July 28, 2000

EA 98-461

Mr. John H. Mueller
Chief Nuclear Officer
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Operations Building, 2nd Floor
P.O. Box 63
Lycoming, NY 13093

SUBJECT: NRC's NINE MILE POINT INSPECTION REPORT 05000220/2000-004, 05000410/2000-004

Dear Mr. Mueller:

On July 1, 2000, the NRC completed an inspection of your Nine Mile Point Nuclear Station, Units 1 and 2. The enclosed report presents the results of that inspection. Preliminary results were discussed with Mr. J. Conway and other members of your staff on July 13, 2000.

NRC inspectors examined numerous activities as they related to reactor safety and compliance with the Commission's rules and regulations and with the conditions of your operating license. The inspection consisted of a selected examination of procedures and records, observations of activities, and interviews with personnel. Specifically, the inspection involved seven weeks of resident inspection and two region-based inspections in the areas of radiation protection and training.

The NRC identified two issues involving licensed and non-licensed training program deficiencies that were evaluated in accordance with the NRC Enforcement Policy, Section IVA. These issues have been entered into your corrective action program and are discussed in the summary of findings and in the body of the attached inspection report. The issues were determined to involve violations of NRC requirements, but because of their very low safety significance were not cited. If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the director, Office of Enforcement, and the NRC Resident Inspector at the Nine Mile Point nuclear power plant.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publically Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Michele G. Evans, Chief
Projects Branch 1
Division of Reactor Projects

Docket Nos.: 05000220, 05000410
License Nos.: DPR-63, NPF-69

Enclosure: NRC's Nine Mile Point Inspection Report 05000220/2000-004, 05000410/2000-004

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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Docket Nos:	05000220 05000410
License Nos:	DPR-63 NPF-69
Report No:	05000220/2000-004 05000410/2000-004
Licensee:	Niagara Mohawk Power Corporation (NMPC)
Facility:	Nine Mile Point, Units 1 and 2
Location:	P. O. Box 63 Lycoming, NY 13093
Dates:	May 14, 2000 - July 1, 2000
Inspectors:	G. Hunegs, Senior Resident Inspector R. Fernandes, Resident Inspector B. Fuller, Resident Inspector M. Ashley, Training and Assessment Specialist L. Briggs, Senior Operations Engineer W. Cook, Senior Project Engineer T. Fish, Operations Engineer J. Noggle, Senior Health Physicist R. Rasmussen, Senior Resident Inspector
Approved by:	Michele G. Evans, Chief Projects Branch 1 Division of Reactor Projects

Summary of Findings

IR 05000220-00-04, 05000410-00-04; on 05/14 - 07/01/2000; Niagara Mohawk Power Corporation; Nine Mile Point, Units 1 & 2.

The report covers a seven-week period of resident inspection conducted per the NRC's Revised Reactor Oversight Process (Attachment 1). The results of a radiation protection program inspection conducted from May 22 to 26, 2000 and a training program inspection from June 12 to 16, 2000 are also included in this report. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process (SDP).

Cross-cutting Issues: Problem Identification and Resolution

NO COLOR. NMPC failed to consistently implement the systems approach to training (SAT) process for the licensed operator training program as required by 10 CFR 55.59(c). Specifically, training programs were not evaluated and revised based on observed performance deficiencies of licensed operators in the job setting. Corrective actions to the self-revealing deficiencies addressed the apparent symptoms, but corrective actions to prevent recurrence were missing or erratic. There was reasonable assurance that licensed operators have received adequate training to perform acceptably in the job setting, based on immediate corrective actions taken. This failure to implement the SAT process is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65 FR 25368). (Section 4OA4b1)

NO COLOR. NMPC failed to consistently implement the systems approach to training (SAT) process for the non-licensed operator (shift technical advisors, auxiliary operators, licensed operator candidates) training program as required by 10 CFR 50.120. Specifically, training programs were not evaluated and revised based on observed performance deficiencies of non-licensed personnel in the job setting. Corrective actions to the self-revealing deficiencies addressed the apparent symptoms, but long term corrective actions to prevent recurrence were missing or erratic. There was reasonable assurance that non-licensed operators have received adequate training to perform acceptably in the job setting, based on immediate corrective actions taken. This failure to implement the SAT process is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65 FR 25368). (Section 4OA4b2)

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Report Details

SUMMARY OF PLANT STATUS

Nine Mile Point Unit 1 (Unit 1) began this inspection report period in power ascension following a maintenance outage, achieved 100 percent power on May 16 and remained there throughout the end of the inspection period.

