UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

MAY 1 9 1994

Docket No. 55-5920
License No. SOP-10135-2
EA 94-84

Mr. Donald L. Lilly
HOME ADDRESS DELETED
UNDER 2.790

Dear Mr. Lilly:

The purpose of this letter is to inform you that the NRC is considering taking enforcement action regarding your performance while you were a Senior Reactor Operator (SRO) at the Nine Mile Point Nuclear Station, Unit 1. The action in question concerns your leaving the control room while you were the SRO on October 9, 1992, and your subsequent reporting of this event to your management. We will contact you to schedule an Enforcement Conference, at which you can provide your views regarding the circumstances, significance, and causes of this violation (identified in NRC Inspection Report 50-220/92-24; 50-410/92-28; enclosed) of NMP-1 Technical Specifications for minimum shift manning requirements; the reasons the NRC should expect this would not recur if you were once again involved in licensed activities; and any information you feel we should consider relating to extenuating or mitigating circumstances.

Information regarding your conduct was obtained during an NRC inspection conducted at the site from September 27 through October 31, 1992, from an investigation conducted by Niagara Mohawk Power Corporation (NMPC), and during a subsequent investigation conducted by the NRC Office of Investigations. Information gathered during these inspections and investigations, as well as any information provided by you during the Enforcement Conference will form part of the basis for deciding what further action, if any, should be taken.

The Enforcement Conference would be scheduled at a location near the Nine Mile Point Nuclear Station at a mutually convenient time. A copy of this letter is being sent to Niagara Mohawk Power Corporation. You may have representation of NMPC, and/or other representation at the conference, if you so choose, and you are encouraged to do so. Please contact Mr. Larry Nicholson of the NRC Region I staff at 610-337-5128 to discuss the enforcement process and answer any questions you may have, and to inform us concerning who, if any others, will attend the conference with you.

TE01

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, with your home address removed, will be placed in the NRC Public Document Room.

Sincerely,

William [signature] /for

Thomas T. Martin
Regional Administrator

Enclosures:
1. NRC Region I Combined Inspection Report No. 50-220/92-24 and 50-410/92-28
2. OI Report 1-92-054R Synopsis
3. Niagara Mohawk Power Corporation Investigation Executive Summary

cc:
B. Ralph Sylvia, Executive Vice President, Nuclear
Public Document Room (PDR)
Local Public Document Room
NRC Resident Inspector
Docket File 55-5920

MAY 1 9 199[illegible]

bcc w/encls:
J. Lieberman, OE
D. Holody, EO

RI:DRP*	RI:DRS*	NRR:HOLB*	RI:DRP	RI:DRS	RI:EO DJH
CCowgill	ABlough	DLange	WLanning WL	JWiggins JW w/comments on placement in PDR + on NMPC attendance	DHolody w/ chg
/ /94	/ /94	/ /94	5/14/94	5/12/94	5/13/94
RI:RC	RI:DRA	RI:RA	OE		
KSmith	WKane	TMartin	Lieberman		
/ /94	/ /94	5/16/94	/ /94		

Rec'd concurrence via telephone fm Dave Lange 5/16/94

Rec'd by email from J. Lieberman on 5/17/94

Also shown to Barry Letts on 5/17/94 DJH.

* SEE PREVIOUS CONCURRENCE

OFFICIAL RECORD COPY
a:LILLY.LTR

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

Sincerely,

Thomas T. Martin
Regional Administrator

Enclosures:
1. NRC Region I Combined Inspection Report No. 50-220/92-24 and 50-410/92-28
2. OI Report 1-92-054R Synopsis
3. Niagara Mohawk Power Corporation Investigation Executive Summary

cc:
B. Ralph Sylvia, Executive Vice President, Nuclear
Public Document Room (PDR)
Local Public Document Room
NRC Resident Inspector
Docket File 55-5920

RI:DRP	RI:DRP	RI:DRP CL	RI:DRS	NRR: HOLB
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RI:EO	RI:DRP	RI:DRS	RI:RC	OE
DHolody	WLanning	JWiggins	KSmith Kane Martin	JLieberman
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OFFICIAL RECORD COPY

a:LILLY.LTR

ENCLOSURE 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

NOV 23 1992

Docket Nos. 50-220
50-410

Mr. B. Ralph Sylvia
Executive Vice President - Nuclear
Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Dear Mr. Sylvia:

Subject: NRC Region I Combined Inspection Report No. 50-220/92-24 and 50-410/92-28

This refers to the results of the routine resident safety inspection conducted by Messrs. W. Schmidt and W. Mattingly from September 27 through October 31, 1992, at Nine Mile Point Units 1 and 2, Scriba, New York. Mr. Schmidt discussed the inspection findings with members of your staff at the exit meeting conducted on November 13, 1992.

This inspection was directed toward areas important to public health and safety. The enclosed NRC Region I Inspection Report describes the areas examined during the inspection. Within these areas, the inspection consisted of observation of activities in progress, interviews with personnel, and selective examinations of procedures and representative records.

