JUL 2 7 1990

Docket No. 50-220

CAL No. 88-17, Supplement 1
EA No. 88-186

Niagara Mohawk Power Corporation
ATTN: Mr. John M. Endries
President
300 Erie Boulevard - West
Syracuse, New York 13202

Gentlemen:

Subject: Confirmatory Action Letter 88-17, Supplement 1

This letter supplements NRC Confirmatory Action Letter (CAL) 88-17, dated July 24, 1988, and confirms your commitments to the performance of certain activities associated with the restart of Nine Mile Point Unit 1.

In your letter of July 13, 1990, you have concluded that, pending completion of a specific set of work activities, Nine Mile Point Unit 1 is ready for restart and safe operation.

Based upon our review of the steps you have taken to resolve problems which have been identified over the past two and one half years, we have independently concluded that the facility, its management and staff are ready to restart Unit 1. A summary of the basis for our assessment of your readiness for restart is provided in the attachment to this letter.

We hereby agree to the restart of Nine Mile Point, Unit 1. Following restart and during implementation of your power ascension program at Nine Mile Point Unit 1, it is our understanding that you will:

1. Conduct a self-assessment of your operations throughout the power ascension program and, specifically, conduct a detailed assessment at each of its designated plateaus (i.e., 25, 75 and 100 percent power).

2. Discuss the results of each self-assessment with the NRC Restart Assessment Panel, at each of those designated plateaus and prior to commencing routine full power operation.

3. Document the results of your overall self-assessment of the power ascension program after its completion and discuss these results in a management meeting with the NRC Restart Assessment Panel.

The actions described above were discussed in a July 18, 1990, telephone conversation between Lawrence Burkhardt, Executive Vice President, Niagara Mohawk, and James Wiggins, Deputy Director, Division of Reactor Projects, NRC, Region I.

We expect that this Confirmatory Action Letter will be terminated upon the satisfactory completion of the above actions. If your understanding differs from that set forth above, please call us immediately.

Issuance of this Confirmatory Action Letter does not preclude the issuance of an order formalizing the above commitments.

We appreciate your cooperation.

Sincerely,

ORIGINAL SIGNED BY:

Thomas T. Martin
Regional Administrator

Attachment: Restart Readiness Assessment - Nine Mile Point Unit 1

cc w/Attachment:
R. Silvia, Senior Vice President
W. Hansen, Manager Corporate Quality Assurance
M. Colomb, Unit 2 Superintendent, Operations
C. Beckham, Manager, Nuclear Quality Assurance Operations
R. Abbott, Station Superintendent, Unit 2
J. Perry, Vice President, Quality Assurance
K. Dahlberg, Station Superintendent, Unit 1
R. Randall, Unit 1 Superintendent, Operations
C. Terry, Vice President Nuclear Engineering and Licensing
J. Ferlif, Vice President - Nuclear Generation
J. Warden, New York Consumer Protection Branch
M. Wetterhahn, Esquire
G. Wilson, Senior Attorney
J. Keib, Esquire
Director, Power Division, Department of Public Services, State of New York
State of New York, Department of Law
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
State of New York, SLO Designee

bcc w/Attachment:
Region I Docket Room (with concurrences)
T. Martin, RA
W. Kane, DRA
W. Hodges, DRS
M. Knapp, DRSS
W. Hehl, DRP
J. Wiggins, DRP
J. Linville, DRP
D. Vito, DRP
R. Summers, DRP
G. Meyer, DRP
M. Miller, DRP
K. Abraham, PAO (2)
M. Miller, SLO
R. Bellamy, DRSS
J. Durr, DRS
R. Gallo, DRS
R. Capra, NRR
R. Martin, NRR
J. Caldwell, EDO

RI:DRP	RI:DRP	RI:DRP	RI:DRP	RI:DRP
DVito/mjd	GMeyer	CCowgill	JWiggins	WHehl
7/26/90	7/26/90	7/27/90	7/27/90	7/27/90

RI:DRA	RI:RA
WKane	TMartin
7/ /90	7/27/90

OFFICIAL RECORD COPY MEYER 678 7/26/90 - 0003.0.0
07/26/90

ENCLOSURE 1

Restart Readiness Assessment - Nine Mile Point Unit 1

Background

Nine Mile Point Unit 1 was placed on the NRC's list of plants warranting close monitoring in June 1988. The unit had been shut down since December 1987 when a manual scram was initiated due to a severe feedwater transient. The unit initially remained shut down due to extensive problems identified by NRC in the inservice inspection program. As a result of a March 1988 inspection, Confirmatory Action Letter (CAL) 88-13 was issued to formalize Niagara Mohawk commitments to correct documentation deficiencies in their licensed operator requalification program. To address a broader spectrum of performance deficiencies which were identified prior and subsequent to the December 1987 shutdown, CAL 88-17 was issued in July 1988, superseding CAL 88-13, and documenting Niagara Mohawk's commitment not to restart the unit until corrective actions for these broader issues were completed and restart was authorized by the Regional Administrator.

