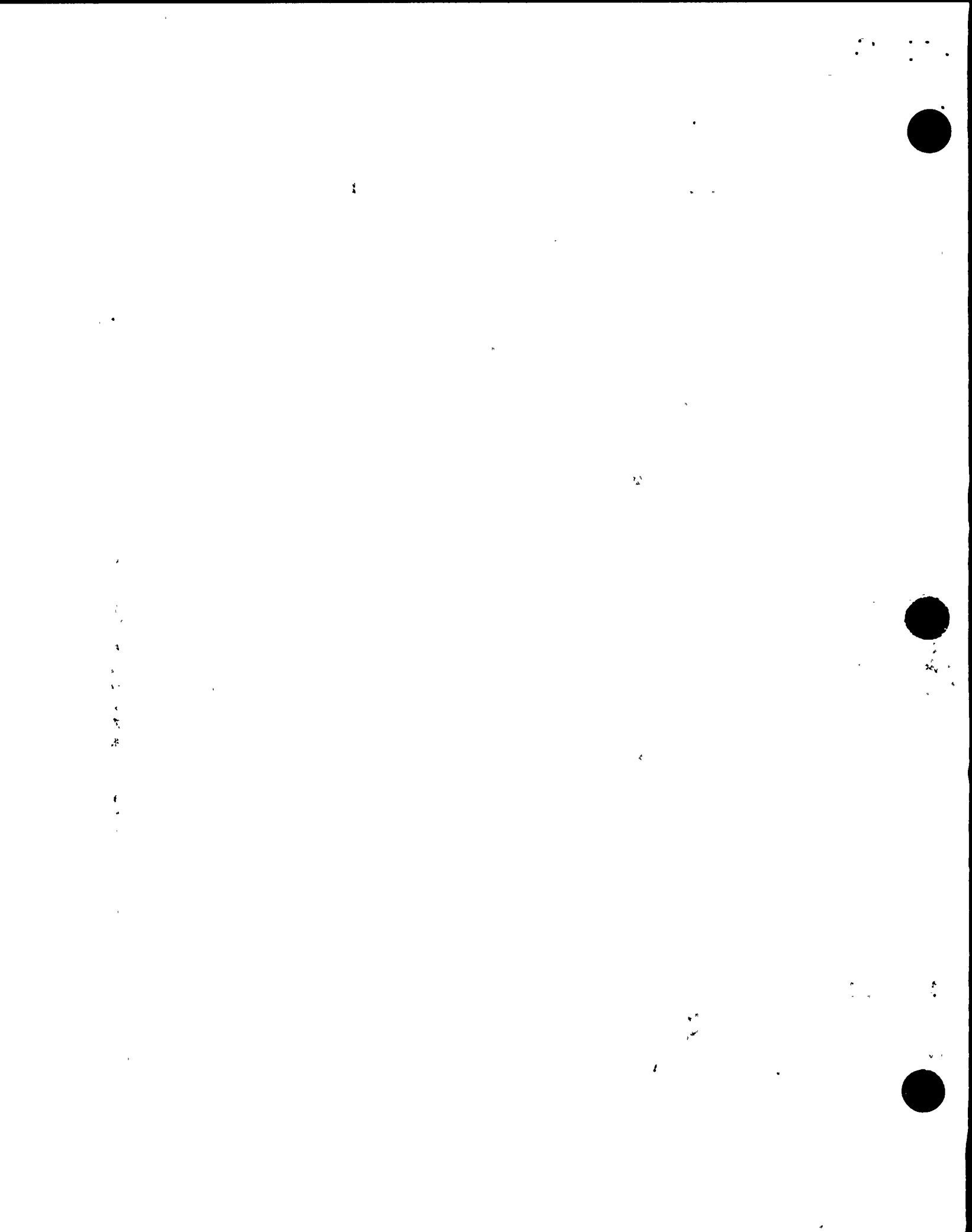
The inspector verified that the testing was conducted in accordance with the approved procedure, that calibrated test equipment was utilized, that temporary test signals or blocks were adequately controlled, that test exceptions were properly documented and that NMPC Quality Assurance (QA) personnel provided an independent overview of the system tests.

No violations were identified.

