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SUBJECT: Forwards responses to questions re restart action plan (RAP) & nuclear improvement plan along w/RAP replacement pages.

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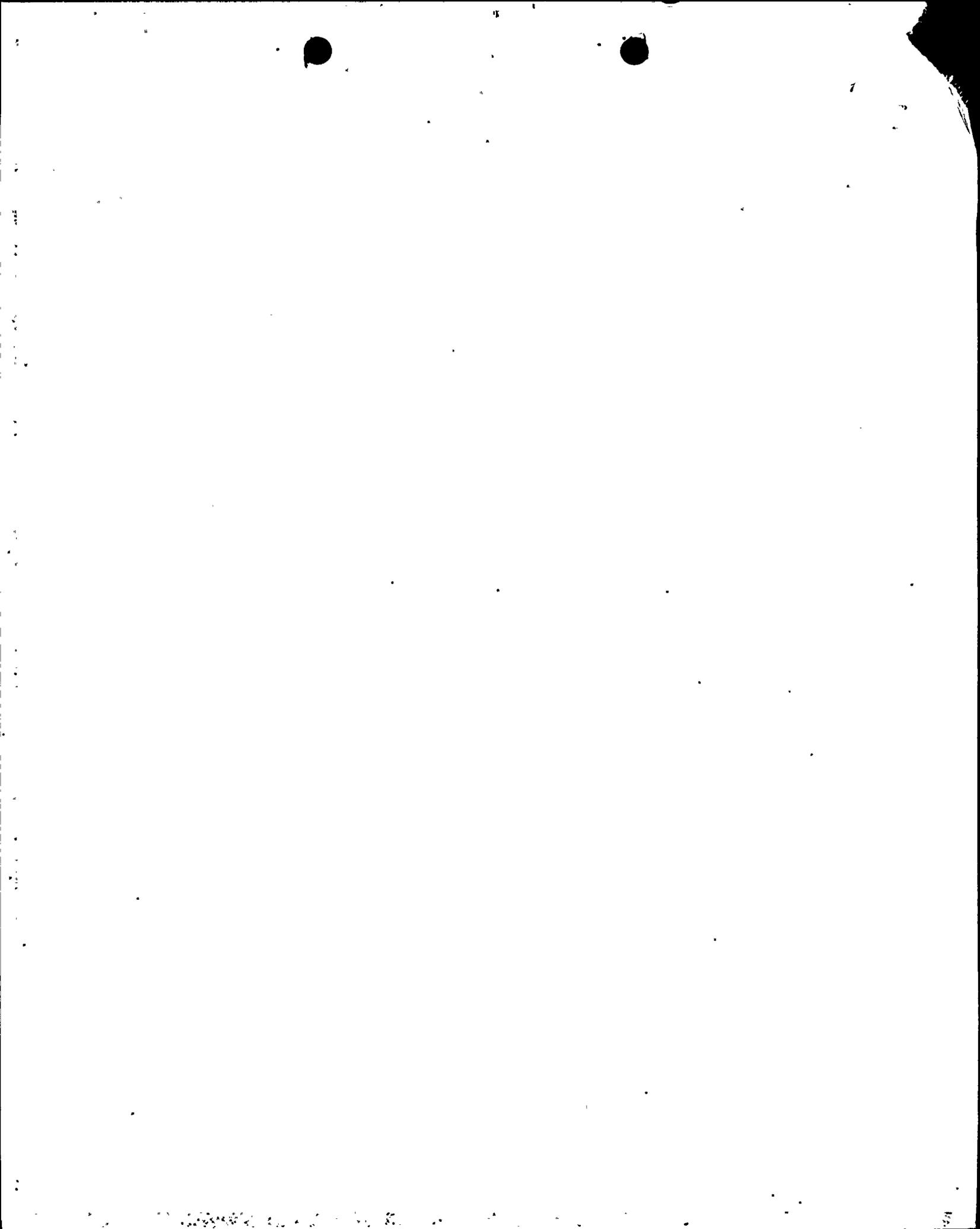
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NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

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WILLIAM J. DONLON
CHAIRMAN AND
CHIEF EXECUTIVE OFFICER

March 2, 1989
NMPIL 0368

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Re: Nine Mile Point Unit 1
Docket No. 50-220 DPR-63