Nine Mile Point Unit 2 (Unit 2) began this inspection report period at 100 percent power and remained there throughout the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors conducted equipment alignment partial walkdowns primarily to evaluate the operability of selected trains or backup systems, with the redundant train or system inoperable or out of service. Walkdowns were also conducted on equipment recently realigned due to refueling outage activities and surveillance testing. The walkdowns included, as appropriate, consideration of plant procedures and reviews of documents to determine correct system lineups, and verification of critical components to identify any discrepancies which could affect operability of the redundant train or backup system.

The inspectors performed the following partial system walkdowns:

- Reactor Core Isolation Cooling (RCIC) System (Unit 2)
- Containment Spray (CS) System (Unit 1)

b. Issues and Findings

There were no findings identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors routinely toured high fire risk areas in the plant, to assess Niagara Mohawk Power Corporation's (NMPC's) control of transient combustible material and ignition sources, fire detection and suppression system capabilities, fire barriers, and any related compensatory measures. The inspectors utilized fire protection operating procedures to perform system standby condition status checks of the fire water system. The status of the fire and pressure maintenance pumps were verified. In addition, the fire hose reels were verified to be in standby status.

The areas inspected included:

- Control room (Units 1 & 2)
- Emergency diesel generator (EDG) and switchgear rooms (Units 1 & 2)
- 340 foot elevation of the reactor building (Unit 1)
- 261 foot elevation of the reactor building (Unit 1)
- Relay room (Unit 2)
- Cable spreading room (Unit 2)
- Turbine building (Unit 2)
- RCIC system room (Unit 2)

b. Issues and Findings

There were no findings identified.

1R11 Licensed Operator Requalification Program

a. Inspection Scope

The inspectors reviewed the licensed operator requalification training activities to assess the licensee's training effectiveness. The inspectors observed Unit 2 licensed operator simulator training during the emergency preparedness exercise conducted on June 1, 2000, and Unit 1 licensed operator simulator training on June 7, 2000. Following the simulator exercises, the inspector observed the training instructor's debrief and critique and reviewed the simulator fidelity through a sampling process.

b. Issues and Findings

There were no findings identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed performance based problems involving selected in-scope structures, systems, and components (SSCs) to assess the effectiveness of the maintenance program. Reviews focused on: (1) proper maintenance rule scoping, in accordance with 10 CFR 50.65; (2) characterization of failed SSCs; (3) safety significance classifications; (4) 10 CFR 50.65 (a)(1) and (a)(2) classifications; and (5) the appropriateness of performance criteria for SSCs classified as (a)(2), or goals and corrective actions for SSCs classified as (a)(1). The inspectors reviewed the licensee's system scoping documents and system health reports. The following were reviewed:

- Deviation/ event report (DER) 2-1999-4240, functional failure of containment monitoring system (CMS) Panel 66B (Unit 2)

- DER 2-1999-3669, service water system valve SWP*MOV30A failed to close during testing (Unit 2)

- DER 2-1999-3184, reactor building closed loop cooling pump (CCP) P1A discharge check valve failed to open when the pump started (Unit 2)

- DER 2-1999-3317, maintenance rule functional failure of reactor building mat drain pump (Unit 2)

- DERs 1-1999-2074 and 2562, actions being taken to return the source range and intermediate range monitors to (a)(2) status (Unit 1)

b. Issues and Findings

There were no findings identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

For the selected maintenance work orders listed below, the inspectors evaluated: (1) the effectiveness of the risk assessments performed before the maintenance activities were conducted; (2) risk management control activities; (3) the necessary steps taken to plan and control resultant emergent work tasks; and (4) the overall adequacy of identification and resolution of emergent work and the associated maintenance risk assessments.

- WO-00-05812-00 EDG 103 governor (Unit 1)
- WO-00-06986-00 B main steam isolation valve (MSIV) pilot solenoid operated valve fuse replacement (Unit 2)
- WO-00-04850-08 Condensate pump P1B discharge check valve (Unit 2)
- WO-00-06989-00 Division II EDG air compressor (Unit 2)
- WO-00-01553-00 Troubleshoot/repair 2B2 battery charger (Unit 2)
- WO-00-02431-00 Repair control rod drive (CRD) No. 38-35 (Unit 1)
- WO 00-06383-00-01 Zebra mussel service water treatment (Unit 1)
- WO 00-04614-00-01 No. 11 emergency service water pump (Unit 1)

b. Issues and Findings

There were no findings identified. However, for work associated with WO-00-02431-00, on May 1, 2000, the inspector noted that during markup hanging, the operators did not initially isolate the CRD because the withdrawal and insert isolation valves were stiff when operated and the operators were not aware of this condition. Because the valves were not fully shut, a control rod drift alarm annunciated. The valves were rechecked and tightened shut. NMPC documented the problem in DER 1-2000-1624. Immediate corrective actions were to provide additional coaching to the operators and the Unit 1 Operations Manager observed the markup process at the hydraulic control units and discussed lessons learned from the event with the markup team. Long term corrective actions for the DER are pending.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed an operability evaluation affecting risk significant mitigating systems, to assess: (1) the technical adequacy of the evaluation; (2) whether continued system operability evaluation was warranted; (3) whether other existing degraded systems adversely impacted the affected system or compensatory measures; (4) where compensatory measures were used, whether the measures were appropriate and properly controlled; and (5) degraded system impact on TS limiting condition for operations and the risks significance in accordance with the significance determination process (SDP).