#### 8. Licensee Action on NRR Open Items

The office of Nuclear Reactor Regulation has requested the Region I office to perform followup verification on the following licensing issues:

<u>Issue</u>	<u>NRR Item</u>	<u>Region I Item</u>	<u>Status</u>
IE Bulletin 79-08 Item 6(II.k.1.5)	Confirm.51	86-09-20	Open
IE Bulletin 79-08 Item 8(II.k.1.10)	Confirm.51	86-09-21	Closed IR 86-26

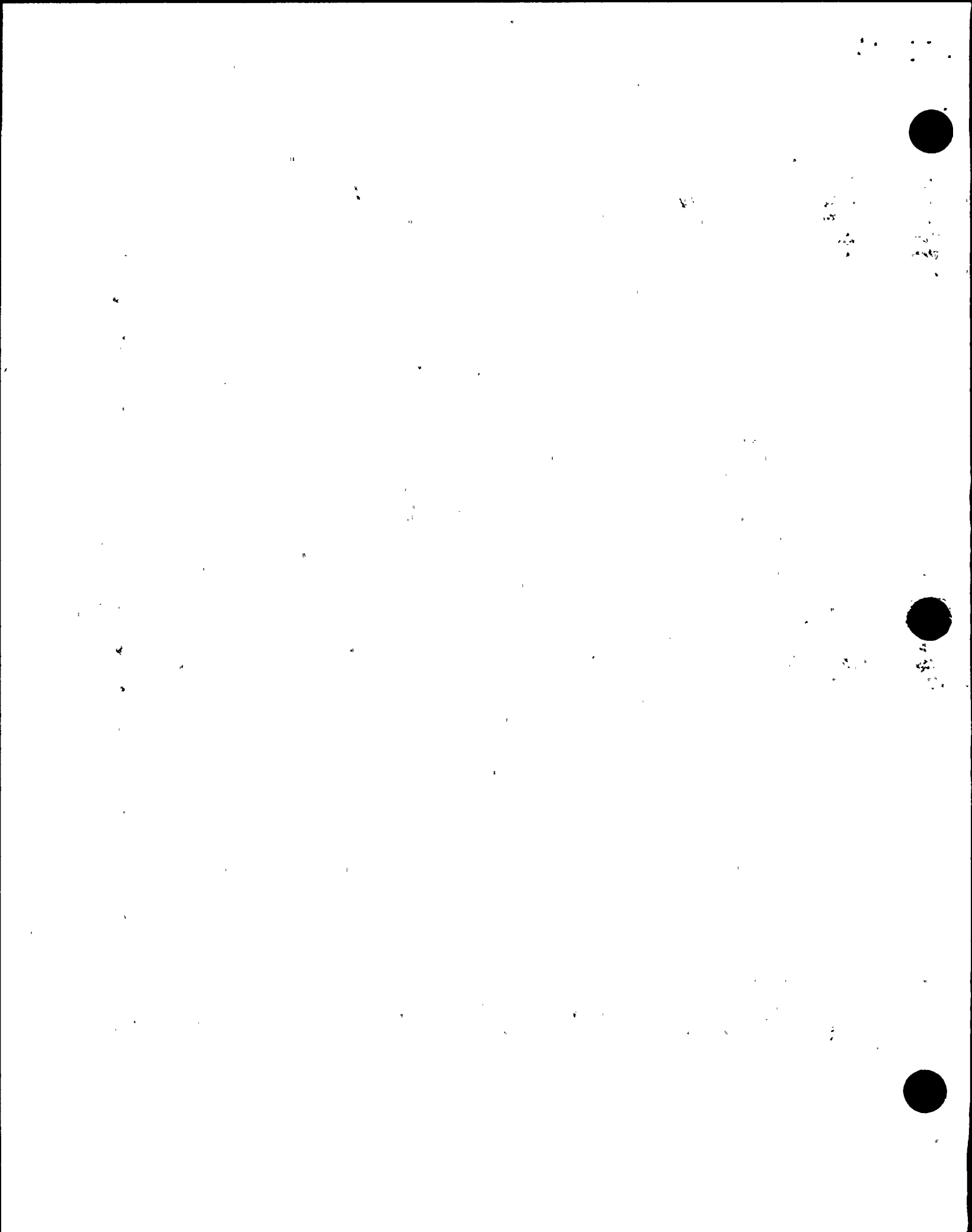


<u>Issue</u>	<u>NRR Item</u>	<u>Region I Item</u>	<u>Status</u>
RCIC Auto Restart (II.k.3.13)	Confirm.52	86-09-41	Closed IR 86-01 IR 86-18
RCIC Pipe Break De- tection (II.k.3.15)	Confirm.54	86-09-24	Closed IR 86-18
ADS Logic (II.k.3.18)	Confirm.53	86-09-25	Closed IR 86-18
DG Fuel Oil Fill Procedure	Confirm.35	86-18-02	Closed IR 86-29
DG Minimum Loading Procedure	Confirm.41	86-18-03	Closed IR 86-29
I&C Site Audit Items		86-18-04	Open
Degraded Voltage Relay Setpoint		86-13-06	Open

9. Quality First Program (Q1P) Status Update

On June 25 and 26, the section chief and senior resident inspector reviewed the current status of the Q1P as an update to the NRC team assessment documented in NRC Inspection Report No. 50-410/86-04. The review included discussions with the Q1P manager, review of the computer summary of all concerns initiated since the assessment, review of nine concern files and discussions with the licensee interviewer and investigator involved in two of the cases. The review focused on the licensee efforts to improve the program weaknesses identified by the earlier assessment. Discussion with the Q1P manager indicated that corporate management had been involved in improving the working relationship between the Q1P investigation and security investigation