U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 86-01

Docket No. 50-410

License No. CPPR-112 Priority -- Category A/B

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard
Syracuse, New York 12302

Facility Name: Nine Mile Point, Unit 2

Inspection At: Scriba, New York

Inspection Conducted: January 13, 1986 to February 21, 1986

Inspectors: L.T. Doerflein, Project Engineer
R.A. Gramm, Senior Resident Inspector
S.D. Hudson, Senior Resident Inspector
M. Miller, Radiation Specialist
R. Paolino, Lead Reactor Engineer

Approved by: J.C. Linville, Chief, Reactor Projects Section 2C, DRP — 3/24/86 Date

Inspection Summary:
Inspection on January 13, 1986 to February 21, 1986 (Report No. 50-410/86-01)

Areas Inspected: Routine inspection by the resident and regional inspectors of work activities, procedures and records relative to IE Bulletins, allegations, refueling floor contamination, preoperational test procedure review, preoperational test witnessing, preservice examination, control rod drive removal and rework control. The inspectors also reviewed licensee action on previously identified items and performed plant inspection tours. The inspection involved 170 hours by the inspectors.

Results: One violation was identified: Deficient preoperational test procedure acceptance criteria (paragraph 7a).

8604040358 860331
PDR ADOCK 05000410
Q PDR

DETAILS

1. Project Organizations

Niagara Mohawk Power Corporation (NMPC)

Stone and Webster Engineering Corporation (SWEC)

General Electric Company (GE)

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 or license conditions. 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 noted that NMPC Quality Assurance Instruction 16.20-01 regarding trending was cancelled. Quality Assurance Procedure 16.20 did not explicitely state any requirements to trend Startup Deficiency Reports (SDR). The inspector observed that Deficiency Reports were still being trended. The inspector was presented an emergency change to QAP 16.20 that incorporated the procedural requirement to continue DR trending activities. The inspector had no further questions.

The inspector observed that instrument tubing run R066 had been slightly deformed. The tubing was located in a high traffic area and had not been adequately protected. SWEC initiated unsatisfactory Inspection Report (IR) IGA80427 to document the condition.

The inspector observed the planned turnover of Boundary Identification Package 83.001 for the Primary Containment Isolation System. The turnover walkdown was performed by representatives from startup, operations, Quality Assurance (QA) and construction. The extent of the system boundaries were not clearly defined on the elementary diagrams. The turnover was postponed pending clarification of the system boundaries.

The inspector noted that NMPC proposed to invoke an exception to ASME NE-4452 regarding surface examination of an embedment plate weld. The inspector reviewed Licensing Document Change Notice 1716 and Nonconformance and Disposition (N&D) Report IG-8154. An arc strike had been ground out without performing the code required liquid penetrant examination of the defect removal area. As this is under review by NRR, the inspector had no further questions.

The inspector observed that Junction Box 2*JB0790 serviced both Class IE and non-Class IE circuits. The inspector reviewed Engineering and Design Coordination Report (E&DCR) Z07201D which provided two sets of fuse blocks to isolate the Class IE circuits. The inspector additionally reviewed Advance Change Notice 45942 and Inspection Report E5A4975 regarding the fuse blocks and cable terminations. The inspector had no further questions.

The inspector reviewed NRR Question F430.50 regarding the examination of skid mounted piping for the HPCS Diesel Generator. The inspector observed work operations associated with weld examination, repair, and piping removal. The following documents were reviewed by the inspector: FDDR KG1-4136, WCR 12087, E&DCR C46532A and RCF M1213. The inspector noted several through wall defects were repaired on the jacket water piping. The inspector had no further questions.

No violations were identified.

3. Licensee Action on Previously Identified Items

a. (Closed) GENERIC LETTER (81-01): Qualification of inspection, examination, and testing and audit personnel. The inspector reviewed the following documents.

- FSAR Table 1.8.-1
- SWEC SWSQAP 1-74A, "Standard Nuclear Quality Assurance Program"
- SWEC, "Quality Assurance Program for Nine Mile Point Nuclear Station Unit 2.

NMPC has fully committed to positions C.5,6,7,8 and 10 of Regulatory Guide 1.58. The SWEC alternatives to position C8 were accepted by the NRC in a letter dated February 6, 1986 (Docket 9990509) when the topical QA report was reviewed. The licensee has stated full compliance with Regulatory Guide 1.146. This item is closed.

b. (Closed) UNRESOLVED (82-10-08): Resolution of bolting hardware nonconformances. The inspector reviewed the following documents:

- SWEC Nonconformance and Disposition Reports 3166, 4175, and 3024

- Engineering and Design Coordination Reports C13346, C15946, C91054

- NMPC Nonconformance Report 361

- SWEC Inspection Reports QA2FE061A020, M2S00502

- NMPC Corrective Action Request 84.137

The bolting hardware from an unappoved source was found acceptable based upon: satisfactory physical testing of similar material supplied by the vendor; engineering review of strut connections where the hardware was used; achievement of proper torque without fastener damage during the installation process; and receipt of material certificate of compliance to A325 standards.