Your staff operated both units safely. However, in two instances senior reactor operators at Unit 1 did not take correct actions following: an instance of not having the proper shift manning in the control room; and when unanticipated half-scrams were generated, multiple times during surveillance testing. The failure to have a senior reactor operator in the control room for five minutes was by itself not safety significant. We are concerned because this was not identified to station management until five days after it occurred. The lack of adequate shift manning as required by plant technical specifications is an apparent violation and is being considered for escalated enforcement, in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions (Enforcement Policy), 10 CFR Part 2, Appendix C (1992). Accordingly, no Notice of Violation is presently being issued for this inspection finding.

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Further, during the performance of surveillance testing of the reactor protective system instrumentation, a senior reactor operator failed to reconcile procedure problems and unanticipated half-scram conditions before continuing with the procedure. This issue is a concern because it shows a continuing lack of understanding by operators of expectations for stopping and reviewing evolutions where unexpected events occur. This is in violation of NRC requirements, as specified in the enclosed Notice of Violation.

With respect to the potential escalated enforcement action discussed above, you will be contacted under separate correspondence. Based on the results of this inspection, you are required to respond to this letter and should follow the instructions relative to the Notice when preparing your response. In your response, you should document the specific actions taken and any additional action you plan to prevent recurrence of these types of issues. Further, please include in your response a discussion of the actions you have taken or plan to take to address the attention-to-detail concerns and configuration control issues discussed in this inspection report.

Your cooperation with us is appreciated.

Sincerely,

for Curtis J. Cowgill, Chief
Projects Branch No. 1
Division of Reactor Projects

Enclosures:
1. Appendix A, Notice of Violation
2. NRC Region I Combined Inspection Report Nos. 50-220/92-24 and 50-410/92-28

cc w/encl:
N. Carns, Vice President - Nuclear Generation
C. Terry, Vice President - Nuclear Engineering
J. Perry, Vice President - Quality Assurance
J. Firlit, Vice President - Nuclear Support
K. Dahlberg, Unit 1 Plant Manager
M. McCormick, Unit 2 Plant Manager
D. Greene, Manager, Licensing
J. Warden, New York Consumer Protection Branch
G. Wilson, Senior Attorney
M. Wetterhahn, Winston and Strawn
Director, Power Division, Department of Public Service, State of New York
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
K. Abraham, PAO-RI (2)
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
State of New York, SLO Designee

APPENDIX A

Notice of Violation

Niagara Mohawk Power Corporation
Nine Mile Point Unit 1

Docket Nos. 50-220
License Nos. DPR-63

During an NRC inspection conducted on September 27 - October 31, 1992, two examples of a violation of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR 50 Part 2, Appendix C (1992), the violation is listed below:

Nine Mile Point Unit 1 Technical Specification 6.8.1 states that written procedures shall be implemented that meet or exceed the requirements and recommendations of Reg Guide 1.33, which requires that administrative procedures be implemented for procedure review and use. Niagara Mohawk Power Corporation (NMPC) Nuclear Division Directive (NDD)-PRO-01 requires: 1) that surveillance procedures include statements of plant impact to include expected annunciators and alarms; and 2) that following the receipt of unexpected responses that procedures be stopped and the reasons for the alarms be evaluated.

Contrary to the above, on October 26, 1992: 1) reactor water level instrument trip testing per procedure N1-ISP-036-003 did not include a statement of plant impact for a valid low water level scram signal; and 2) following the receipt of an unexpected half reactor scram signal during the performance of N1-ISP-036-003, attachment one, the procedure was not stopped and the reason for the alarm was not evaluated. Specifically, the plant impact statement for this procedure did not specify that a low water level half-scram condition would occur during the performance of the test. Further, the plant impact statement incorrectly specified that a "turbine trip half-scram signal" and a "feedwater pump high level trip half-scram signal" would be received, however, these are not valid reactor scram features. Following the receipt of the initial unexpected half-scram, the procedure was continued. The subsequent performance of attachments two and three also caused half-scram conditions, without the full understanding of all shift operating personnel and without their complete knowledge of all expected test results.
This is a Severity Level IV Violation (Supplement 1).

Pursuant to the provisions of 10 CFR 2.201, Niagara Mohawk Power Company is hereby required to submit to this office within thirty days receipt of the letter which transmitted this Notice, a written statement or explanation in reply, including: (1) the corrective steps which will be taken and the results achieved; (2) correctiv steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved. Where good cause is shown, consideration will be given to extending this response time.

9212010077

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report Nos.:	92-24; 92-28
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:	Nine Mile Point, Units 1 and 2
Location:	Scriba, New York
Dates:	September 27 through October 31, 1992
Inspectors:	W. L. Schmidt, Senior Resident Inspector W. F. Mattingly, Resident Inspector (in training) R. K. Lorson, Reactor Engineer J. T. Yerokun, Project Engineer

Approved by: Pete Wilson [signature] 11/18/92

for Larry E. Nicholson, Chief Date
Reactor Projects Section No. 1A
Division of Reactor Projects

Inspection Summary: This inspection report documents routine and reactive inspections of plant operations, radiological controls, maintenance, surveillance, emergency planning, security, and safety assessment/quality verification activities.

Results: See Executive Summary.