processes to assure appropriate disposition of potential wrongdoing issues. As a result, previous concerns of this nature were reviewed again by the licensee to assure proper disposition, and the licensee's computer tracking system was revised for easier identification of such concerns. No new concerns identified as being in this category by the licensee have occurred, therefore, this improved process has not been tested.

Nine concern files dealing with potential wrongdoing issues of this nature were reviewed, eight of which were generated prior to the assessment. One of the earlier eight concerns, involving potential harassment and intimidation of a contractor QC inspector, and a more recent concern involving possible cheating on a lead QA auditor exam, were further discussed with





the QIP investigator and interviewer involved in the respective cases. Based on these discussions, both of these cases appear to have been dispositioned appropriately as invalid. The inspector noted that in one case the documentation in the concern file did not support the conclusion because it did not fully define the concern or the basis for the conclusion. Of the other seven earlier concern files reviewed, the documentation fully and completely defined the concerns and documented their disposition.

Further discussion with the QIP manager and review of the computer summary of concerns indicated that the licensee had added codes to the concerns to aid in trending concerns of a similar nature.

The data summarized below indicates that program activity has declined slightly since the NRC team assessment.

	1/86	6/86
Total Contacts	5773	7976
Total Concerns	336	395
Safety Related	121	148
Open Concerns	20	17