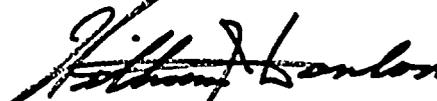
Gentlemen:

Enclosed are Niagara Mohawk Power Corporation's responses to Nuclear Regulatory Commission questions relating to Niagara Mohawk's Restart Action Plan (RAP) and Nuclear Improvement Program (NIP). These questions were contained in Attachments 1 and 2 of Inspection Report 50-220/89-10 which was transmitted by Mr. William F. Kane's letter dated February 3, 1989. A number of these questions were discussed and further clarification of the Restart Action Plan and Nuclear Improvement Program was provided during the meeting held on January 26, 1989.

Also enclosed are replacement pages for the Restart Action Plan which involve: 1) changes and clarifications in response to USNRC questions and concerns transmitted by Mr. Kane's February 3, 1989 letter, 2) changes and clarifications based on discussions with the USNRC Restart Panel members during their review of the Restart Action Plan the week of January 23, 1989, and 3) other changes and clarifications made by Niagara Mohawk to update the Restart Action Plan. These replacement pages bear the notation REV 1 at the top right corner of each page and a vertical line in the left margin to assist the NRC in identifying the changes. The Restart Action Plan updates (page changes) will be provided to the NRC as a controlled document until restart authorization is granted by the NRC. The Plan will not be updated with any new specific issue unless it addresses a new underlying root cause. An updating process similar to that described for the Restart Action Plan will be followed for the Nuclear Improvement Program which will continue to be available for your review at the Site.

We are gratified by the NRC's prompt review of the Restart Action Plan, the Restart Panel's general agreement with Niagara Mohawk's Underlying Root Causes and its recognition of the leadership changes implemented as a result of our ongoing assessment of management effectiveness of the Nuclear Division. As we discussed with you, we recognize and are undertaking the remaining tasks that require completion before Unit 1 is ready for restart. In the meantime, should you require any additional clarification of our answers to your questions, please do not hesitate to contact us.

