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NIAGARA MOHAWK POWER CORPORATION/301 PLAINFIELD ROAD, SYRACUSE, NEW YORK 13212 TELEPHONE 315/428-7100

Mr. Ralph Svirid
Executive Vice President
Nuclear

September 10, 1991
NMP21 1314

Mr. Thomas T. Martin
Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Re: Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Dear Mr. Martin:

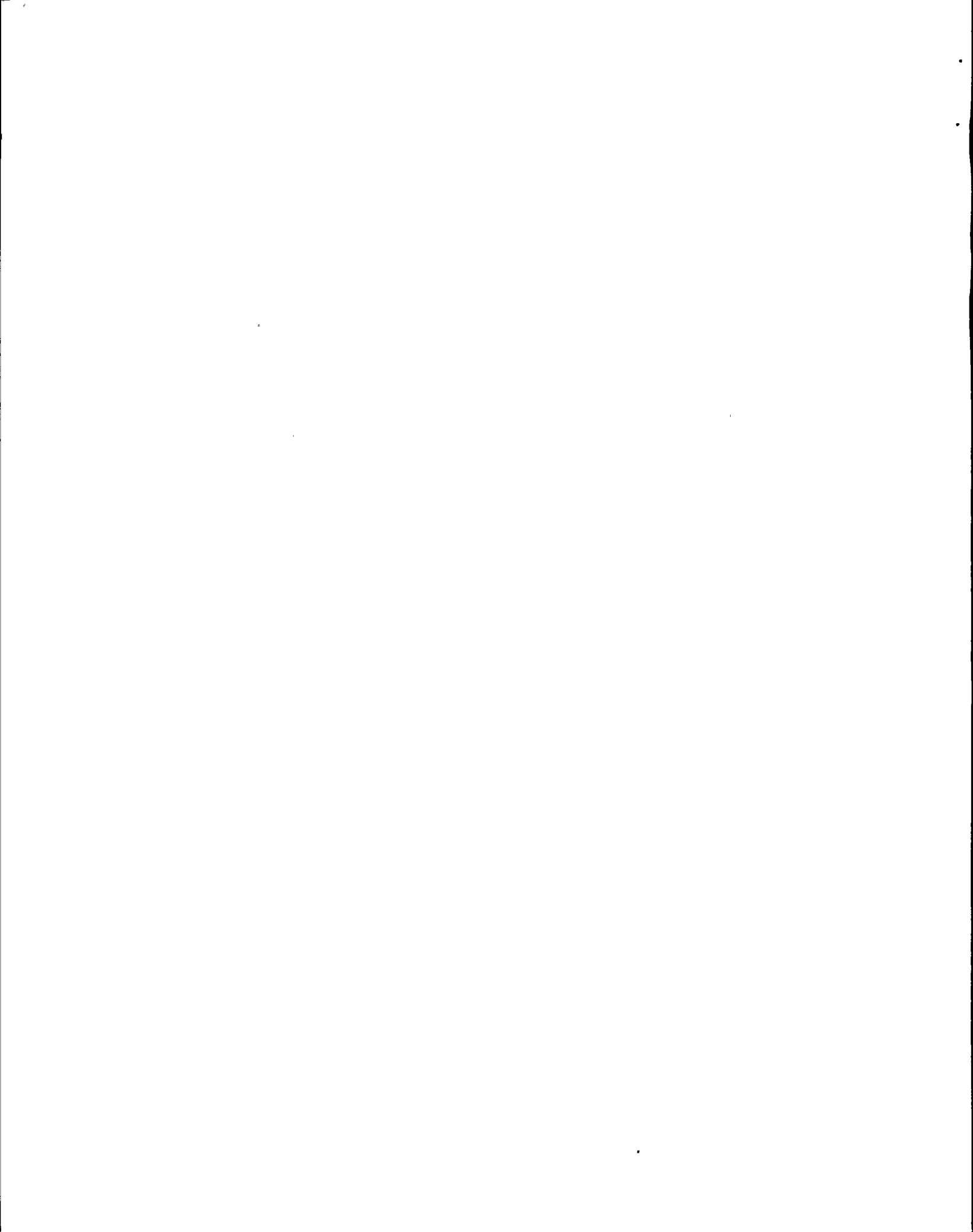
On August 13, 1991, Niagara Mohawk Power Corporation's Nine Mile Point Unit 2 Nuclear Station declared a Site Area Emergency due to loss of control room annunciators with a plant transient. The loss of control room annunciators resulted from a loss of five non-safety related Uninterruptible Power Supplies (UPS's) when the B phase main step-up transformer failed. Power was restored to the annunciators within 34 minutes and a safe shutdown of the Nine Mile Point Unit 2 reactor was achieved, cold shutdown was reached after approximately 14 hours.

In response to this event, the Nuclear Regulatory Commission issued a Confirmatory Action Letter on August 13, 1991 dispatching an Augmented Inspection Team (AIT). This letter was superseded by a Confirmatory Action Letter dated August 15, 1991. The NRC also upgraded the investigation by forming an Incident Investigation Team (IIT). Niagara Mohawk cooperated fully with the AIT and the IIT and followed the actions outlined in the August 15, 1991 letter to support the IIT investigation. On August 30, 1991 you provided plans to conduct a special team inspection to support an NRC restart decision. This inspection began on September 3, 1991.