Site procedures require that temporarily installed materials be color coded to afford visual identification. The licensee stated that the RHR Heat Exchanger bolts were originally painted in accordance with ITT procedure FQC - 4.2-11-2. The inspector examined the permanent anchor bolt hardware for the two RHR heat exchangers and found the installations acceptable. This item is closed.

c. (Closed) CONSTRUCTION DEFICIENCY (83-00-11): Safety relief valve electro-pneumatic actuator failed environmental qualification. The inspector reviewed the following documents:

-- GE Equipment Qualification Report NEDC-31016 "Main Steam Safety Relief Valve Solenoid Coil"
-- SWEC Document Data Form for file IEEE 016.020-5010B
-- FSAR section 3.11
-- FSAR "Environmental Qualification Document"
-- GE Product Quality Certification for Req. 306-31263-273

The safety relief valve and actuator were qualified by GE in accordance with NUREG-0588 after certain modifications were made to the actuator. This item is closed.

d. (Closed) UNRESOLVED ITEM (83-06-02): Licensee to ensure required qualification tests are completed on the diesel generators. The inspector noted in a letter dated June 11, 1984, NRR found that, for the Division I and II diesel generators, the 300 start tests required by IEEE 387 were satisfied based on qualification testing of similiar diesel generators at other sites and that the shop acceptance tests satisfied the requirements for a margin qualification test. The inspector reviewed Quality Assurance Surveillance Report No. 85-10011 to verify that the 69 in-situ start and load reliability tests required by Regulatory Guide 1.108 were completed. The inspector also reviewed the Division I and II diesel generator preoperational test procedures to verify that the rated load test, consisting of a 22 hour run at 100% load followed by 2 hours at 110% load, was included in the procedure. The inspector had no further questions and considers this item closed.

e. (Closed) FOLLOWUP ITEM (83-18-101): Control of post inspection rework. As indicated within section 11 of this report, several component disassemblies were examined and all were found properly controlled. This item is closed.

f. (Closed) CONSTRUCTION DEFICIENCY (84-00-01): Seal degradation in G.H. Bettis actuators. The inspector reviewed the following documents:

- E&DCRs P13139 and F02302
- QA Inspection Reports N2P413T0074 and M5A3156
- Atwood & Morrill Co., Inc. TELEX dated June 29, 1984

Through review of the documentation, the inspector verified the licensee performed the following actions:

- Replaced Ethylene-Propylene (EP) seals with Viton seals in the safety-related actuators furnished by Atwood & Morrill Co., Inc.
- Serviced Pacific Air Products Co. actuators with new EP Seals and Dow Corning Molykote 44 lubricant.
- Serviced Posi-Seal International, Inc. actuators with new EP seals and Dow Corning Molykote 44 lubricant.

The inspector noted that these actions were consistent with the recommendations in IE Information Notice No. 84-31: Increased Stroking Time of Bettis Actuators because of Swollen Ethylene - Propylene Rubber Seals and Seal Set. The inspector also reviewed the purchase specifications for the three vendors involved to determine if they were revised in order to ensure future maintenance on these actuators would include the proper seal material and lubricant. Based upon the inspector's review, the licensee issued E&DCR No. F02574 to revise the material and lubricant requirements in all three purchase specifications and appropriate vendor drawings. The licensee also revised the vendor maintenance and instruction manuals and associated parts lists. The inspector had no further questions concerning this item and considers it closed.

g. (Closed) CONSTRUCTION DEFICIENCY (84-00-10): Clow butterfly valve response to system reverse pressurization. The inspector reviewed the following documents:

- SWEC analysis, "Clow Valve Reverse Back Pressure Analysis and System Review" dated May 9, 1984.

- Returned Material Report 84-0317.

- Material Receiving Reports 84-7171, 81-2619, 81-0194, 85-07940, 85-10925, 85-06493, 80-2125, and 85-09888.

- Clow Certificate of Conformance 007940.

- ITT Bolt Up Joint data sheets 2SWP*MOV3A, 2SWP*MOV3B, 2SWP*MOV50A, 2SWP*MOV50B, 2RHS*MOV9A, 2RHS*MOV9B, 2RHS*MOV12A, 2RHS*MOV12B.

- Inspection Reports X5A01684 and X4001196.

- ITT Weld Process Planners ISO 66-13 FW032, and ISO 66-23 FW25.

- E&DCRs P13048, P13078A, P13078, P02464, P02032, P02039, P02084, P02175A, P02175.

- ITT Inspection Reports 85-6-7291, 85-06-7292, 85-05-6275, 85-06-8501, 85-06-08502, IP-9235, and IP-9236.

- Engineering Change Notices ECN-RHS-061, ENC-CSL-019.

- Advanced Change Notices (ACN) 18886, and 18877.

- Problem Report M01353.

The inspector verified through review of the above listed documentation that the valves in question had been reworked as necessary, replaced where required, and reoriented to address the concerns of the reverse pressure effects. This item is closed.

h. (Closed) CONSTRUCTION DEFICIENCY (84-00-29): Undersized Reactor Controls, Inc. (RCI) Enterprise support welds. The inspector reviewed the following documents related to the Enterprise welds:

- RCI Nonconformance Reports (NCRs) NMP-212, NMP-213, NMP-458, NMP-468, NMP-557R1, NMP-083, NMP-446, NMP-454, NMP-466, NMP-482R1, NMP-485, NMP-486, NMP-633

- RCI Work Packages 111, 110, 109 and 107.

- SWEC Inspection Report QM4R0136.

- RCI Calculations SA-4030-ART-54 and SA-4604-ART-51.

- NMPC Corrective Action Request 84.0043.

- NMPC Surveillance Report W-84-592.