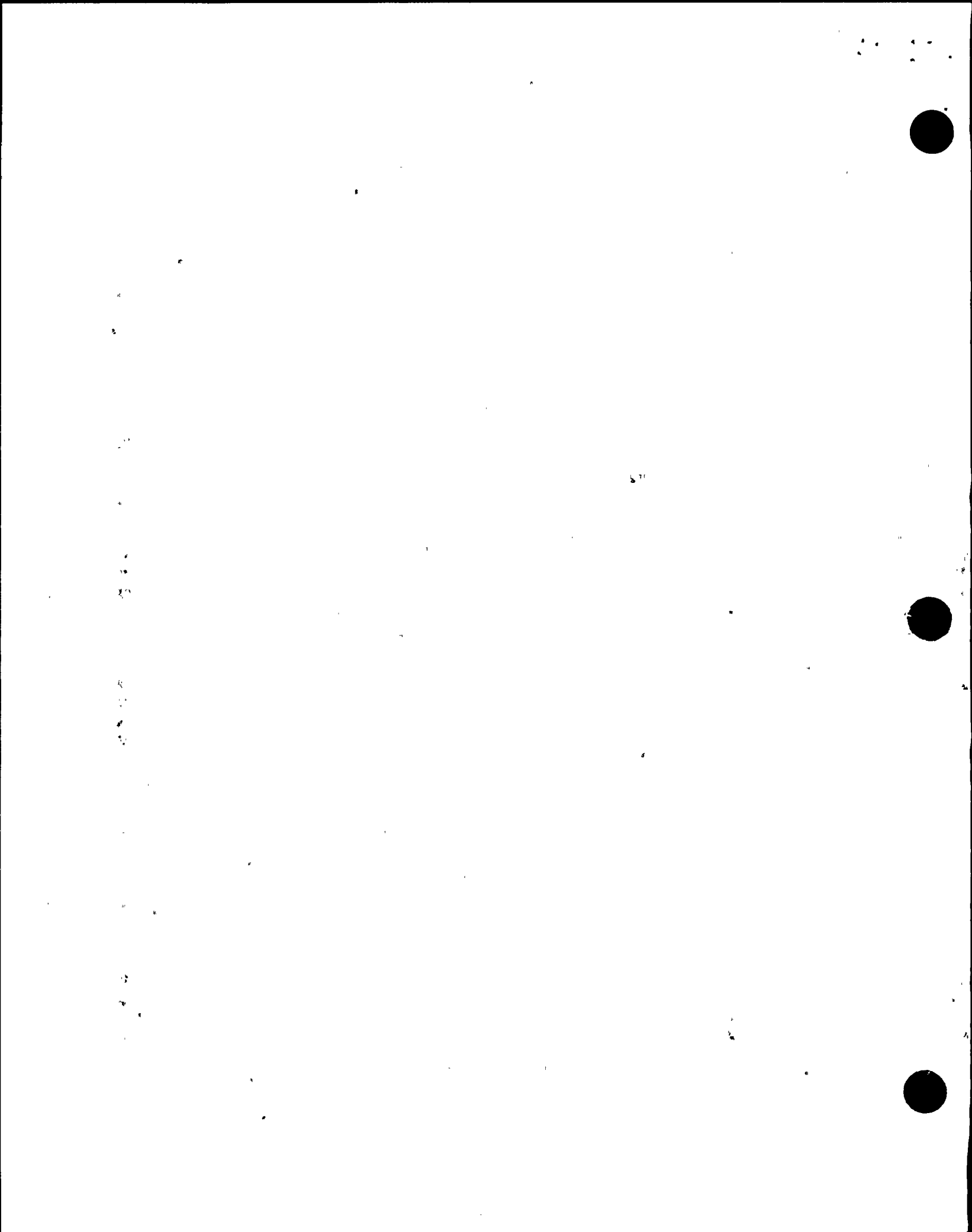
The licensee appears to have been responsive to making improvements in the QIP in response to the weaknesses identified by the NRC QIP team assessment. Particular improvement was noted in the licensee's process for handling of potential wrongdoing issues.

No violations were identified.

#### 10. Three Mile Island Action Plan Open Items

As a result of the Three Mile Island (TMI) plant accident, generic reactor enhancements were developed by the NRC. NUREG-0737 documents the specific action requirements. The following TMI issues are required to be reviewed and closed by Region I prior to Fuel Load:

<u>Task No.</u>	<u>Description</u>	<u>Open Item No.</u>
II.B.1	Reactor coolant system vents	86-29-01
II.B.2	Plant shielding	86-29-02
II.E.4.2	Containment Isolation Dependability	86-29-03



<u>Task No.</u>	<u>Description</u>	<u>Open Item No.</u>
II.K.3.21	Restart of low pressure coolant injection	86-29-04
III.D.1.1	Primary coolant outside containment	86-29-05