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EXECUTIVE SUMMARY

Nine Mile Point Units 1 and 2
NRC Region I Inspection Report Nos. 50-220/92-24 & 50-410/92-28
September 27 - November 7, 1992

Plant Operations

NMPC operated Units 1 and 2 safely over the period. At Unit 1 two instances occurred which indicated that senior reactor operators did not fully understand their responsibilities. Specifically, a station shift supervisor left the control room unattended by a senior reactor operator for about five minutes. This represented an apparent violation. Also, a station shift supervisor failed to stop a surveillance test when an unanticipated half scram signal occurred. This represented a violation of NMPC procedure for the use of procedures.

Radiological Controls

The radiological controls observed over the period were good. Chemistry department actions following identification of a higher than expected offgas release rate were very good. The release rates indicated a small release of noble gases through the cladding of one or more fuel pins in the reactor core. The magnitude of the release rates remained at least 100 times less than the technical specification limits for gross noble gas releases.

Maintenance and Surveillance

Personnel performed well during routine maintenance and surveillance observations.

Engineering and Technical Support

Review of Unit 1 emergency diesel generator testing showed that the refueling cycle test did not demonstrate the design basis or the intent of technical specifications. This issue was unresolved. Unit 2 personnel took appropriate actions on an NRC information notice dealing with Potter Brumfield relays.

Security

Routine tours indicated good performance by the on-site security force.

Safety Assessment/Quality Verification

Several LERs were reviewed. Review of the LERs documenting a recent reactor scram and loss of one off-site power line showed that NMPC believed that previous corrective actions had been too narrow. An unresolved item was opened pending inspector review of other recent corrective actions.

TABLE OF CONTENTS

* The NRC inspection manual procedure or temporary instruction that was used as inspection guidance is listed for each applicable report section.

DETAILS

1.0 SUMMARY OF FACILITY ACTIVITIES

1.1 Niagara Mohawk Power Corporation Activities

The Niagara Mohawk Power Corporation (NMPC) operated Nine Mile Point Unit 1 (Unit 1) safely, essentially at full power, during the period. On September 28, chemistry technicians noticed an increase in the gross noble gas activity level at the discharge of the offgas system hydrogen recombiner. This indicated that there was a small (approximately 100 times less than the technical specification limit) release of gaseous activity from the reactor fuel. NMPC continued to monitor the release rates over the period. On October 9, the station shift supervisor (SSS) on duty left the control room for about five minutes, without another senior reactor operator (SRO) being in the control room. On October 23, while conducting calibration surveillance testing on the reactor water level high/low instruments, operators and instrument and control (I&C) technicians failed to stop the procedure when unexpected alarms were received.

NMPC operated Nine Mile Point Unit 2 (Unit 2) safely and at essentially full power over the period.

1.2 NRC Activities

Resident inspectors conducted inspection activities during normal, backshift, and weekend hours over this period. There were seven hours of backshift (evening shift) and six hours of deep backshift (weekend, holiday, and midnight shift) inspection during this period.

During the weeks of October 19 and 26 a routine engineering inspection was conducted, the findings of which will be documented in Combined Inspection Report 50-220/92-26 & 50-410/92-30.

During the week of October 19 a routine security inspection was conducted, the findings of which will be documented in Combined Inspection Report 50-220/92-20 & 50-410/92-22.

2.0 PLANT OPERATIONS (71707, 71710, 93702)

2.1 Plant Operations Review - Unit 1

Routine observations of control room activities indicated that control room operators safely monitored and controlled plant operations. Regular tours of the plant were conducted to assess equipment conditions, radiological conditions, fire protection, security, general housekeeping practices, and personnel safety. The inspectors observed a very high level of performance and generally good conditions throughout the plant except as discussed below in section 2.1.1 and 2.1.2.

2.1.1 Less than Required Senior Reactor Operators in the Control Room

On October 9, the SSS, a licensed SRO, left the control room when the assistant station shift supervisor (ASSS), the other SRO on-shift, was not in the control room. This resulted in not having the technical specification required SRO in the control room, for about five minutes. While the ASSS was touring the plant, the SSS desired to discuss work planning with planning personnel and left the control room to go to a meeting room approximately 40 feet from the control room.

NMPC management learned of this issue five days after it occurred and took adequate actions to review the situation. A fact finding meeting with the individuals involved, conducted on October 14, indicated that the SSS did leave the control room without another SRO present. However, because of poor communications and understanding of the process for identification and reporting of technical specification violations, the issue was not documented on a deviation event report at the time that it occurred.