RCI craft and inspection personnel were trained in the proper use of fillet gauges. RCI performed a 100% reinspection of all accessible Enterprise support weldments. The identified weld defects were repaired as documented in the RCI work packages. The inspector reviewed the RCI calculations regarding minimum weld size requirements. Based upon the reinspections and resolution of identified weld discrepancies, this item is closed.

i. (Open) CONSTRUCTION DEFICIENCY (84-00-53): Multifunction support weldments. The inspector examined several weldments in accordance with Reactor Controls Inc. drawing NMP-008 and identified two apparently undersized welds on the Group 9 support. The licensee provided a more current revision of drawing NMP-008 that defines new fillet weld acceptance criteria. Pending the re-examination of selected multifunction welds by the inspector, this item remains open.

j. (Closed) FOLLOWUP ITEM (84-15-01): Licensee to review adequacy of Excluded Equipment List. Based on discussions with licensee personnel and a review of the Excluded Equipment List (EEL), dated October 7, 1985, the inspector determined that the licensee had reviewed the EEL against NRC commitments for consistency and revised the list as necessary. The inspector also noted that the licensee revised procedure PR4, "Implementation of the Excluded Equipment List," to require Lead Discipline Engineers review of Problem Reports, IE Bulletins and IE Information Notices to determine if specific equipment should be excluded from or limited in use on any facility Category I components or system. The inspector had no further questions and considers this item closed.

k. (Closed) UNRESOLVED (84-15-05): FSAR Quality Assurance (QA) commitment translation into site specifications. NMPC issued Corrective Action (CAR) 84.177 that documented the incomplete incorporation of QA commitments defined by Regulatory Guides and ANSI standards in site QA programs. SWEC QA developed programmatic checklists based upon PSAR and FSAR QA commitments. The checklists were utilized to verify the conformance of the SWEC, RCI, JCI and ITT QA programs to the associated commitments. The inspector reviewed the following SWEC Inspection Reports that documented discrepancies identified during the review: QMSR0186, QP5G0223, QP5G0224, and Q05S193.

The QA programs were revised to incorporate the missing program elements. SWEC developed Quality Control Instruction 5.03, "Review and Approval of SWEC/Contractor QA Procedures/Manuals" to verify that future QA program changes remain in conformance with the associated QA commitments. This item is closed.

l. (Closed) UNRESOLVED (84-15-06): Resolution of RCI Quality Assurance (QA) concerns. SWEC QA instituted several enhancements to improve the closure of Corrective Action Requests (CARs):

- Dedicated personnel were assigned to coordinate the CAR responses.

- SWEC reviewed NMPC CARs prior to issuance to the subcontractor.

- A pre-review of the acceptability of subcontractor CAR responses prior to presentation to NMPC was to be performed by SWEC.

- CARs were to be hand delivered to the affected organization.

The inspector reviewed the following CARs that had been issued to RCI:

- 84.154, 84.156, 84.174, 85.68, 85.35, 85.69, 85.70, 85.71, 85.73, 85.74, 85.75, 85.76, and 86.001.

The inspector noted that all the CARs had been satisfactorily closed. RCI has subsequently been demobilized. This item is closed.

m. (Closed) FOLLOWUP ITEM (84-18-03): Training of SWEC engineers. The inspector reviewed training records for SWEC engineers. The Site Engineering Group (SEG) Training Coordinator was interviewed. The inspector reviewed monthly listings of required training classes for engineers. The inspector verified by selected review that SEG engineers had fulfilled the required training courses. This item is closed.

n. (Closed) UNRESOLVED (84-18-06): Adequacy of the shelf life program. The inspector reviewed the following documents:

- SWEC Guideline "Refurbishment of Equipment"

- Project Guideline 35, "NMP2 Spare Parts Program"

- Project Procedure (PP)121 "NMP2 Spare Parts Program-Detailed Implementing Procedure".

- PP126, "Shelf Life Evaluation and Control"

The shelf life program requires evaluation of aging considerations for environmental, and process considerations. The program addresses all non-metallic parts such as greases and gaskets. The equipment qualification reports, vendor recommendations and installation location are evaluated during the process. The inspector reviewed sample data sheets. This item is closed.

o. (Closed) VIOLATION (84-18-08): Failure to establish and implement protection for safety related components. The inspector reviewed the licensee's response, NMPC letter NMP2L0387 dated April 15, 1985, which addressed immediate and long term corrective actions. The inspector reviewed ITT-Grinnell inspection reports IPC-1458, 1457, 3144, 3145, 3146, 85-04-03846, 85-04-03845 and determined that each component had been properly covered to prevent dirt intrusion. Engineering and Design Coordination Report F02014 was issued to revise SWEC Specification No. NMP-SM01, "Storage and maintenance during storage of permanent plant equipment" to include vendor recommended storage requirements for the HPCS Diesel Generator Cooling Water Heat Exchanger. The licensee concluded the stagnant water found in the above heat exchanger had not caused a metallurgically unacceptable condition. This item is closed.

p. (Closed) UNRESOLVED (84-21-01): Operational QA program for Regulatory Guide 1.29 compliance. The inspector reviewed Administrative Procedure 6.0, " Procedure for Modification and Addition." Appendix 10 of the procedure requires a safety evaluation of all modifications to identify instances of non-safety equipment configured over safety related equipment. This item is closed.

q. (Closed) UNRESOLVED (84-21-07): Disassembly of a Service Water system valve. Startup Administrative Procedure (SAP) 117 has been written which requires the issuance of a Work Control Report (WCR) or Work Request (WR) for pressure boundary work. Both documents are reviewed by QA or QC for inspection involvement. The inspector reviewed the following documents:

- Deficiency Reports M0053 and M00328.

- Quality Assurance Checklist SQA-I-0012-85.

- Work Control Report 4937.

- Rework Control Form SB175.

- Bolted Joint Data Sheet 2-SWP-532-CD-A.