Niagara Mohawk formed a special task force to prepare a comprehensive restart plan. Following an exhaustive root cause determination and subsequent Niagara Mohawk staff review and approval, Niagara Mohawk submitted their Unit 1 Restart Action Plan (RAP) to the NRC staff in December 1988. The RAP identified five underlying root causes (URCs) for past performance deficiencies and 18 specific issues representing the major technical and administrative problems. The URCs were: (1) Planning/Goal Setting; (2) Problem Solving; (3) Organizational Culture; (4) Standards of Performance/Self-Assessment; and (5) Teamwork. An NRR Special Team Inspection (STI) was conducted from January 30 through March 3, 1989 to independently determine the root causes for Niagara Mohawk's performance deficiencies. The STI identified no new root causes, but additional examples of previously identified problems were noted by the team. Following two revisions of the RAP, based upon staff comments and review of public comments from an August 23, 1989 meeting in Oswego, New York, the NRC staff gave final approval of the plan on September 29, 1989.

Niagara Mohawk completed an assessment of the effectiveness of its corrective actions and documented it in a letter dated September 8, 1989. After a special NRC team review of this Restart Readiness Report found the Niagara Mohawk readiness self-assessment process to be adequate, the NRC staff conducted an Integrated Assessment Team Inspection (IATI) in October 1989. The IATI evaluated Niagara Mohawk's progress in resolving the five underlying root causes for the performance deficiencies which were documented in the Restart Action Plan (RAP). The team found, in general, that the RAP was in place, but was being implemented with varying degrees of success in the areas associated with the five URCs. The team concluded that clear improvement was demonstrated in the areas of planning/goal setting, organizational culture and teamwork; however, additional work was needed in the areas of problem solving and standards of performance/self-assessment.

The most recent SALP assessment period for Nine Mile Point Units 1 and 2 ended in February 1990. The results of the assessment concluded that while positive efforts were being made in three of the areas assessed as Category 3 in the prior assessment period (operations, maintenance/surveillance, and safety assessment/quality verification), overall performance improvements in these functional areas were not sufficient to warrant changes from the previous ratings.

In May 1990, a Readiness Assessment Team Inspection reviewed Niagara Mohawk's overall progress in preparing Nine Mile Point Unit 1 for restart. The team concluded that adequate progress was demonstrated in resolving the underlying root cause areas of problem solving and standards of performance/self assessment, that improved performance was sustained in the other three URC areas and that there were no observed impediments to Unit 1 restart. In addition, the RATI noted continuing performance improvements in the three SALP functional areas rated Category 3 in the last assessment period.

In a letter dated July 13, 1990, Niagara Mohawk indicated that with the exception of routine prestartup surveillance testing, corrective maintenance, and administrative reviews which remain to be completed, Nine Mile Point Unit 1 is ready for restart. The following assessment utilizes the evaluation criteria provided in Section 0350-04.03 of NRC Inspection Manual Chapter 0350, Staff Guidelines for Restart Approval.

Root Cause Identification and Correction

As stated above, the NRC staff reviewed and approved the Unit 1 Restart Action Plan (RAP) on September 29, 1989. The RAP took approximately six months to develop by Niagara Mohawk and involved the participation by both employees and management, including the Chief Executive Officer and Board of Directors. A comprehensive reexamination of previously performed audits, assessments and inspections of Niagara Mohawk by the NRC, independent third parties and various internal groups was performed in conjunction with an exhaustive search for any current or potential concerns. This information was used as a basis for deriving the underlying root causes of their past performance deficiencies. Next, corrective actions were developed to address these underlying root causes and an extensive independent verification process was used to assess the effectiveness of these corrective actions. Lastly, and in accordance with CAL 88-17, Niagara Mohawk conducted a comprehensive self-assessment to assure themselves that the corrective actions completed and/or ongoing were effective in resolving the underlying root causes.

The staff concluded, based upon careful scrutiny by the NRC Restart Assessment Panel, special assessment team inspections and specialist inspections, that the RAP was comprehensive and adequately addressed both the hardware specific and broader organization/management problems which had to be sufficiently resolved prior to restart of Unit 1. Subsequent to the NRC staff approval of the RAP, numerous specialist inspections have concluded that the technical resolution of identified hardware and program deficiencies were satisfactory. Additionally, the Integrated Assessment Team Inspection (IATI) and subsequent Readiness Assessment Team Inspection (RATI) have found clear improvement in correcting the underlying root causes related to management and organizational problems. The RATI noted particular improvement in the problem solving and standards of performance/self-assessment areas over that identified during the IATI.