NMPC quickly developed an investigation plan to review the incident, which included interviews of the personnel involved and a review of control room security card reader printouts. NMPC discussed this issue with NRC management on several occasions. NMPC presented their overall conclusion of the investigation verbally on October 30. Based on the investigation, NMPC determined that this was an isolated event. NMPC decided that there were several corrective actions which needed to be taken, one of which was to remove the SSS from licensed duties. The SSS leaving the control room for five minutes was of low safety significance, as the unit was operating at steady state power. However, the failure to properly document and communicate the violation of technical specification to station management was more safety significant. This issue was considered an apparent violation of the technical specifications. **(220/92-24-01)**

2.1.2 High/Low Reactor Water Level Instrument Trip Channel Test

The inspector noted during a review of control room logs that the SSS terminated surveillance test procedure N1-ISP-036-003 following three unanticipated half-scrams and prior to completion of the procedure. The SSS stopped the test because low level half-scram signals, not identified by the applicable procedural step or plant impact statement, were actuated during performance of attachments one, two and three. The inspector interviewed the test and operations personnel who performed this procedure and concluded that the operating personnel were unsure of the expected test results and did not terminate the test until the same unexpected half scram occurred during performance of three procedure attachments. The inspector also noted that the plant impact statement in the procedure stated that a "turbine trip half-scram" and a "feedwater pump high level trip half-scram signal" would be actuated during this test. This was incorrect since neither of these functions existed in the plant. Inspector review of the procedure and electrical logic diagrams showed that the low water level instrumentation operated as designed during the testing. The failure of the procedure to provide operating personnel with the expected plant impact assessment and the failure of operators to stop the procedure and assess the reasons for unexpected half-scram conditions were contrary to NMPC Nuclear Division Directive (NDD)-PRO-01, and was considered a violation of Technical Specification 6.8.1 requirements for the content and use of procedures. (220/92-24-02)

The inspector discussed the operator procedural adherence issue with unit management who took appropriate corrective action to resolve the problem. The inspector discussed the procedural weaknesses with instrument and control supervisory personnel who stated that this procedure would be corrected prior to the next performance. The inspector also reviewed Technical Specification Table 4.6.2a which delineated the surveillance test requirements for the low reactor water level instrumentation. The inspector reviewed the applicable surveillance procedures and the tracking system used to ensure that the technical specification requirements were met. The surveillance test schedule was tracked with the aid of a computerized data base which enabled planning personnel to generate the correct work requirements for the test personnel. The surveillance procedures and the tracking system satisfactorily ensured that the technical specification requirements discussed above were met.

2.1.3 Instrument Air System Walkdown

The inspector performed a comprehensive walkdown of the accessible portions of the safety-related instrument air system. The inspector noted several discrepancies between the actual system configuration and applicable drawings. The inspector identified these items to the cognizant system engineer who stated that the system drawings were being upgraded as part of the system design basis reconstitution; expected to be completed by December, 1992. The inspector also reviewed the Service, Instrument, and Breathing Air Operating Procedure (N1-OP-20, revision 19) and noted a procedural weakness in that none of the instrument air valves inside the reactor building were included in the procedure valve line-up. The inspector discussed this issue with the operations support supervisor who stated that this procedure would be upgraded to include these valves following completion of the drawing revisions discussed above. The inspector concluded that these drawing and procedural weaknesses could lead to a loss of air to a system load. The inspector noted that an adequate recovery procedure (N1-SOP-6, revision 2) existed to enable the operators to mitigate this event, and maintain the plant in a safe condition. Additionally, the inspector reviewed the loss of instrument air safety analysis in the updated safety analysis report (USAR), and verified that the plant could be shutdown and maintained in a safe condition with a complete loss of instrument air.

The inspector noted that the physical condition of the system was good. Pipe hangers were properly made up, system valves were properly aligned, support systems were operational, and the instrumentation was properly installed. However, some minor material deficiencies were noted which were discussed with the cognizant system engineer, who promptly addressed each issue in an appropriate manner. One deficiency, involving the labelling of valves inside the reactor building, was discussed with the operations support supervisor, who stated that labelling would be improved following completion of the drawing upgrades mentioned above.

Review of selected pressure switch calibration records and outstanding corrective maintenance items identified no deficiencies or significant issues. The instrument air compressor preventive maintenance procedure (N1-MPM-094-602, revision 0), and the results from the most recent performance of this maintenance were reviewed. The procedure contained a weakness in that the piston end clearance specifications did not agree with the values listed in the compressor's technical manual. The clearance readings obtained during the most recent measurement did conform with the technical manual specifications. This issue was discussed with a maintenance supervisor and the system engineer who stated that the procedure would be enhanced to conform with the vendor's recommendations.

In summary, the drawing and procedure controls for the instrument air system inside the reactor building were weak. Operators were provided with adequate procedural guidance to address the effects of loss of air conditions. NMPC was planning actions to correct these and other minor problems identified, as part of the ongoing design basis reconstitution.

2.2 Plant Operations Review - Unit 2

NMPC safely operated Unit 2 at near full power in conformance with approved procedures and regulatory requirements. Control room activities, including shift turnovers and crew briefings, panel manipulations, emergency operating procedure use, and operator response to alarms, were observed. Regular tours of the plant were conducted to assess equipment conditions, radiological conditions, fire protection, security, general housekeeping practices and personnel safety. The inspector observed a very high level of performance and generally good conditions throughout the plant.

