U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos.: 50-220/90-22
50-410/90-20

Docket Nos.: 50-220
50-410

License Nos.: DPR-63
NPF-69

Licensee: Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Facility Name: Nine Mile Point, Units 1 and 2

Inspection At: Scriba, New York

Inspection Conducted: July 30 - August 3, 1990

Inspectors: A. Finkel — Aug 30, 1990
A. Finkel, Senior Reactor Engineer — Date

Approved by: David Bessette — 8/30/90
D. Bessette, Chief, Operational Programs Section, Operations Branch, DRS — Date

Inspection Summary: Routine Unannounced Quality Assurance Annual Review
(Report Nos. 50-220/90-22 and 50-410/90-20)

Areas Inspected: Routine unannounced inspection by one region based inspector of licensee's implementation of a Quality Assurance Program conforming to Final Safety Analysis Report, Technical Specifications, applicable codes, standards and regulatory guides. The following areas were inspected: quality assurance program, audits, procurement, and selected Unit 1 restart issues.

Results: The licensee is undergoing a major re-organization scheduled to be completed by the first quarter of 1991. The proposed organizational changes appear to have consolidated many technical functions within the Quality Assurance Department, for example, all trending functions and trending reports. Based on the areas reviewed, the quality assurance organization has been strengthened with increased responsibilities and added manpower to support the changes. No violations were identified.

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DETAILS

1.0 Persons Contacted

Niagara Mohawk Power Corporation

*R. Abbott, Station Superintendent, Unit 2
*G. Brownell, Compliance
*W. Connolly, Quality Assurance Manager
*K. Dahlberg, Station Superintendent, Unit 1
*J. Dillon, Supervisor Quality Assurance Audits
*D. Greene, Director of Regulatory Compliance
*L. Longs, Mechanical Maintenance Supervisor, Unit 1
*J. Perry, Vice President Quality Assurance
*K. Sweet, Manager of Maintenance, Unit 1
*D. Weaver, Lead Materials Engineer

United States Nuclear Regulatory Commission

*W. Cook, Senior Resident Inspector
*R. Laura, Resident Inspector

*Denotes those present at the exit interview

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

2.0 Quality Assurance Program Annual Review (35701)

The purpose of this inspection was to review and evaluate the licensee's implementation of its quality assurance (QA) program for safety-related systems and components. The inspector reviewed and evaluated the Quality Assurance, Procurement, and Audits Programs for compliance to the requirements of the QA program as described in the Final Safety Analysis Report (FSAR), Technical Specifications, applicable codes, standards, and regulatory guides.

2.1 Quality Assurance Program (35701)

The quality assurance program was reviewed to determine if changes made to the organization since the last annual review were documented, understood by personnel, and did not alter the overall function of the program.

There were no major changes to the Quality Assurance Topical Report during 1989; however, several organizational changes were made within the Nuclear Division to strengthen the QA program. Examples include:

- The Vice President for Quality Assurance and Staff are moving to the site.
- The Nuclear Generation Technical Support Group staffing was increased to provide improved system services.
- A Site Engineering Organization was finalized to provide on-site design support, technical evaluations, and overall responsibility for Inservice Inspection coordination.
- Problem solving working groups were established to improve work functions in areas such as training, procedure improvement, and root cause analysis.
- The Independent Safety Engineering Group was staffed, and utilized to analyze technical problems and provide recommendations for corrective actions.
- The Quality Assurance Non-Destructive Examination Group was fully staffed to support on-site non-destructive examinations.
- The Quality Assurance Department Surveillance and Audit functions were improved by adding individuals with operations backgrounds and by providing technical training in operations.

Past and planned changes appear to strengthen the organization by consolidating various functions (i.e., information notices, bulletins, NRC findings, vendor information and tracking systems) within the Manager of Quality Assurance. The complete organizational changes are scheduled to be submitted to the NRC in the next Quality Assurance Program revision, in accordance with 10 CFR 50.54(a)(3).

2.2 Audit Program (40702)

The scope of this inspection was to verify that the licensee's audit program is consistent with the FSAR, Technical Specifications, and industry guides and standards.

The audit program is structured to meet the intent of ANSI N45.2.12-1977, "Requirements for Auditing of Quality Assurance program for Nuclear Power Plants." Quality Assurance Audits performed are defined and documented in the "QA Department Semi-Annual Overview Trend Analysis Report." This report evaluates quality assurance audits, surveillances, and inspections. It identifies changes in quality performance trends within the Nuclear Division and selected support organizations. The report also describes positive and negative trends for both Units 1 and 2 as well as unit specific data. Action items identified during audits are tracked in "Quality Assurance Procedure (QAP) 16.20." The inspector verified that audits required by Technical Specifications and the FSAR were completed.

Trending is performed in at least twelve different areas, among which the the inspector selected the following to determine effectiveness of the reporting system:

- Number of Non-conformance Reports open/overdue for NMP1, NMP2 and common to both units versus time.
- Number of Corrective Action Requests open/overdue for NMP1, NMP2 and common to both units versus time.
- Report identifying type codes for poor workmanship/personnel error and procedures information incomplete/incorrect.