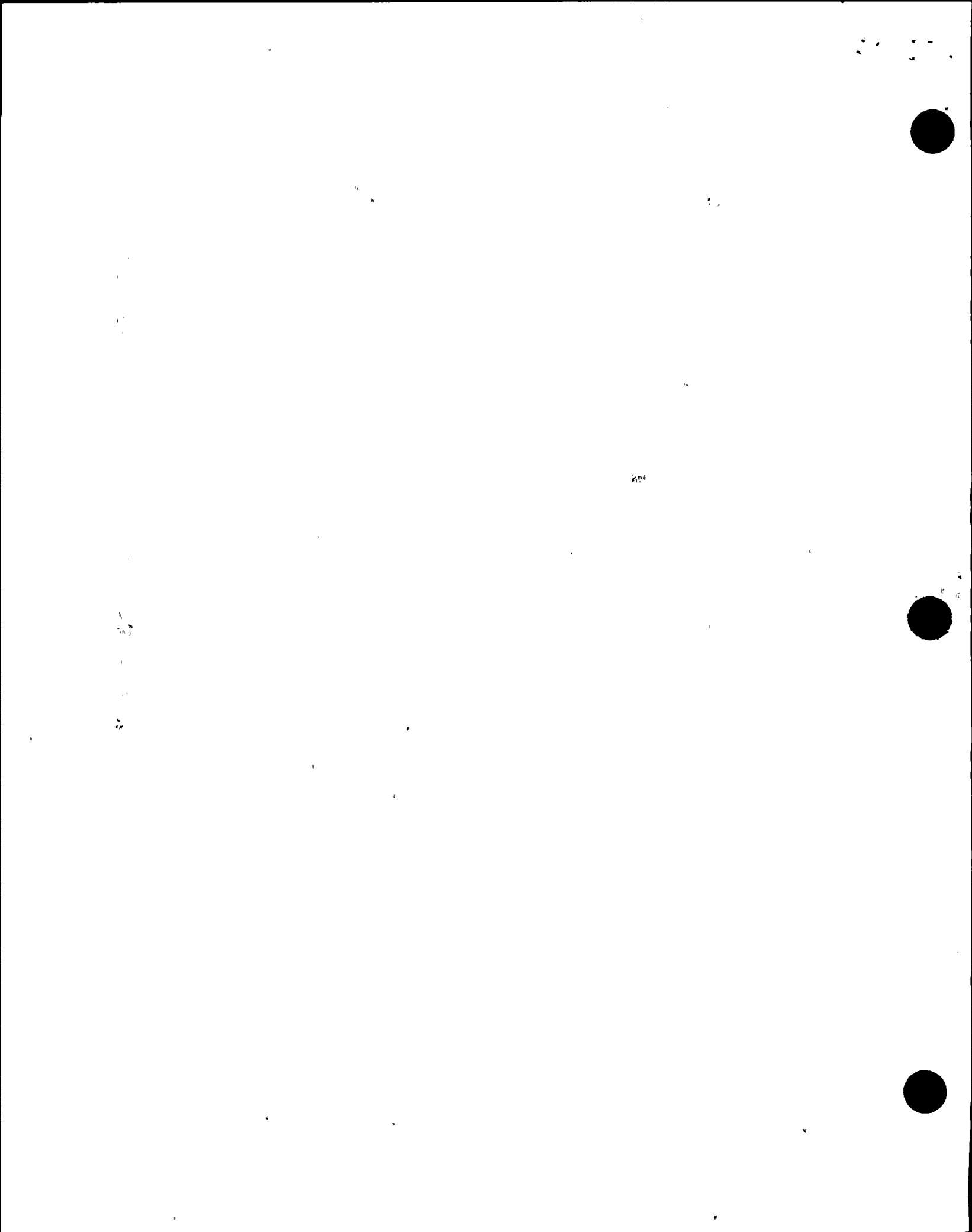
The licensee was informed on July 3 of the need for Region I closure of these additional items prior to fuel load.

The following previously identified TMI items were reviewed and closed.

(Closed) II.B.4, Training for Mitigating Core Damage (86-09-15). The licensee committed to train applicable operating personnel in the lessons from the TMI-2 accident and methods to mitigate core damage. The training program was based on the Institute of Nuclear Power Operations (INPO) Report STG-011, Rev. 1, dated January 15, 1981, which was based on the training outlined in Enclosure 3 of H.R. Denton's March 28, 1980 letter. This training has been part of the training program for licensed operators. The inspector reviewed the Lesson Objectives and Student Handout for this training and reviewed the Lesson Plan and Attendance Report for the training of two classes in April and October, 1985. These actions acceptably met the requirements and were consistent with the FSAR and the SER. This item is closed.

(Closed) II.F.2, Instrumentation for Detection of Inadequate Core Cooling (86-09-19). The licensee agreed with the BWR Owners Group position that the principal method of confirming core cooling, reactor vessel water level, is adequate to ensure detection of approach to inadequate core cooling. The SER agreed with this position. The inspector confirmed that the NMP-2 level instrumentation uses analog level transmitters and trip units. The licensee's position acceptably met the requirements and was consistent with the FSAR and the SER. This item is closed.