Although not specifically reviewed by the NRC staff, Niagara Mohawk has developed a long-range plan, the Nuclear Improvement Plan (NIP), to continue improving the Nuclear Division's performance. The corrective actions in the NIP extend beyond Unit 1 restart to address many of the management actions necessary for sustained Nuclear Division improvement.

Management Organization and Oversight

Niagara Mohawk management has demonstrated their commitment to improvement and has exhibited the necessary leadership and dedication of resources to bring it about. The selection of a new Executive Vice President in the fall of 1988, and earlier a new General Superintendent, indicated a desire to change and enhance the Nuclear Division's leadership and break tradition from promoting strictly from within the company. Since that time and with the implementation of the Restart Action Plan, there have been increased senior management presence and involvement on site. Additionally, the staffing of a site engineering organization and the system engineers of both units represent a significant commitment of resources and a clear effort to enhance the engineering staff support and communications with the station operating staff.

As stated in the recent SALP, there was an apparent turning point in Niagara Mohawk's overall performance and approach to assuring quality. This new approach appeared to have enabled improved results in the engineering and surveillance areas and the generally improving direction in most other areas.

The quality assurance department has been effective in identifying problems, and both the onsite and offsite safety review committees have demonstrated improved assessment and oversight capabilities. The establishment of the Independent Assessment Group reporting to the Executive Vice President was viewed as a good initiative to enhance self-assessment. Progress towards completion of the Unit 1 refueling outage has not been hurried or schedule-driven. Emphasis has been placed upon completing the individual tasks carefully, competently and safely.

The RATI noted good teamwork and evidence of sound engineering and technical support for ongoing station activities. Problem identification and resolution methodology and controls were found to be satisfactory, and evidence of improving self-assessment capability was noted. Effective implementation of corrective actions required by the RAP and the successful operation of Nine Mile Point Unit 2 have provided evidence of Niagara Mohawk's ability to accomplish established goals and objectives.

Recent senior management changes represent a potential challenge to the continued progress in institutionalizing the corrective actions implemented to date. However, transition periods have been established and the current Executive Vice President will maintain a position on the Board of Directors and the Board's Nuclear Oversight Committee to ensure continuity in leadership.

Plant and Corporate Staff Readiness

In March 1988, NRC identified documentation deficiencies associated with the Unit 1 requalification program. Subsequently, weaknesses were also identified in the operators' depth of knowledge and familiarity with Emergency Operating Procedures. In July 1989, an NRC Requalification Program evaluation at Unit 2 resulted in that program being found unsatisfactory. Significant improvement in performance by the licensed operator staff of both units has been demonstrated as a result of Niagara Mohawk's corrective actions. The most recent Unit 2 Requalification program evaluation in May 1990 found all examined operators (6 SROs and 9 ROs) passed all portions of the examination with continued improvement in detailed program areas. The continued improvement at Unit 2 serves as a positive measure of corporate staff readiness to operate Unit 1 because of Niagara Mohawk's use of a common training department under corporate controls common to both units.

An evaluation of the Unit 1 Requalification Program in July 1990 also found that all examined operators (9 SROs and 6 ROs) passed all portions of the examination. Further, inspections have shown clear improvement in operator performance and understanding of Emergency Operating Procedures. There has been a marked improvement in cooperation and teamwork within the operations staff and between the operations and training staffs over that which existed prior to the extended outage.

The most recent SALP report rated the Unit 1 Operations functional area as Category 3. The operator training concerns from the previous SALP period were adequately addressed. However, the day-to-day performance of licensed operators had varied from good control of hydrostatic testing and refueling activities to a number of events caused by personnel errors. More effective management, particularly of daily operations, appeared to be needed to raise overall operations department performance.

Operations and maintenance staff performance has improved since the end of the SALP period as indicated by a reduction in events caused by personnel errors. Many of the initiatives developed towards the end of the SALP period have begun to have a positive effect on daily operations. Procedures have been substantially upgraded, and there is evidence of a strong commitment to procedural adherence. Work-in-Progress Forms and Troubleshooting Plans have been effectively implemented and have improved overall control and planning of work and troubleshooting activities. The recently staffed system engineers appear to be knowledgeable and experienced. Observations have indicated that the system engineers are being effectively used to resolve system problems and to coordinate the various disciplines on site and in the corporate engineering office. Evidence of more management oversight of daily activities has been observed. The RATI found clear evidence of improved teamwork and a significant improvement in attitude toward safety.

The corporate staff appears capable of supporting safe plant operation. Recent problems with the reactor building closed loop cooling heat exchangers were properly addressed by both station and corporate engineering. Coordination and management oversight of the various departments and contractors involved in the repair and testing processes were satisfactory.