In each of the above, the inspector verified that management was involved with the corrective action. There has been a downwards trend in open and overdue corrective action requests and open and overdue nonconformance reports. The licensee has determined, however, that inadequate personnel training/qualification and definition of responsibility are areas that require greater management attention. These areas are being tracked by the quality assurance organization.

The licensee has developed three types of audits: (1) Baseline Audits, which are broad scope audits of major functional areas and organizations; (2) Program Audits which are targeted audits of subjects sufficiently complex or important to to warrant separate audits; and (3) Special Audits, which provide focused, in-depth coverage of specific subjects as needed to supplement baseline and program audits. Audits are approved by management and form part of the organizational changes discussed above. The trending charts for the above audits indicate that open items are addressed in a timely manner and the trend data evidences a significant down turn in due date answers. The audit schedule for 1990-1991 is documented in a June 6, 1990 letter, file code AUD 90-090.

2.3 Procurement (38702)

The scope of this inspection was to verify that administrative controls and written requirements for receipt of safety-related items conform to FSAR and Technical Specification requirements. In conjunction with Unit 1 restart, the inspection focused on required parts and materials to support the restart.

During the restart of Unit 1, a spring failure occurred in a four-inch torus vacuum relief valve manufactured by Techno Corporation. The failed spring applies torque that seats the valve plate on the pipe inner surface, thus preventing flow until pressure overcomes the spring torque and opens the valve. During the purchase order review for replacement springs, material engineering found that the manufacturer's prior use of "Loctite A" for the hinge post bolts of the valve assembly the drawing maximum temperature limit requirements (Techno Corp. drawing No. 5626 4" Technocheck Relief Valve). Document change request No. 1-90-001 was

issued to change the specification to Loctite No. 272, which has a temperature range of -65°F to 450°F. It appears that the present valves using Loctite A do not present an immediate problem since the force used to open the hex head cap screws to replace the broken spring indicated that the Loctite "A" indeed locked the hex nut to the hinge post. The identification of long term corrective actions is to be determined by the licensee's root cause analysis.

Ten replacement springs from Techno Corporation were receipt tested by the licensee. Procurement and testing of the springs was described by the licensee procurement documents. The inspector's review of the receipt, storage, and testing of the springs verified that receipt inspection was as described by their program documentation. Of the ten springs received, seven failed the acceptance test and three passed. Of the three springs that passed, one failed during installation and a second was used to one replace the failed spring.

Post-maintenance testing of the four-inch valve was performed as described in paragraph 8.10 of surveillance test procedure NI-ST-R20, Revision 01, "Manual Exercising of ERV Line Vacuum Breakers." The present spring installation passed the acceptance section of NI-ST-R20; however, the test is subjective with no quantitative requirements to verify the torque required to open the valve flapper disks. The licensee responded to the inspector's finding by re-evaluating NI-ST-R20 to establish quantitative acceptance for the four and ten-inch Techno vacuum relief valves.

No violations or deviations were identified.

2.4 Plant Procedures (42700)

On July 30, 1990, Unit 1 shut down due to leakage to the drywell exceeding the Technical Specification requirement of 2 gpm increase in any 24 hour period. Main Steam Electromagnetic Relief Valve (ERV) leakage was determined to be the source. Initial inspection determined that the pilot valves were out of adjustment. During the last shutdown, the pilot valves were removed during ERV maintenance and reinstalled, but were not adjusted because no parts were changed during valve disassembly and no critical dimensions were changed. Maintenance personnel, therefore, determined that the section of the procedure pertaining to pilot valve adjustment was not applicable (N/A). The criteria to use N/A during the performance of a procedure is described in Station General Order 89-03.

The licensee determined that the decision to N/A this section of procedure NI-MMP-001-203, "Removal, Overhaul, and Replacement of Main Steam Electromatic Relief Valve and Associated Pilot Valves" was improper. To ensure that this type of problem is controlled, the licensee issued a letter, "NMP 69220" outlining actions to avoid this mistake in the future. Immediate action requires the system engineer to review and approve procedures before they are marked N/A. Station General Order 89-03 will be revised to provide criteria for technical review of maintenance procedures in addition to the existing provisions for surveillance procedures. For

the longer term, maintenance procedures are to be reviewed and revised as required to insure proper application of N/A's for similar situations. This effort is in the Quality Assurance Tracking System.

The inspector verified that both management and maintenance personnel were aware of and understood the problem that developed when maintenance personnel N/A'd the procedure steps for the pilot valve adjustments. The inspector also verified that other departments were aware of the problem and the proposed criteria for using N/A's during procedure usage.

No violations or deviations were identified.

3.0 Exit Meeting

Licensee management was informed of the scope and purpose of the inspection at an entrance meeting conducted on July 30, 1990. The findings of the inspector were discussed periodically with licensee representatives during the course of the inspection. An exit meeting was conducted on August 3, 1990 (see paragraph 1), at which time the findings of the inspector were presented.

At no time during the inspection did the inspector provide written material to the licensee nor did the licensee indicate that areas covered by this inspection contained proprietary information.