(Closed) II.K.1.22, Auxiliary Heat Removal System Procedures (86-09-22). NUREG-0737 required that licensees meet part 3 of IE Bulletin 79-08, which addressed the procedures needed to operate the auxiliary heat removal system when the feedwater system is not operable. The NMP-2 design provides for automatic system response to the lack of normal feedwater operation by means of the Reactor Core Isolation Cooling (RCIC) and High Pressure Core Spray (HPCS) Systems and the main steam relief valves. Subsequent to these automatic responses, operator action is needed to provide heat removal via the suppression pool cooling and steam condensing modes of the Residual Heat Removal (RHR) System and the Service Water System. The inspector reviewed the procedures for the above actions in operating procedures N2-IOP-31, Residual Heat Removal System, and N2-IOP-11, Service Water System. These actions acceptably met the requirements and were consistent with the FSAR and the SER. This item is closed.



(Closed) II.K.1.23, Reactor Vessel Level Instrumentation Procedures (86-09-23). NUREG-0737 required that licensees meet parts 4 and 5 of IE Bulletin 79-08, which addressed the procedures for operator use of the various reactor vessel level instrumentation and for not overriding automatic actions of engineered safety features. The licensee incorporated all of these instructions of Bulletin 79-08 into the Emergency Operating Procedures (EOPs) and the administrative procedure for operations (AP-4.0). All operators have received training on the EOPs and the APs. The inspector confirmed that the EOP training covered the applicable instructions by reviewing the Lesson Plan for EOPs, the EOP Training Guide, and the applicable Lesson Plan and Attendance Report for the 85-01 and 86-01 classes. The EOPs were also reviewed in Inspection Report 86-26. These actions acceptably met the requirements and were consistent with the FSAR and the SER. This item is closed.

(Closed) II.K.3.27, Common Reference for Vessel Level Instrumentation (86-09-30). NUREG-0737 required that the various reactor vessel level instrumentation have the same reference level. The NMP-2 vessel level instruments have been designed with the same level reference (380.7 inches above the vessel invert). The inspector reviewed the installed instruments in the control room for the five ranges of reactor vessel level and confirmed that all had the same reference. The inspector noted that the instruments had slightly varying readings based on the different reactor conditions for which they had been calibrated (i.e., hot, cold, etc.). These actions acceptably met the requirements and were consistent with the FSAR and the SER. This item is closed.

#### 11. Inspection Program Status

The Construction Inspection Program (MC 2512) is approximately 100 percent complete.

The approximate Preoperational Test Program (MC 2513) inspection completion status is as follows:

<u>Area</u>	<u>Inspection % Complete</u>
Procedure Review	
Mandatory	100
Primal	100
Test Witness	
Mandatory	100
Primal	100



<u>Area</u>	<u>Inspection % Complete</u>
Results Review	
Mandatory	40
Primal	100

The approximate status of operational readiness inspection is as follows:

<u>Area</u>	<u>Inspection % Complete</u>
Operations Staffing & Procedures	60
Tech Spec Review	75
QA	75
Maintenance	50
Fire Protection	100
Fuel Receipt	100
Surveillance	25
Rad. Controls	90
Rad. Waste	70
Security	90
Emergency Planning	90

Additional inspections will be performed in each area to verify readiness for fuel load.

An approximate NRC open item status is listed below. Backlogged items have been presented for closure, but have not yet been reviewed by NRC Region I.

<u>Area</u>	<u>Total Number of Open Items</u>	<u>NRC Backlogged Items</u>
Construction	31	18/58%
Deficiencies		
Violations	17	5/29%
Unresolved/ Followup Items	51	12/23%
Bulletins	9	6/66%
TMI Items	15	15/100%
SER Verifications	3	2/67%
Total	<u>126</u>	<u>58/46%</u>

## 12. Management Meeting

At periodic intervals during the inspection, meetings were held with senior plant management to discuss the scope and findings of this inspection. Based on the NRC Region I review of this report and discussions held with licensee representatives on July 3, 1986, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.