- DER 1-2000-2237: Reactor Water Conductivity Exceeds GAP-CHE-01 Action Level. The operability evaluation demonstrated that the observed readings on the continuous monitor were consistent with other instrumentation.

b. Issues and Findings

There were no findings identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed post-maintenance testing (PMT) procedures and associated testing activities for selected risk significant mitigating systems to assess whether: (1) the effect of testing on the plant had been adequately addressed by control room and engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and adequately demonstrated operational readiness, consistent with the design and licensing basis documents; (4) test instrumentation had current calibrations, range and accuracy for the application; (5) tests were performed, as written, with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function.

- WO-00-06258-04 2SWP-P1D low flow trip removal (Unit 2)
- N1-ST-M4 EDG 103 operation after removal of wire associated with temporary modification 00-019 (Unit 1)
- WO 99-05728-25-01 Perform N1-MFT-072, Hydrogen Water Chemistry (Unit 1)

b. Observations and Findings

There were no findings identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors witnessed performance of surveillance test procedures and reviewed test data of selected risk significant structures, systems and components (SSCs) to assess

whether the SSCs satisfied Technical Specifications, Updated Final Safety Analysis Report (UFSAR), and licensee procedure requirements; and to determine if the testing appropriately demonstrated that the SSCs were operationally ready and capable of performing their intended safety functions. The following tests were witnessed:

- N1-ST-Q3, High Pressure Coolant Injection Pump and Check Valve Operability Test (Unit 1)
- N1-ST-M4, Emergency Diesel Generator 102 Operability Test (Unit 1)
- N2-ISP-CSH-Q005, Quarterly Functional Test and Trip Unit Calibration Of Condensate Storage Tank Level Low Instrumentation for HPCS Suction Transfer
- N2-OSP-EGS-M@002, Diesel Generator and Diesel Start Valve Operability Test - Division 3

b. Issues and Findings

There were no findings identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

During Unit 1 EDG 103 maintenance, NMPC identified that the governor high speed limit switch function was not operating properly which affected the EDG governor control circuit. NMPC elected to install a temporary modification to eliminate the high speed limit switch function. The inspector reviewed temporary modification 2000-019, “Modify the governor control circuit to eliminate the high speed limit switch function,” to verify that the temporary modification did not affect the safety function of the emergency diesel generator system. The inspector reviewed the temporary modification, safety evaluation, Updated Final Safety Analysis Report and Technical Specifications, and reviewed the installation of the modification.

b. Issues and Findings

There were no findings identified.

EP6 Emergency Preparedness (EP)

a. Inspection Scope

On June 1, 2000, the licensee conducted an EP exercise. The inspectors reviewed the exercise scenario, applicable emergency plan implementing procedures (EPIPs) and emergency action levels (EALs). The inspector monitored licensee performance during the exercise including event classification, offsite authority notification, dose assessment activities, and worker accountability and evacuation. Mitigation strategies and communications were observed. The inspector noted that EP equipment and facilities were satisfactorily maintained in the technical support center (TSC), operations support center (OSC) and emergency operations facility (EOF).

The inspector observed the post-exercise critique and also determined that the drill was appropriate in scope to be included in the EP performance indicator (PI) statistics.

c. Issues and Findings

There were no findings identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

OS1 Access Control

a. Inspection Scope

The inspector reviewed documents, attended pre-job meetings on May 23, 2000 and May 24, 2000, and observed the conduct of work involving the dry transfer and packaging of irradiated reactor hardware on the refueling floor at Unit 1 on May 23-24, 2000. The review was with respect to radiation safety access controls to radiologically significant areas and included: work area surveys, applicable electronic pocket dosimeter dose alarms, survey and control of highly activated reactor components stored in and transferred out of the spent fuel pool, radiation worker and radiation protection technician performance, and posting and control of the packaged cask as a >1 Rem per hour (R/hr) high radiation area.

Documents reviewed:

- Radiation work permit No. 607, “Spent Fuel Pool (SFP) Clean-up Activities”
- As low as reasonably achievable (ALARA) review number 2000-10
- Waste Management Group irradiated reactor hardware waste characterization methods and records

b. Issues and Findings

No significant findings were identified.