2.2.1 Emergency Diesel Generator Fuel Oil Receipts

Unit 2 Technical Specification 4.8.1.1.2.c for emergency diesel generator (EDG) fuel oil and chemistry procedures permit up to 31 days to perform a complete analysis of new fuel oil, after an addition to the EDG fuel oil storage tanks. Before adding new fuel oil to the storage tanks, however, it is analyzed for five critical parameters: API gravity, kinematic viscosity, flash point, appearance, and cloud point. During two previous inspections (50-410/92-15 and 92-17) a concern was raised over the topping-off of all three EDG fuel tanks from a single tanker with oil that might not meet the requirements of the 31 day analysis. This potentially could allow the three EDGs to run on oil that did not meet the required specifications and might lead to a common mode failure of the EDGs. Both inspection reports stated that NMPC would change their procedure to include provisions for holding the fuel oil in the tanker until complete analysis results were received.

NMPC subsequently notified the NRC that their EDG fuel oil procedure would continue to allow 31 days to perform the complete analysis since this was the technical specification requirement. However, the corporate chemistry laboratory was providing analysis results within two weeks. Also, NMPC's goal was to have these laboratory analysis results within two days of sampling, before adding the new fuel to the storage tanks. This goal has been successfully demonstrated several times recently. The inspector found the sampling procedure satisfactory based on the above information.

3.0 RADIOLOGICAL AND CHEMISTRY CONTROLS (71707)

3.1 Routine Observations - Unit 1 and Unit 2

During routine tours of both units the inspectors observed generally good radiological conditions and personnel adherence to radiological postings.

3.2 Fuel Failure - Unit 1

During routine daily gross noble gas offgas system sampling on September 28, chemistry personnel identified an increased release rate downstream of the hydrogen recombiner, but before the offgas system holdup volumes. Offgas system release rates increased to a maximum of about 4700 μc/sec. Steady state release rates prior to this had been less than 2000 μc/sec. The doubling of the release rate caused NMPC to enter their failed fuel action plan.

Isotopic analysis of offgas samples indicated a release of gases generated in the reactor's fuel. Plotting of the sample data showed that the release rate peaked at approximately 4700 μc/sec. Then the release rate decreased to a new level, higher than the previous steady state level, but lower than the peak. Unit 1 Technical Specification Section 3.6.15c allows a noble gas release rate of 0.5 c/sec and up to 1.0 c/sec if the offgas system is functioning.

NMPC continued to monitor the offgas activity daily over the period. Aggressive sampling was undertaken during a control rod sequence exchange to gather data which might be useable to determine the general location of the leak in the core. The chemistry department performed well in identifying and trending this fuel failure information.

4.0 MAINTENANCE (62703)

4.1 Maintenance Observations Units 1 and 2

Maintenance activities were observed during this inspection period to ascertain that safety related activities were being conducted according to approved procedures, technical specifications, and appropriate industrial codes and standards. Observation of activities and review of records verified that: required administrative authorizations and tag outs were obtained, procedures were adequate, certified parts and materials were used, test equipment was calibrated, radiological requirements were implemented, system prints and wire removal documentation were used, and quality control hold points were established. Maintenance activities observed included:

WR 1-208393 Recirculation flow master controller troubleshooting
WR 1-197020 EDG 103 air start compressor motor replacement
WR 2-207308 Low pressure core spray keep fill pump replacement
WR 2-209091 Division II emergency diesel generator output breaker relay troubleshooting
WR 2-195186 Service water pump A impeller and shaft replacement
WR 2-209425 EDG 1 service water relief valve replacement
WR 2-201901 EDG 1 speed sensor troubleshooting

The above activities were effective with respect to meeting the safety objectives.

4.2 Division II Emergency Diesel Generator Output Breaker Relay Troubleshooting

During a field inspection to support electrical maintenance on Division II supply breaker 103-13, the Division II EDG became inoperable for approximately 20 minutes. This occurred when one of three 87G phase differential current relays for the Division II EDG output breaker actuated due to the vibration of closing the breaker 103-13 cubicle door. Actuation of the 87G relay tripped its associated 86 relay which provided a trip and lock-out signal to the EDG breaker and caused several control room annunciators to actuate, indicating that the Division II EDG was inoperable. The EDG output breaker did not change position since it was already open, but it was now unable to shut and the EDG was blocked from starting. The operator's initial investigation found that the Division II EDG problems coincided with shutting the breaker 103-13 cubicle door. The operators subsequently reset the 86 relay and declared the EDG operable. A deviation/event report (DER) and subsequent work request were issued to troubleshoot the problem.

The inspector was concerned over the potential effects of a seismic event on the relay in question. The inspector monitored this maintenance activity by observing portions of the work in progress, reviewing the troubleshooting and maintenance procedures, and interviewing personnel involved with conducting the maintenance. The as found condition of the 87G relay met all of the calibration and vendor installation requirements, however, the relay continued to trip when subjected to certain vibrations. The relay was replaced and all three 87G relays in the cubicle were satisfactorily field tested for sensitivity to vibration. NMPC was conducting a root cause analysis of the failed relay and planned to discuss this vulnerability to certain vibrations with the vendor, in order to develop test methods to identify the failure mechanism on other relays.

The inspector concluded that the troubleshooting and repairs to the Division EDG output breaker relays were thorough, well planned, and properly executed to minimize any adverse plant impact.