The valve in question was disassembled and reassembled with appropriate QC inspections. This item is closed.

r. (Closed) FOLLOWUP ITEM (84-99-03): Restart of Reactor Core Inspection Cooling (RCIC) System on low level. This requirement was addressed by NUREG-0737, "TMI Action Plan," Item II.k.3.13 and NRC Safety Evaluation Report Confirmatory Issue No. 52. The inspector reviewed G.E. Drawing No. 807E173TY Rev. 18 and verified that the system design ensures that RCIC will automatically restart on low reactor water level following a trip of the system on high water level. The inspector reviewed Preoperational Test Procedure N2-POT-35, "Reactor Core Isolation Cooling Sytem," Revision 0 and determined that this function will be adequately tested. This item is closed.

s. (Open) FOLLOWUP ITEM (84-99-04): Modification to prevent spurious isolation of the Reactor Core Isolation Cooling (RCIC) System. This requirement is addressed in NUREG-0737, "TMI Action Plan," Item II.K.3.15 and NRC Safety Evaluation Report Confirmatory Issue No. 54. The inspector reviewed G.E. Drawing No. 807E173TY and verified that a time delay had been added to the RCIC pipe break detection circuitry to prevent spurious isolation of the system due to fluctuations in steam line pressure during system initiation. The inspector reviewed Preoperational Test Procedure N2-POT-35, "Reactor Core Isolation Cooling System" Revision 0 to verify that this function will be properly tested. Although the time delay function will be tested, an incorrect value for the time delay was specified. The licensee had previously identified this error. This item remains open pending NRC review of the revised preoperational test.

t. (Closed) CONSTRUCTION DEFICIENCY (85-00-07): Bend radii criteria for Anaconda flexible conduits. The inspector reviewed the following documents:

- SWEC Report of a Problem.

- N&Ds 10430, 10584, 11469, 11798, 11721, 11620, 11804 and 12652

- E&DCRs C03350, C03196 and C03244.

- QA Inspection Plans N20E061AF026 Rev B Ch 6, N20E061AFA026 Rev C Ch 1, N20E061AFA107, N20E061AFA003 Rev G Ch 0, and N20E061AFA026 Rev D Ch 6.

- NMPC Surveillance Report E85-00859.

The installation specifications and inspection plans were revised to include manufacturer minimum bend radius criteria. An alternate method of wrapping the conduit with Okonite jacketing tape was developed for reduced bend radii. SWEC QC reinspected installations that had been previously accepted. Deficient installations were documented on N&Ds and repaired as appropriate. The inspector examined several conduits that had been taped. This item is closed.

u. (Closed) CONSTRUCTION DEFICIENCY (85-00-26): Seismic qualification of electrical distribution panelboards. The inspector reviewed the following documents:

- Nonconformance and Disposition D032.
- SWEC Drawing EE-550K-5, "Seismic Elec Equipment Support Standard Arrangement Details SH-3".
- BBC Brown Boveri Report 48-560-81-SS, "Seismic Certification Report for Class IE Electrical Equipment".

The panelboards were retested with a support configuration representative of the as installed condition. The electrical equipment was found satisfactory with respect to seismic qualification requirements. This item is closed.

v. (Closed) CONSTRUCTION DEFICIENCY (85-00-28): Thread engagement of the Service Water pump anchor bolts. The inspector reviewed the following documents:

- E&DCR Z60671.
- Work Control Reports 8849, 8240, 8852, 8854, 8856, and 8857.
- SWEC Calculation MS-1988.
- Machinery's Handbook 19th edition.

SWEC engineering and a representative for Goulds Pumps evaluated the dimensions of the anchor bolt shims, washers, and motor base. The two (2) inch long bolts were replaced with two and 1/2 (2 1/2) inch long A325 bolts to provide adequate capacity. The inspector verified that A325 bolts were installed on the pumps. This item is closed.

w. (Open) UNRESOLVED (85-04-02): Accuracy of FSAR information. The inspector was informed that the licensee FSAR verification effort is 98% complete. A licensee review is planned of the GE verification efforts. This item remains open.

x. (Closed) UNRESOLVED ITEM (85-04-03): Licensee to assess acceptability of electrical equipment vendor wiring. Based on discussions with licensee personnel and on a review of a summary report dated January 31, 1986, the inspector determined that the licensee completed the reinspection of all vendor supplied electrical equipment to ensure that the wiring conformed to the design requirements. The inspector noted that of the forty three nonconformance and dispositions reports issued during the reinspection, all but five have been closed. During previous inspections, the inspector had observed satisfactory rework of identified vendor wiring deficiencies while reviewing corrective action on Construction Deficiency Reports. This item is closed.

y. (Closed) FOLLOWUP ITEM (85-10-02): Code classification of piping thermowell installations. The inspector reviewed the following documents:

- ASME Section III NA-1130 (c).
- Nonconformance and Disposition report 10105.
- Engineering and Design Coordination Reports C93303A and F01692.
- Specification P301A.

The thermowells were classified by GE and SWEC engineering to be pressure integrity instruments and therefore not required to be constructed, certified or stamped in accordance with ASME Section III. The thermowells were welded in accordance with ASME III requirements. NMPC QA reviewed the thermowell material certifications and GE audits of supplier QA programs. This item is closed.

z. (Closed) FOLLOWUP ITEM (85-13-01): Review of SWEC Engineering and Quality Assurance audits. The inspector has previously reviewed the Quality Assurance portion of the audit as documented within NRC Inspection Report 50-410/85-27 section 3kk. The inspector reviewed the following documents:

- Audit 50 Phase 1, "In Depth Technical Audit Report".
- NMPC Letter NMP2L-0505, Audit 50 Supplement.
- NMPC Letter NMP2L-0580, EA Corrective Action Status Report and Supplemental Information to the Phase II Report.