OS2 ALARA Planning and Controls

a. Inspection Scope

The effectiveness of ALARA controls was reviewed with respect to the Spring 2000 Unit 2 refueling outage collective exposure results. Preliminary post-outage ALARA report data for the five highest exposure jobs for the outage was reviewed. These jobs included: drywell in-service inspection, refueling floor activities, drywell setup and closure, drywell safety relief valve replacement, and drywell snubber activities. Also, the methodology for exposure estimating and tracking was inspected. In addition, plant walkdowns were conducted to survey/identify exposure significant radiation sources within accessible plant process buildings during plant operating conditions.

b. Issues and Findings

No significant findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

Barrier Integrity Cornerstone

Using NRC inspection procedure 71151, the inspector reviewed the licensee's programs for gathering and submitting data for the Reactor Coolant System (RCS) specific activity and leakage performance indicators. The review included the licensee's tracking and trending reports, and plant logs and sample data reports for the Performance Indicator data submitted for the 1st quarter of 2000.

b. Issues and Findings

There were no findings identified.

4OA4 Cross-cutting Issues

Review of Training Deviation/Event Reports (DERs)

a. Inspection Scope

The inspectors reviewed training department procedures and the below listed DERs. The DERs discuss identified problems in the Operations Training program and address both the licensed (10 CFR Part 55.59) and non licensed (10 CFR 50.120) programs. The DERs were reviewed to determine if appropriate root causes and corrective actions had been taken to address the self-revealing occurrences in both the licensed and non-licensed operator training programs. Simulator training for one operations crew was also observed during requalification training. The inspectors interviewed licensed and

non-licensed operators from both units, and selected members of the training department. In addition, Unit 2 operations training instructor's qualification records were reviewed in conjunction with evaluation of DER 1-1999-4187.

DERs Reviewed:

- 2-1999-4187 Excessive failure rate on senior reactor operator (SRO) certified instructor requalification exam.
- 2-1999-4148 Excessive failure rate on shift technical advisor (STA) annual exam.
- 2-1999-2565 License class 99-01 on-the-job (OJT) manual contains numerous errors.
- C-1999-3864 Initial licensed operator program deficiencies.
- C-1999-1156 Excessive failure rate for generic fundamentals examination (GFE).
- 1-1999-4145 Adverse trend. High unit 1 licensed operator annual operating exam failure rate.
- 1-1999-2496 Inadequate procedural guidance for leaving the mode switch in REFUEL versus SHUTDOWN.
- 1-1999-3779 Containment erroneously declared established with Shutdown cooling in operation.
- C-1998-0499 QA Audit 98002: Line management demonstrates a lack of ownership of training.
- C-2000-0477 Adverse trend. Training administrative procedures not used/followed correctly.

b. Issues and Findings

b1. Licensed Operator Program

DER 1-1999-4145: This report documented an adverse trend in the failure rate of Unit 1 licensed operators during the annual operating exams administered by the facility staff. During their root cause determination, the facility staff discovered there were early indicators of potentially unsatisfactory performance. In January 1999, the utility implemented a revision to emergency operating procedure (EOP) -3, "Failure to Scram." During the May-June 1999 training cycle, a high failure rate occurred when operators were evaluated on this revision during certain failure-to-scram scenarios. Subsequently, in the September-October training cycle, the Supervisor of Operations Training observed that crews at Unit 1 and Unit 2 had failed or nearly failed simulator evaluations due to their performance on failure-to-scram scenarios. Also, one of the three crews

that failed the annual operating tests administered in December 1999, failed due to their unsatisfactory performance during a failure-to-scram scenario. In all cases, operators who failed (on either the annual operating test or evaluation exams) were immediately restricted from performing licensed duties until they had been remediated and successfully re-examined. Facility staff concluded the root cause of deficient operator performance was inadequate management of the changes made to EOP-3. Licensee analysis did not question the reason for the repetitive deficient operator performance.

The inspectors determined that the repetitive deficient operator performance (improper actions for failure-to-scram scenarios) was an example of the licensee's failure to evaluate and revise the licensed operator training curriculum in accordance with the Systems approach to training (SAT) process.

DER 1-1999-2496: This report documented an instance where the operators had inadequate procedure guidance for leaving the reactor mode switch in REFUEL versus SHUTDOWN. Following a scram on July 23, 1999, the mode switch was placed in REFUEL through SHUTDOWN as part of the scram recovery actions. Subsequent activities highlighted shift management's knowledge deficiencies regarding when the mode switch was to be placed back in SHUTDOWN. During their review of this event, the facility staff identified two opportunities that could have prevented this situation. The first involved a Technical Specification amendment that was implemented in 1988 and the second involved preventive actions associated with a licensee event report (LER) from 1997. The facility staff concluded that, if the procedure changes and training associated with the amendment had been adequate, this event would not have happened; and, if the basis for the amendment had been understood in 1997, when the preventive actions for the LER were developed, this event would not have occurred. Licensee analysis did not question the reason for the repetitive deficient operator performance.