The current level of performance is adequate to support safe operation of the unit. Generally, performance has been good and is getting better. For example, the integrated system test under loss of offsite power conditions was recently completed in a commendable manner. On those infrequent occasions when performance has not been acceptable, corrective actions have generally been appropriate and Niagara Mohawk has addressed NRC concerns. In particular, on May 23 the No. 11 feedwater pump was run for a few seconds with the suction valve closed. Operator errors were addressed and inappropriate uses of the tagging system during testing were corrected plant-wide. Niagara Mohawk is responding to additional NRC concerns that weaknesses within this tagging system could hamper effective configuration control and that the root cause analysis of the feedwater event was incomplete because it did not effectively deal with the configuration control aspects of the event. The licensee's schedule and the progress to date in addressing these issues is consistent with the planned restart date. The Panel will confirm the adequacy of the licensee's short and long term corrective actions as they are implemented.

Physical State of Readiness of the Plant

Niagara Mohawk's Restart Action Plan (RAP) included both corrective actions for the underlying root causes of past performance deficiencies and corrective actions for 18 specific issues. The majority of the specific issues involved technical and hardware concerns which either contributed to the NRC staff's issuance of the CAL or were the result of closer examination of unit operations by the NRC and Niagara Mohawk after the CAL was issued. Each of the specific issues listed in the RAP has been adequately addressed by Niagara Mohawk and reviewed by the NRC staff. Although not reflected in the RAP, a number of additional emergent technical issues have been identified and appropriately resolved by Niagara Mohawk since the issuance of the final revision to the RAP.

Again, the NRC staff has closely monitored and reviewed each of these new technical issues and found their resolution satisfactory for unit restart. Examples of recent technical issues are the feedwater/HPCI system performance verification problems, motor generator set voltage regulation problems and the resolution of the design and tube damage concerns for the reactor building closed loop cooling heat exchangers.

With only a few remaining work items and post-maintenance tests to complete, the Niagara Mohawk staff has successfully completed over 20,000 individual work items to prepare for unit restart. The NRC staff has reviewed a sample of these items throughout the outage and closely monitored the major critical path activities and evolutions towards the end of the outage. In general, the quality of work and overall performance of the Niagara Mohawk organization in completing the remaining open items have been satisfactory.

Prior to startup all outage related work requests will be completed and the non-outage work requests remaining open is expected to be below 500 total for Unit 1. The RATI concluded that the current maintenance and surveillance activity controls and the licensee's staff performance standards provide adequate assurance that safety systems will be maintained and properly tested to support unit restart.

The NRC staff has reviewed and found acceptable the Niagara Mohawk plans for unit startup and power ascension testing. In addition, the staff reviewed a large sample of the power ascension and surveillance test procedures and concluded that they are technically adequate, address outstanding testing issues and are acceptable for restart. The staff concludes that the plant is physically ready for restart pending completion of a few minor identified work items.

Regulatory Requirements - NRC Activities

The NRC has significantly increased the inspection activities at Nine Mile Point since Unit 1 shutdown in December 1987. Extensive coverage has been expended by resident, region-based and headquarters inspectors especially in the areas detailed by CAL 88-17 and the Restart Action Plan. Numerous team inspections have been part of this expanded inspection coverage.

The Readiness Assessment Team Inspection in May 1990 evaluated Niagara Mohawk's progress in resolving the five underlying root causes, particularly the areas of problem identification/resolution and standards of performance/self-assessment. The team concluded significant progress had been made and that no impediments to restart existed.

Niagara Mohawk has satisfactorily resolved and received NRR staff review and approval of all outstanding licensing issues necessary for restart. Licensed operator requalification program concerns have been adequately resolved, and there are no outstanding concerns.

In preparation for the restart, the NRC has developed an augmented inspection plan. The inspection coverage will provide for the assessment of routine and special evolutions performed by Niagara Mohawk during the unit startup and power ascension test program.

Conclusion

The staff has concluded that Niagara Mohawk is ready to restart and safely operate Nine Mile Point Unit 1. Due to the extended length of the shutdown, the scope and depth of past performance deficiencies which existed, and recent senior management changes which could challenge the continued progress of implemented corrective actions, the staff recommends a two-part release from CAL 88-17. The initial release would be established by a supplement to CAL 88-17 which permits the startup of Nine Mile Point Unit 1. The CAL supplement would also confirm Niagara Mohawk's commitment to perform self-assessments at specified power ascension testing plateaus and to brief the NRC Restart Assessment Panel on the results of these self-assessments prior to proceeding to the next testing plateau and prior to routine full power operations. The final release from CAL 88-17 will be based on Niagara Mohawk's overall report on the power ascension test program and self-assessments and on an NRC/Niagara Mohawk management meeting on these topics.