This letter summarizes Niagara Mohawk's evaluations and corrective actions that have been taken such that safe restart and continued safe operation of the Nine Mile Point Unit 2 Nuclear Station will be assured.

Niagara Mohawk immediately established an Action Plan and a Recovery Organization reporting to the Executive Vice President, Nuclear prior to the end of the Site Area Emergency. The Recovery Plan consisted of specific problem assessments in the areas of plant response, operator response, emergency preparedness, safety and equipment failure analysis, which included the Uninterruptible Power Supplies, main transformers and the electrical

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distribution system. Each of the assessment reports were reviewed by the Site Operations Review Committee.

On August 28, 1991 Niagara Mohawk met with you and your staff to provide a status of our investigation into the August 13th Site Area Emergency. We provided an overview of the UPS circuitry, the Nine Mile Point Maintenance Program and a status of the ongoing assessment of the event. Pre-startup assessment items, pre-startup emergency preparedness items, outage restart items along with recommendations from the Safety Assessment were shared with you. Each of the specific pre-startup assessment items have been completed. For example, issues associated with the feedwater suction valves have been corrected and the lessons learned have been applied to similar valves in the plant. A procedure change has also been made to prohibit closure of the feedwater suction valves after a scram. The RCIC flow controller malfunction has been addressed by checking the control settings of the flow instruments. Some air was found in the flow transmitter and removed. This air may have contributed to the flow oscillation problem. The system will be retested during startup at different reactor pressures.

The Plant Response assessment contained a summary which outlined the sequence of events associated with the transient. The Plant Response assessment also evaluated the plant transient conditions against the Updated Safety Analysis Report (USAR). The Plant Response assessment concluded that the transient was within the bounds of current transient analysis and that at no time during the event was the plant in an unsafe condition.

An assessment of Operator Response and actions during and immediately following the Site Area Emergency found operator and staff actions to be appropriate and commendable. Operator training was effective in preparing operators for events of this nature.

The assessment of the Emergency Preparedness activities concluded that the declaration of the Site Area Emergency was timely and warranted by the existing Emergency Plan procedures. All pre-startup corrective actions identified in the Emergency Preparedness Assessment report provided to the NRC on August 28, 1991, are complete.

A Safety Assessment was prepared to provide a safety review of the Site Area Emergency against the licensing basis. The Safety Assessment concluded that at no time during this event was there any release of radioactive material nor was the health and safety of the public affected. This Safety Assessment also provided recommendations for post startup plant design improvements.

In the area of Equipment Failure Analysis, separate assessment reports were prepared for the transformer failure, electrical distribution system and Uninterruptible Power Supplies (UPS's). Niagara Mohawk has concluded that an internal fault occurred in the "B" phase main step-up transformer. The transformer will be transported offsite for further investigation to determine the root cause of the fault. The electrical distribution system assessment concluded that the protective relaying schemes actuated and performed their intended function to isolate the transformer fault.



NIAGARA MOHAWK UNIT 2 AND 3
FORM NO. 100-001000

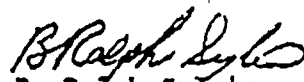
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Niagara Mohawk has completed a root cause evaluation of the loss of the five non-safety related Uninterruptible Power Supplies and their failure to transfer loads to the maintenance (alternate) power supply. The root cause analysis was discussed during a meeting with Dr. Thomas Murley of the NRC on September 4, 1991. As discussed at that meeting, Niagara Mohawk has concluded that the root cause for the simultaneous tripping of the UPS's is improper design. The Uninterruptible Power Supplies were not designed to accommodate a degraded voltage condition. Under degraded voltage conditions, the logic power supply switching circuit does not actuate until the supply voltage has decreased to well below the level that will cause the logic to trip. Also, as a result of discussions with the UPS vendor, it has been determined that the logic backup batteries were not designed to mitigate a degraded voltage condition.

As discussed in the September 4, 1991 meeting, Niagara Mohawk has taken corrective actions necessary to prevent recurrence of a similar common mode trip to the UPS units. The UPS logic power supply has been modified to make inverter output the preferred source, and the maintenance power supply the alternate. This change eliminates the vulnerability of the UPS logic supplies to transients on the AC system during normal operation of the UPS's.

Niagara Mohawk responded properly to the Site Area Emergency, has assessed all aspects associated with this event and has taken the necessary corrective actions for continued safe operation. We have completed all necessary pre-startup corrective actions and with the information provided to the NRC Augmented Inspection Team, the Incident Investigation Team, the Region Restart Inspection Team, and responses provided to Mr. S. Varga in a letter dated September 10, 1991, Niagara Mohawk has concluded that Nine Mile Point Unit 2 Nuclear Station is ready for restart.

Very truly yours,


B. Ralph Sylvia
Exec. Vice President-Nuclear

xc: Dr. T. E. Murley, Director, Office of Nuclear Reactor Regulation.
Mr. R. A. Capra, Project Director, NRR
Mr. D. S. Brinkman, Senior Project Manager, NRR
Mr. C. W. Eehl, Director, Reactor Projects Section No. 1B
Mr. W. E. Schmidt, Senior Resident Inspector
Mr. D. R. Haverkamp, Chief, Reactor Projects Section No. 1B
Mr. J. E. Rosenthal, Chief, Reactor Operations Analysis Branch,
Division of Safety Program, AEOD

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