The inspectors determined that the repetitive deficient operator performance (operators' misunderstanding of the correct mode switch position) was an example of the licensee's failure to evaluate and revise the licensed operator training curriculum in accordance with the SAT process.

DER-1-1999-3779: This report documented an issue regarding whether primary containment was in effect during a reactor startup. During a November 1999 startup, operators declared that containment integrity was established while shutdown cooling was in service. Containment, in fact, was not set, due to certain physical relationships with components in the shutdown cooling system. Facility staff identified a similar event that had occurred in April 1995 in which operators declared that containment was set while shutdown cooling was in service. Facility staff concluded the reason for both events was deficient training given to the operators on the relationship between the shutdown cooling system and containment integrity. Licensee analysis did not question the reason for the repetitive deficient operator performance.

The inspectors determined that the repetitive deficient operator performance (operators' misunderstanding of containment integrity requirements) was an example of the licensee's failure to evaluate and revise the licensed operator training curriculum in accordance with the SAT process.

10 CFR 55.59(c) requires a licensed operator requalification program to meet certain criteria, including the elements of a SAT process in instances where the licensee has substituted a SAT program for paragraphs 55.59(c)(2) through (c)(4). Nine Mile Point has a SAT program. Definitions in 10 CFR 55.4, state that a SAT program includes five elements, one of which is the evaluation and revision of the training based on the performance of trained personnel in the job setting.

The three above stated examples of repetitive deficient operator performance constitute a violation of 10 CFR 55.59(c) for failure to implement the SAT program, specifically, the evaluation and revision of licensed operator training, based on the performance of trained personnel in the job setting. The job performance changes observed should have resulted in training program revisions to address the observed deficiencies. This violation is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65 FR 25368). (**05000220 & 410/2000-004-01)** The licensee initiated DER C-2000-2147 to address the inconsistent implementation of the Systems approach to training.

b2. Non-Licensed Operator Program

DER 2-1999-2565: This DER and DER C-1999-3864, discussed below, identified out-of-date materials being used for the training and qualification of licensed operator candidates at both units. DER 2-1999-2565 identified that the task performance standards contained in the on-the-job training manuals used to qualify Unit 2 initial license candidates in late 1998 and 1999 on tasks at the auxiliary operator, reactor operator, and senior reactor operator level had not been updated in accordance with NTP-TQS-503, “Training System Development.” NTP-TQS-503 requires instructors to ensure that training materials are up-to-date prior to use. When the initial license qualification manuals were issued, the candidates identified that the task performance standards in the manual were out-of-date. The manuals had not been revised to reflect a change to plant procedures made in 1996 which moved some information from the operating procedures and relocated the information into the special operating procedures. The procedure changes should have resulted in a revision to the standards in the qualification manuals. The licensee determined the cause to be operations training not identifying the need to audit the license class OJT manuals and not updating the task standards prior to the start of the initial license class. It was also noted that training procedure TAP-TQS-06, “Initial License Training and Exam Development,” was not prescriptive enough concerning a review of initial license class materials prior to the start of class; however, NTP-TQS-503 requires training materials to be updated prior to use by the instructor. The licensee’s analysis of this problem did not address why the material was allowed to become outdated and used.

The inspectors determined that the licensee’s failure to incorporate procedure changes into the OJT manuals, which affect the task performance standards, was an example of inadequate implementation of the SAT program evaluation and revision requirements.

DER C-1999-3864: This report is related to DER 2-1999-2565 and also identified deficiencies with the initial licensed operator training program. The licensee failed to evaluate the possible implications of the Unit 2 training program deficiencies identified

in DER 2-1999-2565 on the implementation of the Unit 1 training program. DER C-1999-3864 identified out-of-date task standards in the OJT manuals and out-of-date job task lists for the initial operator licensing training program. These deficiencies resulted in the initial licensed operator training program at Unit 1 not providing appropriate training on all required tasks. Approximately 70 tasks for reactor operators and senior reactor operators were misidentified as generic evolutions rather than job-specific tasks. This approach did not allow individual task evaluation to assess knowledge and skill levels related to those tasks. The licensee's apparent cause summary noted that the failure to incorporate the 70 tasks was a lack of management oversight and lesson material development expectations not clearly understood. The cause for the OJT manuals being out of date was the untimely disposition of DER-2-1999-2565.

The inspectors determined that these failures were examples of inadequate implementation of the SAT program evaluation and revision requirements.