5.0 SURVEILLANCE (61700, 61726, 61707)

5.1 Observation of Surveillance Activities - Unit 1

5.1.1 Containment Spray System Operability Test

The performance of the quarterly technical specification operability test for a containment spray and a containment spray raw water pump was observed. The inspector noted through direct observation that the test was well supervised and controlled. Interviews of the test personnel showed a high level of knowledge regarding test requirements. The inspector noted good material condition of the containment spray system components. The test data was promptly reviewed by appropriate licensee personnel who correctly determined that both pumps was acceptable. The inspector independently verified calculations, including the method of calculating the deep draft containment spray raw water pump suction pressure. Additionally, the test data was compared against the pump curves and no problems were identified. The surveillance test procedure (N1-ST-Q6C, revision 2) was satisfactory and met technical specification and IST requirements.

5.1.2 High Drywell Pressure Instrument Trip Channel Test

The high drywell instrument trip channel test was required by Technical Specification 4.6.2.a to verify the operability of the trip channels. The inspector observed a selected portion of the test and noted that the instrument trip channel functioned properly. The test data and the surveillance procedure were reviewed and no problems were identified.

5.2 Observation of Surveillance Activities - Unit 2

5.2.1 Low Pressure Coolant Injection Pumps B&C Automatic Start Time Delay Relays Functional Test

The inspector observed this testing for the B and C low pressure ›olant injection (LPCI) pumps according to test procedure (N2-ESP-ENS-M731, revision 5). The monthly functional test of the LPCI automatic start time delay relays verified the operability of these relays under normal and emergency pow:r conditions. A test switch simulated a loss of coolant accident (LOCA) which caused the associated emergency core cooling system (ECCS) time delay relays to actuate. The test was then repeated while simulating a loss of offsite power (LOOP) to verify operability of the time delay relays with emergency power. The inspector noted that the procedure was correctly performed and that the personnel involved were knowledgeable about the test requirements. The inspector confirmed that the test equipment was properly installed and that measured results were within procedural limits and met Technical Specification 3/4.3.3 requirements.

5.2.2 Automatic Depressurization Initiation Time Delay Relay Functional Test

The Division I automatic depressurization system (ADS) initiation time delay relay test satisfied Technical Specification 4.3.3.1-1.A.2.b. The test was performed by tripping the master trip units for the ADS logic while in the test mode and measuring the time delay until the actuation of the relay contacts. During this test, the inspector observed that the test was properly executed and that the relay contacts actuated within the technical specification limit.

6.0 SECURITY AND SAFEGUARDS (71707)

The inspectors routinely toured protected and vital areas at both units. These tours included night time walkdowns of the protected area and observation of security activities. No significant issues were identified. Further, the inspector observed good controls of temporary security fences to allow demolition of a site building.

7.0 ENGINEERING AND TECHNICAL SUPPORT (71707, 92703, 37700, 90700)

7.1 Unit 1

7.1.1 Review of Emergency Diesel Generator Testing

The inspector reviewed the outage surveillance test for EDGs and determined that the testing being performed by NMPC did not match the design basis for the EDGs. Specifically NMPC has not been testing the start of the EDGs in conjunction with LOCA signal. The outage test ST-R2 simulates a LOCA signal, which causes all ECCS pumps to start and all containment isolation valves to close. Then a simulated loss of emergency bus voltage signal is inserted to start each of the emergency diesel generators separately. This causes the emergency bus to strip loads and isolate from the off-site power system and remain de-energized until its EDG starts, energizing the ECCS loads on the bus in sequence.

This method did not appear to meet the intent of technical specifications or the system design basis as described in the USAR, in that the LOCA and LOOP were not simultaneous. The inspector discussed this with the NMPC engineering and technical personnel. NMPC was in the process of reviewing the technical rational for the conduct of this testing. This issue was unresolved at the end of the period. **(220/92-24-03)**

7.1.2 (Closed) Unresolved Item 50-220/91-12-03: Emergency Diesel Generator Fuel Oil Filter Design Review

The inspector reviewed the actions taken by NMPC to an EDG fuel oil system concern. The fuel oil system was not designed with differential pressure indication (or alarms) for the fuel oil filter. If the filter was to become clogged, the EDG could be starved of fuel and lose load prior to operators becoming aware of the clogged filter. Further, the filter consists of two elements in parallel with both elements continuously in service and cannot be replaced without shutting down the EDG. Two sight glasses are provided on the filter: one shows that the engine is receiving full fuel flow and the second shows that the filter is clogged when an inlet fuel oil pressure of 60 psig is attained. At this pressure, flow to the filter is diverted through the second sight glass and back to the fuel oil tank. However, if this happens, the diesel engine would already be starved of fuel and indication in the sight glass would be of no help to maintain the EDG operating.