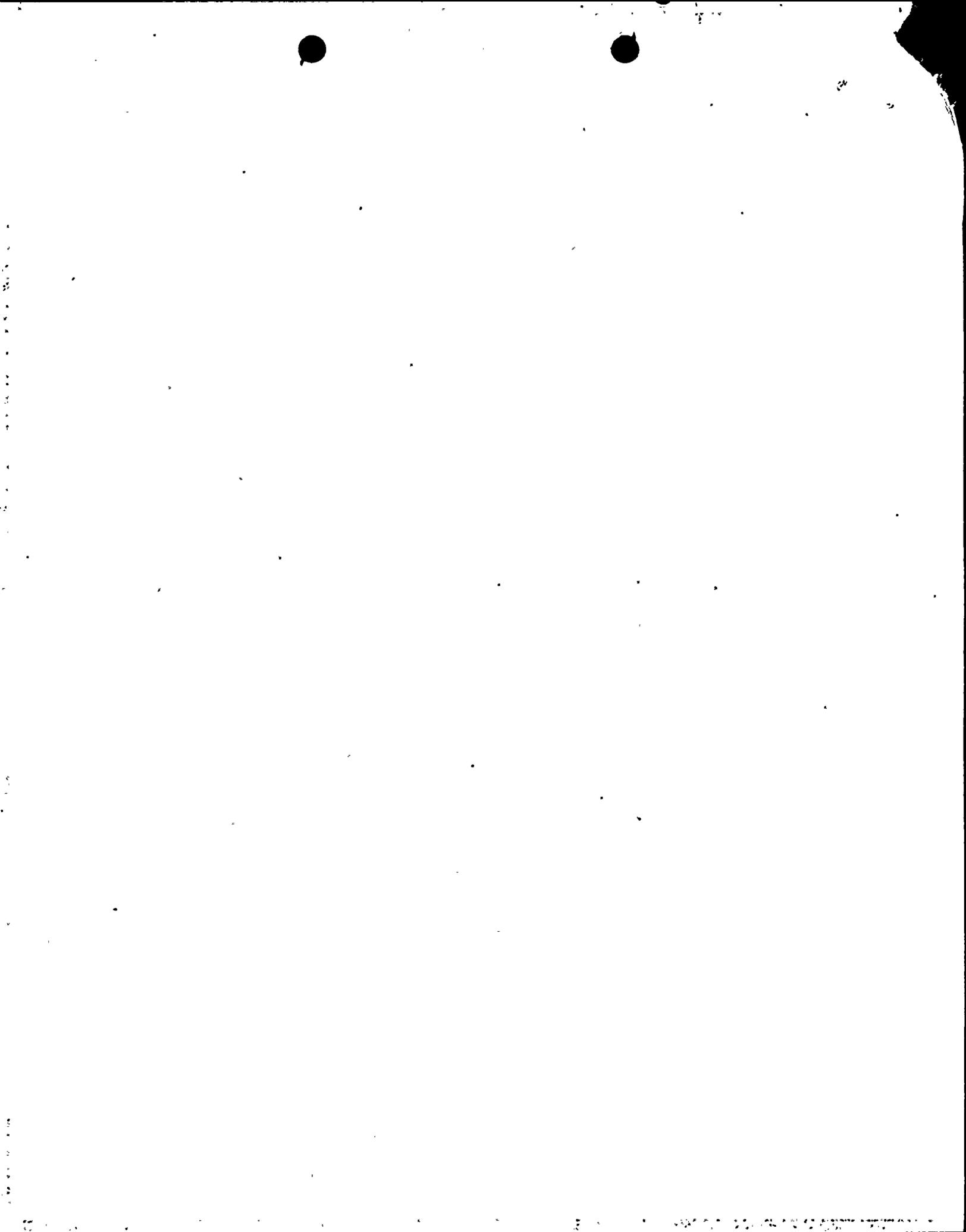
Very truly yours,



William J. Donlon
Chairman and Chief Executive Officer

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xc: Regional Administrator, Region I
Mr. W. Kane, Director, Division of Reactor Projects (DRP), Region I
Mr. W. Johnston, Deputy Director, DRS
Mr. R. Bores, Technical Assistant, Division of Radiation Safety and
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Mr. R. Capra, Director, Project Director I-1, NRR
Mr. E. Wenzinger, Chief, Branch 2, DRP
Mr. J. Johnson, Chief, Projects Section 2C, DRP
Ms. M. M. Slosson, Project Manager, NRR
Mr. W. A. Cook, Senior Resident Inspector, Nine Mile Point Units 1 and 2
Records Management

NRC Concerns and Questions on the Nine Mile
Point Unit 1 Restart Action Plan
and
Niagara Mohawk's Responses

GENERAL

1. The Panel had difficulty in understanding the logic used to determine the underlying root causes outlined in Table 1, Page B-3 of the RAP. In particular, the correlation between all of the Savannah River (SR) Causal Trees used and the final underlying root causes of Management and Organizational Effectiveness outlined in Figure 1, Page B-4 of the RAP is confusing. It is not clear how the transition was made from use of the Savannah River Causal Trees to the NMPC Management and Organizational Effectiveness Cause Tree. For example, why the quality assurance section was deleted, and what was done with the 25% of the root causes not attributed to management and supervision (Pg. B-1) are not clear. Please explain.

RESPONSE:

The initial assessment of various deficiencies, including the Specific Issues, for their common causes of concerns/problems involved using the Savannah River Reactor Incident Root Cause Coding Tree containing seven branches, D1-D7 (See Figure 1-1). The Restart Action Plan has been clarified to show this specific information. Approximately 75% of the causes were attributed to the Management Systems D5 branch and the Immediate Supervision D6 branch. The remaining 25% of the causes were attributed to Procedures, Communication, Human Factors, and Training (D1-D4). The QC branch D7 was not determined to be the cause for any of the identified deficiencies.

Based on the distribution of causes identified, the Restart Task Force determined the need to modify the Savannah River Reactor Incident Root Cause Coding Tree to expand upon the Management Systems branch. This was necessary to reflect more specific causes involving management and organizational effectiveness of the normal day-to-day running of the business. This resulted in the expansion of the Coding Tree to include a branch entitled Management and Organizational Effectiveness. This branch includes the broader programmatic elements of the other branches of the Savannah River Reactor Incident Root Cause Coding Tree related not only to D5 & D6, but to the remaining 25% of the causes related to D1, D2, D3, and D4. At the same time, the QC branch (D7) was deleted because it was considered to be a part of the overall Management and Organizational Effectiveness Coding Tree. For example, E15 on Assessments and Audits and E16 on Problem Identification and Resolution are two key functions that directly involve QA/QC.