DER C-1999-1156: The report identified that an excessive failure rate for initial license candidates on the generic fundamentals examination was due to inadequate preparation of candidates, particularly those from Unit 1. The root cause determination noted that the generic fundamentals topics had been removed from the Unit 1 auxiliary operator training program several years previously and caused the license candidates who had completed that program to have less entry-level knowledge than the candidates who had completed the Unit 2 auxiliary operator training program. The differences in the entry-level of the candidates should have resulted in an evaluation of the training program and a subsequent revision to the training program to ensure that the program would adequately prepare the trainees. The corrective actions included the reestablishment of the Unit 1 generic fundamentals training program. Corrective actions also included a program update and development of a formal generic fundamentals training program for both the Unit 1 and Unit 2 auxiliary operators. Procedure NTP-TQS-101 was also revised to require a test of initial license operator candidates to tailor the fundamentals training to the proper class knowledge level. The licensee's identified corrective actions were appropriate.

The inspectors determined that the failure to assess the entry level skill of the trainees and needs and to revise the training program to meet those needs were examples of inadequate implementation of the SAT program evaluation and revision requirements.

DER 2-1999-4148: This report identified that the excessive failure rate of shift technical advisors (STAs) on the annual examination resulted from the training program not adequately preparing the trainees for the examination process. Interview results indicated that STA training was considered too basic and did not provide sufficient job-related information. Interview results also identified that the training on plant systems did not provide sufficient design basis information. The information contained in the DER also identified that the STA training program had not been maintained in accordance with the guidance in NTP-TQS-503, "Training System Development." This resulted in some topics identified in the description of the training program not being incorporated into the schedule for presentation to the candidates. Licensee analysis of the problem did not question why the program was allowed to degrade.

The inspectors determined that the failure to match the STA job performance requirements with the training program used to qualify STA candidates was an example of inadequate implementation of the SAT program evaluation and revision requirements.

10 CFR 50.120 requires that the training programs for non-licensed personnel at nuclear power plants be established, implemented and maintained using a systems approach to training as defined in 10 CFR 55.4. 10 CFR 55.4 states that a systems approach to training means a training program that includes evaluation and revision of the training based on the performance of trained personnel in the job setting.

The DERs discussed above provide examples of inadequate licensee evaluation and revision of initial licensed operator, non-licensed operator, and shift technical advisor training programs, despite job performance changes which necessitated training program revisions and updating. This violation of NRC requirements is being treated as a Non-Cited Violation, consistent with Section VI.A of the Enforcement Policy, issued on May 1, 2000 (65 FR 25368). (**05000220 & 410/2000-004-02)** The licensee initiated DER C-2000-2147 to address the inconsistent implementation of the systems approach to training.

b3. High Instructor Failure Rate and Training Department Procedure Implementation

DER 2-1999-4187: This report documented an excessive failure rate of SRO certified instructors during their biennial requalification examination. Six of ten instructors did not achieve 80 percent or higher on the examination. A similar event occurred in March 1997. The licensee's root cause correctly identified the cause of the high failure rate as "...the structure and implementation of SRO certified instructor requalification training did not follow a systematic approach as related to determining scope and content. In addition, performance evaluations were not implemented as a feedback measure to determine if the continuing training program was maintaining instructor knowledge at the desired level." Procedural changes made to training department procedures controlling the training of SRO certified instructors (NTP-TQS-502) are intended to correct the identified deficiency if the program is implemented in accordance with the procedure.

DER C-2000-0477: This DER identified that training department procedures were not being followed/implemented properly. Failure to follow/use/implement was identified as

a common cause in 10 or 29 training department DERs. This DER was classified as a level 3 DER with no root cause determination required. The inspectors noted that failure of the training staff to follow existing training department procedures was indicated in many of the DERS reviewed during this inspection, although the licensee had determined procedural inadequacy or lack of clarity as the cause of the event.

DER C-1998-0499: This DER was initiated due to QA Audit 98002 and stated that line management demonstrated a lack of ownership of training. This document initiated in March 1998, identified problems similar to those identified in the DERs discussed in this report. One statement notes "This deviation/event would not have occurred if senior management had set the appropriate expectations for training and qualification and held branch managers accountable for implementation of the program."

For the DERs reviewed, the inspectors found that, in general, the corrective actions for the training department DERs adequately addressed the immediate symptom of the problem.

4OA5 Other

.1 (Closed) LER 05000410/2000-005-01: Service Water System Does Not Meet Single Failure Requirement, Supplement 1. This supplemental report documented the results of the licensee's root cause evaluation and associated corrective actions. The events involving this issue were previously reviewed and documented in NRC Inspection Report Nos. 0500220 and 0500410/2000-001 (section M1.4) and 2000-002 (sections 1R17 and 4OA5). This LER is closed.