NMPC performed a review of the filter design. Their immediate corrective action was to revise Operations Monthly Surveillance Test, N1-ST-M4, "Emergency Diesel Generator Manual Start and One Hour Rated Load Test," to include recording the fuel oil pressure during testing to ascertain that the fuel oil filters are not becoming clogged. An acceptable pressure range of 15 to 50 psig is specified in the procedure. The vendor's recommended replacement schedule for the fuel oil filter is every two years. The plant replaces the filter every refueling outage as specified in procedure N1-NMP-GEN-852, "EDG Engine and Associated Equipment Inspection Diesel Generator 102 and Diesel Generator 103." Additionally, NMPC has generated a modification package, Conceptual Modification # N1-91-016, to replace the 2-element filter with two separate spin-on filters and to install a differential pressure indicator across the filter system. The inspector found that NMPC was taking adequate actions to assure the adequacy of the fuel oil filtration design. This was based on: the routine preventive maintenance performed to ensure that the filter remains unclogged; the specifications for the fuel oil ensure that debris is not introduced into the system; and the good results of the trend of the filter inlet pressure recorded during the monthly diesel runs. The pressure has remained at 25 psig, indicating that debris is not being deposited on the filter. Additionally, the installation of a differential pressure gauge during the next refueling outage would provide another method of monitoring pressure across the filter to let the operators know if the filter is becoming clogged. The inspector inspected the filter on both diesel engines and noted that the "adequate flow" sight glass was full on both engines. No discrepancies were observed. This item was closed.

7.1.3 (Closed) Unresolved Item 50-220/91-17-02: Improper Safety Related DC Breaker Setting

NMPC corrected a previously identified condition that would have led, during certain accident conditions, to the common DC output breaker from the battery charger and static inverter to battery board 12 tripping on an overcurrent before supplying it designed 400 amps. NMPC identified this when the breaker tripped during an installation test of the static inverter. Even though the trip setpoint was 400 amps, the trip occurred at a load of approximately 274 amps. Upon further review, NMPC determined that the breaker setpoint did not account for equipment tolerances and thus would trip under anticipated loading conditions. The breaker setpoint was raised to 460 amps to account for accuracy tolerance.

The NRC electrical distribution safety system functional inspection (EDSFI) team reviewed this issue in 1991. The team concluded that the licensee's actions were broad in scope and that they were taken in a timely manner. The team also determined that in addition to the actions taken by the licensee to prevent recurrence, the following actions must be taken:

- Revise applicable procedures to ensure that I&C setpoint changes are reviewed for impact on electrical equipment/system design.

- Review previous setpoint changes made under the I&C setpoint program for impact on electrical equipment.

- Issue a lessons learned transmittal to appropriate personnel

To accomplish these actions, NMPC revised three Nuclear Engineering and Licensing procedures: NEP-DES-120, "NMP1 Design Change Control Program"; NEP-DES-310, "Design Input"; and NEP-DES-340, "Design Calculations." The licensee also revised guideline NEG-1E-001, "I&C Setpoint Change Process" to improve in this area. The inspector reviewed previous setpoint changes made under the I&C setpoint program and no discrepancies were identified. Appropriate personnel have been briefed on the issue and the lessons learned. Based on these actions, the inspector concluded that adequate actions have been taken to address this issue. This item was closed.

7.2 Unit 2

7.2.1 NRC Information Notice 92-04 Potter Brumfield MDR Rotary Relay Failures

The inspector reviewed the actions taken by NMPC in response to NRC Information Notice 92-04 which discussed recent experience regarding Potter & Brumfield (P&B) MDR rotary relay failures. NMPC's computerized data base search identified that 136 of these relays were installed at Unit Two; in the reactor protection, main steam, standby liquid control and service water systems.

NMPC verified that routine surveillance testing periodically exercised all but one of these relays. Such periodic testing of the relay is important in identifying a relay failure. The relay that was not tested is normally de-energized and provides an input to a non-safety related system. The inspector independently reviewed selected relays and found that the relays were tested as specified by the licensee.

To date, four slow relay response failures have occurred, which could be attributed to the failure mechanism described in NRC IN 92-04. These failures were identified during the routine surveillance testing discussed above and the licensee replaced each relay using a "like for like" substitution. NMPC plans to replace all of these relays (with relays not subject to the failure mode described in NRC Information Notice 92-04) by the completion of refueling outage four. The inspector found the licensee's response to this issue comprehensive and appropriate.

8.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (71707, 92700)

8.1 Review of Licensee Event Reports (LERs) and Special Reports

8.1.1 Unit 1

The inspector reviewed the following LERs and Special Reports and found them satisfactory:

LER 92-10, dated October 5, 1992. Inadvertent operation with less than the minimum required average power range monitor channels per trip system due to personnel error.

8.2 (Closed) Unresolved Items 92-25-01: Review of August 28, 1992 Reactor Scram and 92-25-02, Review of Partial Loss of Off-Site Power

The inspector found that licensee event reports submitted by NMPC (92-17, for the August 28, 1992, reactor scram and 92-19 for the September 16, 1992, loss of off-site power line 5) adequately addressed the specific events. Based on this review the unresolved items were closed. However, each report stated that previous corrective actions could have been broader in scope and may have prevented these instances. The inspector reviewed the previous corrective actions taken for the December 18, 1991 reactor scram due to feed water system problems and the three other instances of losing off-site power in the last two years. The inspector concluded that the corrective actions taken for each event were focused and did not address broad actions. The inspector considered this an unresolved issue (**220/92-24-04 and 410/92-28-04**) pending review and evaluation of the adequacy of the corrective action breadth and depth on recent issues.