The EA report was modified to reflect that some QA hardware concerns were related to engineering efforts. The conduct of the EA audit has been documented within NRC Inspection Reports 50-410/85-14, 18 and 28. This item is closed.

aa. (Open) UNRESOLVED (85-13-05): Timeliness of Quality Control inspection conduct. The inspector asked the licensee to assure that the Category 1 stairtowers had received QC inspection. Pending licensee response, this item remains open.

bb. (Closed) UNRESOLVED (85-19-01): Electrical separation test results. The inspector reviewed the following documents:

- NMPC Letters NMP2L-558 and 610.
- Licensing Document Change Notice 1647.
- E&DCRs F02322 and F02347.

The minimum allowable separation distances determined by testing were less than or equal to the minimum allowable field requirements. This item is closed.

cc. (Closed) FOLLOWUP ITEM (85-19-02): Use of QA checklists. The inspector was informed that QAP 5.02 allows the issuance of QA Instructions (QAIs). The inspector reviewed QAI 10.30-03, "Supplementary Instructions for Performing Inspection Activities at NMP2 Nuclear Station during the Startup and Test Phase." The QAI describes the generation and use of QA checklists. This item is closed.

dd. (Closed) FOLLOWUP ITEM (85-25-01): Resolution of GE related open audit findings. The last open item was closed by NMPC on October 30, 1985. GE assessed thirty two (32) items that were carried on the SWEC Excluded Equipment List (EEL). The inspector reviewed SWEC letter 9M2-18,562 that transmitted to GE additional items contained in the current EEL for review. Based upon the closure of the NMPC open item and SWEC notification of GE regarding items recently added to the EEL, this item is closed.

ee. (Closed) UNRESOLVED (85-27-03): Welding of tube steel members at embedment plate seams. The inspector reviewed the following documents:

- Nonconformance and Disposition (N&D) reports 13578 and 13420.
- NMPC Corrective Action Request 85-1019.
- NMPC Nonconformance Report 2-85-0005.
- Request for 50.55(e) Evaluations 85-028 and 85-031.

- SWEC Calculations 12177-ID-TAB-74, 12177-IP-TAB-70, and 12177-ID-TAB-73.

The inspector was informed that all SWEC Field Quality Control (FQC) personnel involved in small bore activities were retrained regarding the proper support configuration to span an embedment seam. SWEC FQC performed a reinspection of all small bore supports located in the Reactor, Control and Diesel Generator buildings for compliance with sketch 12177-SK-4710. Two additional supports were found contrary to specification requirements. The supports were repaired, however SWEC subsequently analyzed the original configuration as acceptable. The inspector reviewed the calculations and associated finite element analysis. The inspector reviewed the engineering analysis that determined all other supports were acceptable even if welded across the seam in contradiction to specification requirements. SWEC additionally inspected RCI installed supports and found all acceptable. The inspector toured the Service Water pump area and selected areas of the Reactor building, and found no further small bore supports improperly attached. This item is closed.

ff. (Open) VIOLATION (85-36-01): Failure to perform QA inspections during installation of the Remote Shutdown Panel. The licensee response to the violation dated February 11, 1986 detailed planned corrective and preventive actions. The licensee response has been accepted and the implemented actions will be examined during a future inspection.

gg. (Closed) UNRESOLVED ITEM (85-42-01): Licensee to evaluate use of flexible conduit for undervessel Neutron Monitoring System (NMS) cables. The inspector reviewed General Electric (GE) Document - Electrical Equipment Separation for Safeguards Systems, Document No. 22A54219, paragraph 4.3.1.1, and noted that the undervessel NMS cables are specifically exempted from rigid conduit requirements because of space limitation and the need for flexibility. The inspector also noted that GE approved the undervessel use of flexible conduit because there are no high power sources under the vessel that will cause signal interferences, the NMS cables are used on a fail safe system, and the flexible conduits are acceptable for separation purposes because there are no significant power signals in the conduit. The inspector also reviewed Specification E061A for Installation of Electrical Equipment and noted that paragraph 3.1.3.8 states when flexible conduit is required, it shall be installed in accordance with the Engineers' drawings. The inspector also noted it allows for exceptions to the minimum and maximum lengths of flexible conduit as listed in the specification. The inspector had no further questions and considers this item closed.

hh. (Closed) FOLLOWUP ITEM (85-99-14): Corrective actions for radiography program: The licensee instituted the following actions to correct the site radiography program.

- Re-radiographed selected welds to assure pressure boundary integrity.
- Re-reviewed safety related radiographic film to ensure identification of all weld defects.
- Developed film index system.
- Enhanced radiographer training and qualification programs.
- Increased supervisory oversight of radiography operations.
- Resolved the duplicate film issue.

Based upon the licensee actions and satisfactory independent NRC radiography documented within NRC Inspection Report 50-410/85-43, this item is closed.

4. Licensee Action on IE Bulletins and Circulars

a. The IE Bulletin transmits information to or requests action from licensees regarding plant safety, safeguards or environmental matters of significance.

The inspector reviewed the following procedures:

- PG34, "Identifying, Tracking and Responding to Commitments made by NMPC to the NRC".
- PG14, "Degrees of Compliance for Federal Guidelines for Nuclear Power Plants - NMPC Approval".
- PM58, "Assignment of Responsibility - NRC Inspection and Enforcement (IE) Information Notices, Circulars and Bulletins".
- PP2, "Processing of Problem Reports".
- PP20, "Degree of Compliance with Federal Guidelines for Nine Mile Point Unit 2".
- PPNM150, "Information from the NRC NMPC Receipt, Response and Followup".
- EAP 16.1, "Problem Report System".