.2 (Closed) LER 05000410/1999-016: Technical Specification (TS) Action Statement Requirement Not Performed for the Division 1 and 2 Diesel Generators due to a Procedure Deficiency. Operation of the emergency exhaust fans for room cooling, in accordance with the operating procedures, had been a common practice during the summer months. NMPC determined that the fans will not automatically start if they are running in the "Normal-After-Run" switch position. Operators were making the emergency diesel generators inoperable every time they ran an emergency exhaust fan to keep the rooms cool. Procedure changes were made to inform operators that the EDGs are inoperable anytime the outside air temperature is above 77 degrees and the fans are in Normal-After-Start. The procedure was reviewed and found to be updated as discussed in the LER.

Licensee analysis indicated that although the fans would not automatically start if they were running in the "Normal-After-Run" switch position, there are procedures available that would have directed the operators to restart the fans on a high temperature alarm. This action would have prevented the rooms from reaching the maximum design temperature. Therefore, this issue was determined to be a minor violation which is entered into the NMPC corrective action system. This LER is closed.

.3 (Closed) LER 05000410/1999-018: Valves in the Steam Condensing Mode Were Not Tested as Required by TS 4.0.5. This issue was identified by the NRC and the details

were discussed in NRC Inspection Report 05000220/1999-008. The issue was determined to be a non-cited violation. This LER is closed.

.4 LERs associated with In-service Testing

(Closed) LER 05000410/1999-19 and LER 05000410/1999-19 Supplement 1: Two Standby Liquid Control (SLC) System Valves Not Tested As Required By TS 4.0.5. NMPC identified that two standby liquid control system check valves were not being reverse flow tested. In the event that a system relief valve fails open, the check valves are designed to prevent bypass flow from one train through an open relief valve on the other train. This would make both trains inoperable. The valves were previously tested but were inappropriately deleted from the in-service testing (IST) program because of the misapplication of design basis information and incorrect safety classification determination. NMPC identified the deficiency as a result of corrective actions for a similar LER. NMPC performed a probabilistic risk analysis for this condition and determined that it is non-risk significant. The valves were subsequently tested satisfactorily, which demonstrated that they were able to perform their safety function. This LER is closed.

(Closed) LER 05000410/1999-20: Instrument Air Valves Not Tested As Required By TS 4.0.5. NMPC identified that two air system valves were not being stroke-time tested in the open direction. The valves are in the supply lines to the automatic depressurization system (ADS) accumulators, and receive a signal to automatically close on a loss of coolant accident signal. The UFSAR also states that the ADS will be able to perform its safety related function for 100 days following an accident and therefore the valves must be able to open. The valves were previously tested but were inappropriately deleted from the IST program because of the misapplication of design basis information and incorrect safety classification determination. NMPC identified the deficiency as a result of corrective actions for a similar LER. NMPC performed a probabilistic risk analysis for this condition and determined that it is non-risk significant. The valves were subsequently tested satisfactorily, which demonstrated that they were able to perform their safety function. This LER is closed.

(Closed) LER 05000410/1999-21: Reactor Vessel Pressure Relays Were Not Correctly Tested As Required by Technical Specifications Due to an Inadequate Procedure. NMPC identified that two reactor pressure relays were not being tested quarterly. The relays inhibit opening of the residual heat removal system shutdown cooling valves until reactor pressure is within the design of the shutdown cooling system. The cause was determined to be omission of relevant information during procedure development and inadequate procedure review. The condition was identified as a result of NMPC's corrective actions for a similar LER. NMPC performed a probabilistic risk analysis for this condition and determined that it is non-risk significant. The relays were subsequently tested satisfactorily, which demonstrated that they were able to perform their safety function. This LER is closed.

In-service testing of valves in accordance with Section XI of the ASME Boiler and Pressure Vessel Code is required by Technical Specification 4.0.5 and 10 CFR 50.55a, "Codes and Standards." The deficiencies identified in LERs 05000410/1999-19, 05000410/1999-19 Supplement 1, 05000410/1999-20, and 05000410/1999-21, were

determined to be minor violations. These testing deficiencies were appropriately reported in accordance with 10 CFR 50.73 and have been entered into the NMPC corrective action program.

.5 (Closed) Unresolved Item 05000220/1998-016-01: Impact of potential bypass flow on the torus and associated core spray piping, the potential for water hammer in the core spray piping, and human factor considerations for new operator actions.

The licensee prepared modification N1-90-041 to install separate minimum flow lines for each core spray pump. The modification also provided for the installation of jumpers to permit throttling of the core spray inboard injection valves to maintain reactor vessel level following a small break loss of coolant accident. These jumpers bypass the interlocks between the inboard and outboard isolation valves and the test return valve, to permit opening of the test return valve to provide adequate minimum flow for the core spray pumps during extended recirculation operation.