9.0 MANAGEMENT MEETINGS

At periodic intervals and at the conclusion of the inspection, meetings were held with senior station management to discuss the scope and findings of this inspection. Based on the NRC Region I review of this report and discussions held with Niagara Mohawk representatives, it was determined that this report does not contain safeguards or proprietary information.

SYNOPSIS

This investigation was opened as an evaluation on November 18, 1992, and upgraded to a full investigation on January 26, 1993.

On October 9, 1992, the designated Senior Reactor Operator (SRO) abandoned his station in the Nine Mile Point, Unit 1, control room for approximately 5 minutes while the unit was at 99% power. This is in violation of licensee technical specifications and NRC regulations. Information gleaned from the licensee's investigation indicated that the SRO may have attempted to cover up his act which, but for detection, would have caused the licensee to be in violation of NRC reporting requirements. The licensee removed the SRO from his licensed duties and his NRC license was later terminated.

The Region 1 case priority concerning this investigation has been changed from "High" to "Low." The NRC's Office of Investigations has reviewed the licensee's investigation, collected additional documents, and interviewed the SRO. However, based on higher case load priorities, this investigation is being closed.

ENCLOSURE 3

NIAGARA MOHAWK NUCLEAR SBU

NINE MILE POINT UNIT 1

SPECIAL TEAM INVESTIGATION REPORT

OCTOBER 31, 1992

5. <u>EXECUTIVE SUMMARY</u>:

The Special Team Investigation involved interviews of operating crews at Unit 1 plus members of Nuclear Generation management up to the Vice President. The investigation addressed a review and evaluation of security access logs for entry and exiting both Unit 1 and Unit 2 Control Rooms over a two-month period. In addition, a review and analysis of Unit 1 1992 LERs and DERs related to operator errors was conducted as part of this investigation.

The investigation team confirmed that the Technical Specification Section 6.2.2.e was in fact violated on from to (5 minutes) because there was no on-shift active Senior Reactor Operator (SRO) present in the Unit 1 Control. Based on the results of the Unit 1 and Unit 2 security transaction logs described in this report, the particular event of 10/9/92 was an isolated incident. No other discrepancies were identified.

Upon return to the Control Room, the on-shift SSS failed to properly evaluate Technical Specification Section 6.2.2.e and as a result did not document and report the event in accordance with station procedure. This is unacceptable performance.

The on-shift license personnel, and in particular the SSS, collectively failed to demonstrate a conservative operating philosophy by not checking the Technical Specification for specific requirements, not making any note in a log or drafting a DER. Based on the crew's response to this incident additional management attention is required to implement a conservative approach to plant operations.

The most probable cause of the on-shift SSS's failure to properly evaluate Technical Specification Section 6.2.2.e was his narrow focus on completing and closing the LCO on the Reactor Building Emergency Ventilation System to the exclusion of other matters. This is clearly unacceptable performance.

There was a breakdown in timely reporting of the event up the chain of command due to the SSS being less forthcoming in conversation with his crew members and his supervisor, and a lack of a more questioning attitude on the part of the staff SRO, on-shift STA, ASSS and Acting General Supervisor of Operations. As a result, no log entry was made and no DER was drafted on the date of the event It is noteworthy that represented employees persisted in pursuing the matter. Follow-up by represented licensed operators occurred after they felt enough time had elapsed for management action and not seeing any action, they raised the question up the chain of command. This received the immediate attention of management.

Uncertainty exists regarding specific Shift Technical Advisor (STA) roles, responsibilities and relationships with operating crews in spite of the fact that a dedicated STA has been on-shift for almost a year. More effective use of the STA could have prevented the failure of not reporting this event in a timely manner had the SSS had the STA research the Technical Specification requirements and document the event on a DER.

There were no adverse safety consequences as a result of this event. The plant remained at 99 percent power with no challenges to safety during this five (5) minute event. However, this event, coupled with some other Unit 1 recent events such as 1st stage bowl pressure, loss of ultimate heat sink incident, and APRM/IRM being bypassed, indicate we have not been completely effective regarding putting into practice a questioning attitude, checking requirements, initiating DERs promptly, and accurately reporting and communicating up and down the chain of command. This demonstrates a failure on management's part to effectively implement past corrective actions to preclude recurrences.

The investigation revealed no evidence of any deliberate conspiracy or cover-up.

Section 10 of this report summarizes the specific team recommendations. Included among them are:

- Remove the SSS (on shift during the incident) from license duties.

- Have Operations Management promptly review results, conclusions, and lessons learned regarding this investigation with operating crews.

- As lessons learned from this incident, clearly communicate and discuss the importance and seriousness of implementing the following practices:

  - Apply Stop, Think, Ask, Act, Review (STAAR) to everything we do

  - When a requirement is questioned always look it up to get facts - don't guess.

  - If not sure on an event, document event in log and initiate DER immediately to let process work regarding operability, reportability, informing Plant Manager and proceeding with required actions.

- Clarify current management expectations of when they expect to be notified of a problem.