The inspector found an adequate procedural framework in place to assure that the IE Bulletins and Circulars are reviewed by appropriate personnel and that programs exist to track necessary corrective actions.

b. 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 71-3, Information regarding the catastrophic ejection of two relief valves from the main steam line. The main steam line safety and relief valves have been designed and hydrostatically tested in accordance with the ASME code. The inspector reviewed drawing EP-2B-10 and Isometric 01-13 and reviewed the flanged nozzle design for the relief valves. This item is closed.

-- IE Bulletin 74-1, Valve deficiencies. The Anchor Darling valves in the site systems were found not susceptable to the backseat disc mislocation. The Walworth and Darling valves described by the IE Bulletin were added to the SWEC Excluded Equipment List. This item is closed.

-- IE Bulletin 74-14, BWR Relief Valve Discharge to suppression pool. Interim Operating Procedure N2-IOP-34 contains instructions to identify and close a stuck open safety/relief valve. The Technical Specifications (TS) contain a LCO which requires plant shutdown if a safety/relief valve cannot be restored to operable status within 72 hours. The TS also define maximum suppression pool water temperature limits as defined for various operational conditions. This item is closed.

-- IE Bulletin 78-14, Deterioration of BUNA-N components in ASCO solenoids. Procedure N2-IMP-CRD-1.01 "Repair of Scram Pilot Valves" requires that all affected components be replaced after a combined shelf and service life of five years which is less than the GE recommendation of seven years documented in SIL 128, Revision 1, Supplement 1. Procedures MI-4.0 and PP131 document the program to establish maintenance requirements for all Category 1 equipment. The inspector reviewed the Equipment Qualification Maintenance Program Data Sheets for the CRD solenoid valves that specify the start of qualified life as June 1985. This item is closed.

-- IE Bulletin 79-04, Incorrect weights for swing check valves manufactured by Velan Engineering Corporation. Engineering and Design Coordination Report (E&DCR)P01 428 was issued to require Velan to verify that valve weights were within +/-10% of the weight documented on the valve drawing. The inspector reviewed several Telexes from Velan that provided amended valve weights for piping stress analysis. This item is closed.

- IE Circular 79-16, Excessive radiation exposures to members of the general public and a radiographer. Radiation Protection Procedure RP-11, "Performance of Radiography with Licensed Sealed Sources" addresses performance of radiation surveys, conduct of unannounced audits and notification of appropriate personnel in emergency situations. This item is closed.

-- IE Bulletin 80-13, Cracking on core spray spargers. The Nine Mile spargers were reviewed by General Electric engineering and found dissimilar with the Oyster Creek and Pilgrim spargers because of different material type, properties, and geometry. The Nine Mile design should preclude similar cracking problems. This item is closed.

-- IE Circular 81-05, Self-Aligning rod end bushings for pipe supports. ITT-Grinnell documented the capability of all snubbers and struts, except Size 1, to carry rated loads with maximum bushing displacement. The Size 1 snubbers were delivered with staked bushings to prevent unacceptable displacements of the bushings. The Pacific Scientific snubber assemblies on the recirculation piping were provided with bushings staked in by the continuous ring method. The inspector examined several of the recirculation system snubbers and verified the staking. This item is closed.

-- IE Bulletin 83-03, Check valve failures in raw water cooling systems of diesel generators. Six check valves are in the service water system for the diesel generator cooling lines. The inspector reviewed Engineering Change Notice (ECN) SWP-603 that directed the internals be removed from valves 25WP*V76A/B. The inspector reviewed the Inservice Testing program which covers valves 2SWP*75A/B, 259 and 260. Relief Request SWP-VRR-1 was additionally submitted to verify reverse flow closure of the check valves during refueling. This item is closed.

-- IE Bulletin 84-01, Cracks in boiling water reactor Mark 1 Containment Vent headers. The vent header crack was attributed to injection of cold nitrogen into the torus during inerting. The nitrogen temperature in the vent and purge lines is monitored and temperatures below 55 degrees F are alarmed in the control room. Further controls are established to preclude injection of nitrogen below 40 degrees F. This item is closed.

-- IE Bulletin 84-03, Refueling Cavity Water Seal. The inspector reviewed Specification M070A, E&DCR F12617, N&D 11891 and Preliminary test procedure MP.0038.008 results. A cavity seal was tested, however due to installation tolerances a new seal was ordered after the accomplishement of the preliminary testing. The inspector requested test results for the new cavity water seal. This item remains open pending licensee completion of the requisite testing.

The inspector closed the following IE Bulletins and Circulars because the subject component or system is not installed at the facility:

-- IE Bulletin 85-01, Steam Binding of Auxiliary Feedwater Pumps.

-- IE Bulletin 72-01, Failed Hangers for emergency core cooling system suction header. Nine Mile has a Mark II containment that does not have a torus suction header.

-- IE Bulletin 73-3, Defective hydraulic shock suppressors and restraints. No hydraulic suppressors are used at Nine Mile.

5. Allegations

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

a. (RI-85-A-119) The NRC received an allegation pertaining to inadequate document review by ITT-Grinnell and lack of followup by the NMPC Quality First Program (Q1P). The inspector reviewed the Q1P action item and investigation results associated with this concern. The concern was not validated as former Quality Control (QC) inspectors that currently perform document reviews are instructed to not review documents which they had originated. The inspector randomly selected eighteen (18) of forty-three (43) Document Turnover Transmittal packages and found no indication that the document reviewers were involved with the QC activities or associated documentation origination. The inspector had no further questions.