In safety evaluation (SE) No. 94-072 for the modification, the licensee determined there was no unreviewed safety question. The SE included a discussion of backflow through the core spray test line and concluded that this was not an issue because the core spray valve bypass features are only used during Emergency Operating Procedure (EOP) directed operations. Also, operation of the test return line motor-operated valves was administratively restricted to post-injection reactor vessel pressures (less than 265 psig) and interlocks prevent operation of the inboard isolation valves at reactor pressures greater than 365 psig. Lastly, backflow would require more than a single component failure. The SE also highlighted that backflow could be prevented by either closing the inboard isolation valves, closing the test return line motor-operated valve, or operating one core spray pump set.

The inspectors verified that the licensee revised the EOPs to clarify the operator actions in the event of the loss of an operating core spray pump (in service for vessel level control) while operating the pump with the test return valve throttled. During a previous inspection, the inspectors reviewed calculation No. S14-81F036, Revision 1, "Calculation of the effects of a Postulated RPV [Reactor Pressure Vessel] Letdown through Core Spray Pump Test Return Line on Torus Pressure," and noted that the temperature and pressure effects on the torus and attached piping due to the potential bypass flow were within design limits, and that the operators had sufficient time to prevent water hammer in the core spray piping. After additional review, the inspectors determined that the modification did not increase the probability of a malfunction of the core spray pumps; rather it ensured the pumps would operate within design limits during extended recirculation operation following a small break loss of coolant accident. No violations of 10 CFR 50.59 were identified and this unresolved item is closed.

.6 The inspector reviewed the Institute of Nuclear Power Operations (INPO) evaluation of site activities report which covered the August, 1999, INPO evaluation and determined that the INPO plant assessment findings were consistent with the NRC performance assessments.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Conway, Vice President, Nuclear Generation and other members of licensee management at the conclusion of the inspection on July 13, 2000. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any of the material examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Abbott, VP Nuclear Engineering
D. Barcomb, Unit 2 Radiation Protection Manager
J. Conway, VP Nuclear Generation
L. Hopkins, Unit 1 Plant Manager
J. Mueller, Senior VP and Chief Nuclear Officer
M. Peckham, Unit 2 Plant Manager
L. Pisano, Training Manager
V. Schuman, Unit 1 Radiation Protection Manager
C. Terry, VP Quality Assurance Nuclear

ITEMS OPENED, CLOSED, AND DISCUSSED

Items Opened and Closed

05000220 &410/2000-004-01	NCV	Failure to implement the SAT process for the licensed operator training program.
05000220 &410/2000-004-02	NCV	Failure to implement the SAT process for the non-licensed operator training program.

Items Closed

05000410/2000-005-01	LER	Service Water System Does Not Meet Single Failure Requirement.
05000410/1999-016	LER	Technical Specification Action Statement Requirement Not Performed for the Division 1 and 2 Diesel Generators Due to a Procedure Deficiency.
05000410/1999-018	LER	Valves in the Steam Condensing Mode Were Not Tested as Required by TS 4.0.5
05000410/1999-019	LER	Two SLC Valves Not Tested as Required by TS 4.0.5.
05000410/1999-019-01	LER	Two SLC Valves Not Tested as Required by TS 4.0.5.
05000410/1999-020	LER	Instrument Air Valves Not Tested as Required by TS 4.0.5.
05000410/1999-021	LER	Reactor Vessel Pressure Relays Not Correctly Tested as Required by Technical Specification Due to an Inadequate Procedure.
0500220/1998-016-01	UNR	Impact of potential bypass flow on the torus and associated core spray piping, the potential for water hammer in the core spray piping, and human factor considerations for new operator actions.

LIST OF ACRONYMS USED

ADS	Automatic Depressurization System
ALARA	As Low As Reasonably Achievable
CCP	Closed Loop Cooling Pump
CRD	Control Rod Drive
CS	Containment Spray
DER	Deviation/ Event Report
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EOF	Emergency Operations Facility
EOP	Emergency Operation Procedure
EP	Emergency Preparedness
EPIP	Emergency Plan Implementing Procedure
GFE	Generic Fundamentals Examination
INPO	Institute of Nuclear Power Operations
IST	In-service Testing
LER	Licensee Event Report
MSIV	Main Steam Isolation Valve
NMPC	Niagara Mohawk Power Corporation
OSC	Operations Support Center
OJT	On-the-Job Training
PI	Performance Indicator
PMT	Post-Maintenance Testing
R/hr	Rem Per Hour
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RPM	Revolutions Per Minute
SAT	Systems Approach to Training
SDP	Significance Determination Process
SE	Safety Evaluation
SFP	Spent Fuel Pool
SLC	Standby Liquid Control
SRO	Senior Reactor Operator
SSC	Structures, Systems and Components
STA	Shift Technical Advisor
TS	Technical Specification
TSC	Technical Support Center
Unit 1	Nine Mile Point Unit 1
Unit 2	Nine Mile Point Unit 2
UFSAR	Updated Final Safety Analysis Report

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.