6. Refueling Floor Contamination

The licensee informed NRC on January 28, 1986 that alpha contamination was detected on a work table, the surrounding area on the refueling floor, and on personnel hard hats. The source of the contamination was suspected to be leakage from a 0.05 uCi Plutonium-239 check source.

The inspector discussed the sequence of events with cognizant Radiation Protection personnel; toured the refuel floor and nuclear fuel inspection work station; reviewed radiation surveys taken on January 28 and 29, 1986; and examined the operability response check log and calibration procedures for the alpha detector, Model PC-5 and PU-239 source, serial number 85-2710-09.

The inspector determined that there was no significant leakage from the plutonium source, but rather the source was not uniformly distributed onto a nickel based material, causing a directional dependence. The licensee stated they would mark the source defective and provide a written report to NRC Region I describing the corrective action taken.

Based on quantitative analysis, the smears indicated that the alpha contamination detected on the refueling floor, work station and personnel hard hats was from natural radon progency. To verify that there was no plutonium ingestion by staff, who had contact with the check source, the licensee instituted bioassay sampling. Of the samples collected, two individual's urine and fecal samples were selected for offsite alpha analysis on January 30, 1986.

The inspector had no further concerns regarding this event, with the exception that the incident had not been documented at the time of the inspection. This area will be reviewed during a subsequent inspection.

No violations were identified.

7. Preoperational Test Procedure Review

a. The inspector reviewed the following documents related to the High Pressure Core Spray Diesel Generator Preoperational test:

- FSAR Tables 14.2-126 and 1.8-1.
- FSAR Sections 9.5.4, 9.5.5, 9.5.6, 9.5.7, and 8.3.1.1.2.
- FSAR Figure 9.5-41.
- Technical Specification 3/4.8.1.

- Regulatory Guide 1.108. "Periodic Testing of Diesel Generator Units Used As Onsite Electric Power Systems at Nuclear Power Plants".
- Preoperational Test Procedure, N2-POT-100B, "HPCS Diesel Generator".
- Preliminary Test Procedures
  MD.0100.B01, "Div III Diesel Generator"
  MD.0100.B03, "HPCS Diesel Generator Reliability Test"

The inspector identified the following concerns as a result of the procedure review:

- Procedure MD.0100.B01 step 8.1.4.18 and 8.3.10 referenced incorrect procedure steps for removal of instrument blocks.

- Procedure MD.0100.B01 step 8.3.4 specified the jacket water heater low temperature setpoint as 125+/- 5 degrees F. FSAR section 9.5.5 states the heater energizes at 125 degrees F. This item is unresolved as the FSAR setpoint was not apparently verified and NRR has not accepted nominal design values in the FSAR. (86-01-01)

- Regulatory Guide 1.108 position C.2.a.(5) specifies a design accident loading sequence be performed after the 24 hour diesel run. Table 1.8-1 stated full compliance to the regulatory position whereas section 14.2.7 of the FSAR described an alternate test method. The licensee generated Licensing Document Change Notice GE324 to correct Table 1.8-1 to reflect the actual test method to be used during the Loss of Power preoperational test.

- Procedure MD.0100.B01 step 8.1.4.13 was written to test the high day tank level shutoff of pump 2EGF*P2A. Level Switch 2EGF*LS106 was isolated in step 8.1.4.4 which would negate the required logic for pump shutoff. The test engineer agreed to amend the procedure to achieve a proper high level pump trip.

- Review of POT-100B acceptance criteria in conjunction with the FSAR test acceptance criteria stated in Table 14.2-126 identified two inconsistencies. The test procedure failed to include acceptance criteria to verify each air compressor is capable of recharging the receivers from minimum to maximum operating pressure in 30 minutes or less and that the starting air supply is capable of five diesel starts to rated speed and voltage from maximum pressure without recharging. The inspector noted the test procedure had been reviewed and approved on three occasions by the Joint Test Group and Nuclear QA.

10 CFR 50, Appendix B, Criterion V and XI and the Nine Mile Point, Unit 2 FSAR Sections 17.1.5 and 17.1.11 require that preoperational test procedures include appropriate acceptance criteria to assure satisfactory test accomplishment. Startup Administrative Procedures 102, 106A and 106B require that preoperational test acceptance criteria be derived from the FSAR and that the Joint Test Group is responsible for procedure approval. The failure to include all necessary acceptance criteria from the FSAR in POT-100B is a violation of 10 CFR 50, Appendix B, Criterion V and XI. (86-01-02)

b. Preoperational test N2-POT-36-1, "Standby Liquid Control", Revision 1 was reviewed in preparation for test witnessing, for technical and administrative adequacy, and for verification that the testing planned would adequately satisfy regulatory guidance and licensee commitments. The procedure was reviewed to verify proper licensee review and approval, correct format, test objectives, prerequisites, initial conditions, test data recording requirements and system restoration to normal.

The inspector noted that N2-POT-36-1, Section 7.1 specified a minimum pump flow rate of 41.2 gpm per pump. This does not meet the requirements of FSAR Section 9.3.5.2 which specifies 43 gpm per pump. During automatic initiation, both pumps start. The inspector informed the licensee that 10 CFR 50.62 also requires a "minimum flow capacity and boron content equivalent in control capacity to 86 gallons per minute of 13 weight percent sodium pentaborate solution". Thus, the lower flow rate would be acceptable if a higher concentration solution is used. The proof & review copy of Technical Specifications Surveillance Requirement 4.1.5.c also specifies 41.2 gpm per pump and a minimum allowable concentration of 13 weight percent.

The NMPC licensing representative believes that there is sufficient technical justification to support a pump flow rate of 41.2 gpm. This information will be submitted by NMPC to the Office of Nuclear Reactor Regulation (NRR). This item is unresolved pending the determination of the system acceptability by NRR. (86-01-03)

The inspector noted that drawing #FSK-27-16B Revision 3 incorrectly stated that both explosive valves open when either pump is started. The licensee issued Problem Report 3032 to correct the drawing. No other discrepancies were noted.

8. <u>Preoperational Test Witnessing</u>

The inspector witnessed portions of Preoperational Test N2-POT-36-1, "Standby Liquid Control" to verify that the test was conducted in accordance with the approved procedure, test equipment was calibrated, temporary test signals or blocks were adequately controlled, and test exceptions were properly documented. The testing was also observed by an NMPC Quality Assurance (Q.A.) inspector.

No discrepancies were noted.

The inspector witnessed a retest of N2-POT-33, "High Pressure Core Spray" preoperational test for valves MOV*110 and MOV*112. The retest was necessitated by a breaker trip when the valves were auto reversed. The inspector reviewed the following documents associated with the breakers:

- Deficiency Reports 9924, 9925 and 11526.
- Problem Report 2401.
- GE FDDR KG1-4899

The inspector witnessed the satisfactory performance of procedure steps 4.3.13 through 4.3.15.1. The testing was also monitored by NMPC Nuclear QA. The inspector had no further questions.

No violations were identified.

9. Preservice Examinations

The inspector reviewed the following documents related to the Preservice Inspection (PSI) examination of the Reactor Pressure Vessel (RPV):

- ASME Section XI, IWB-2000.
- Table 1WB-2500.
- ASME Section V Article 9.
- NES Procedure 83A2681, Rev. 0, "Remote RPV Visual Examination Procedure for NMPC Unit 2".

The inspector observed the conduct of the RPV internal visual examination. The examination criteria was found consistent with the ASME requirements. A Level III examiner was evaluating the visual data.

No violations were identified.

10. Control Rod Drive Removal

The inspector observed work activities associated with the removal of two Control Rod Drives. An NMPC Quality Control inspector was present along with NMPC maintenance personnel. The inspector reviewed the following documents:

- Mechanical Maintenance Procedure N2-NMP-30.7, "Removal of Control Rod Drive".

- Work Requests 7559 and 7814.

- Deficiency Reports 9204 and 10146.

The disassembly was performed in accordance with the guiding procedure. Both QC and maintenance personnel were interviewed and found knowledgeable about the involved process. The inspector had no further questions.

No violations were identified.

11. Rework Control

The inspector examined the following plant equipment that was temporarily disassembled and the associated documents:

Equipment	Document
Conduit 2CX025YF1	WCR 009399
Pipe Support BZ-71AMK	WCR 10477, Control Drawing 2BZ-71AMK
Pipe Support BZ-71AMX	Rework Control Form M1173
Fan bolting	WCR 11789, Rework Control Form M1185, DR 12578, WCR 11790
Valve 2ICS*MOV150	WCR 11828, Rework Control Form M1187
HPCS DG Jacket Water Piping	WCR 12087, RCF M1213

The inspector found the disassembled equipment and temporary conditions properly controlled in accordance with site procedures.

No violations were observed.

12. Quality Performance Management Program

The inspector noted that Project Guideline 91, "Quality Performance Management Program Implementation" was cancelled. The inspector was informed that SWEC QA still prepares a Quality Indicators report that is discussed with site project management on a weekly basis. The inspector reviewed the Quality Indicator reports of January 29, February 11, and February 18, 1986. The reports discussed the following items:

- QC Acceptance rates for small bore supports, conduit, cable terminations, HVAC duct, mechanical equipment and HVAC hangers.

- Open documents tracking (ACNs, CARs, E&DCRs, N&Ds and Type C IRs).

- ITT-Grinnell document review status.

- Preservice Inspection results.

The Quality Indicator report was found to embody the requirements of the NRC order and the licensee commitments to maintain a management trend program. The quantities currently tracked are appropriate for the stage of project completion.

No violations were identified.

13. Inspection Program Status

The Construction Inspection Program (MC 2512) is approximately 95 percent complete.

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

Area	Inspection % Complete
Procedure Review	
Mandatory	60
Primal	50
Test Witness	
Mandatory	30
Primal	25
Results Review	
Mandatory	0
Primal	0

The approximate Operational Readiness inspection status is as follows:

Area	Inspection % Complete
Operations Staffing & Procedures	25
Tech Spec Review	75
QA	5
Maintenance	5
Fire Protection	50
Fuel Receipt	100
Surveillance	10
Rad. Controls	35
Rad. Waste	20
Security	40
Emergency Planning	5

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

The approximate NRC open item status is presented below. Backlogged items have been presented for closure but have not yet been reviewed by the inspector.

Area	Total Number of Open Items	NRC Backlogged Items
Construction Deficiencies	49	19/39%
Violations	14	12/86%
Unresolved/ Followup Items	104	30/29%
Bulletins	9	9/100%
TMI Items	33	8/24%
SER Verifications	4	0/0%
Total	213	78/37%

Forty five (45) open item packages have been transmitted for in-office review by specialist inspectors. The licensee must accelerate open item resolution and verification to support the projected Fuel Load date.

14. Unresolved Items

Unresolved items are matters for which more information is required in order to ascertain whether they are acceptable items, or violations or deviations. Unresolved items were identified within this inspection in paragraphs 7a and 7b.

15. 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 this licensee representatives on February 21, 1986, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.