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In summary, the root causes of the underlying issues were selected from the Niagara Mohawk Root Cause Coding Tree which was developed using an iterative process during the initial assessment of the issues impacting performance. All causes identified for the underlying issues fall under the Management and Organizational Effectiveness branch and the resulting corrective actions address those root causes. These causes and corrective actions were then grouped into the five Underlying Root Cause categories.

The Restart Action Plan Appendix B has been revised to reflect this clarification.

2. The licensee indicated that the Savannah River root cause tree system was used to analyze the Specific Issues; however, in the Specific Issue Analysis section of the Plan, there is no reference to the Savannah River root cause coding. Please clarify.

RESPONSE:

The root cause development process for the Specific Issues is discussed on Page I-4 of the Restart Action Plan. The root causes were developed by knowledgeable line managers using a variety of methodologies including Niagara Mohawk's Root Cause Evaluation Programs, Kepner-Tregoe (K-T) Problem Analysis, Savannah River Reactor Incident Root Cause Coding Tree, and INPO Human Performance Evaluation System (HPES) depending on the type of issue under consideration. A consensus on root causes was then reached through discussions with the Integrated Team. The Team's conclusions were then reviewed by Senior Management.

During the Restart Task Force review of the root causes for each Specific Issue, the Niagara Mohawk Root Cause Coding Tree was used as a guide to assure systematic coverage of the issue. As the root causes were identified, they were characterized in terms relating to the Specific Issue to achieve clarity and focus to support the development of effective corrective actions.

The Restart Action Plan Part I, Section 3, Specific Issues has been revised to indicate the methods used to analyze issues.

3. The NRC did not understand how the licensee addressed three specific areas: 1) adequacy of management and leadership skills, 2) adequacy of independent assessments and quality assurance, and 3) adequacy of training personnel in the identification and resolution process. Please explain how these fundamental topics are related to the NMPC identified "underlying root causes". Update the plan to reflect the response.

RESPONSE:

The three areas listed are related to the Underlying Root Causes, as follows:

1. Adequacy of management and leadership skills relates to all five of the Underlying Root Causes. The corrective actions associated with the Underlying Root Causes will provide in-line training which will

improve management and leadership skills. Specifically, Niagara Mohawk will be addressing the following skills through in-line training: planning, goal setting, establishing standards of performance, performing self-assessments, identifying and resolving problems in a timely manner, communicating, coordinating, delegating, and fostering cooperation. An example of this is Corrective Action 1.1.1, the development of the Nuclear Division vision and goals, in which managers will improve their skills in establishing goals. Other examples include Corrective Actions 1.1.2, 1.1.3, 1.3.1, 2.1.10, 3.1.1, 3.1.2, 3.1.3, 4.1.1, 4.2.1, 5.1.1, 5.1.2, and 5.1.3.

2. Adequacy of independent assessments and quality assurance are related to Underlying Root Cause 4 which states, in part, that "self-assessments have not been consistent or effective." The term "self-assessments" includes those independent assessments performed by Niagara Mohawk's Quality Assurance Department. Restart Corrective Action 4.2.1 specifically addresses the comprehensive self-assessment program to be carried out to determine overall readiness for restart. Also related is Underlying Root Cause 2, in that the process that Niagara Mohawk is implementing for problem solving includes assessing the results in accordance with Corrective Action Objective 2.1.

It is also important to recognize that improvements in Quality Assurance are an integral part of the management effectiveness corrective actions. The Quality Assurance Department actively participated in the development of the Restart Action Plan including defining underlying root causes. Many of the corrective actions apply to Quality Assurance personnel as well as personnel in other departments (e.g., Corrective Actions 2.1.1, 2.1.4, 2.1.8, 2.1.9, 3.1.3, 4.2.1, 5.1.1, 5.1.2). Also, our review of prior issues has identified many elements of the underlying root causes in the past, and management has not been effective in addressing these issues in a timely way. Corrective actions for Underlying Root Cause 2 are intended to address this problem. In summary, corrective actions identified in the Restart Action Plan and the Nuclear Improvement Program are designed to improve the effectiveness of Quality Assurance and other independent reviewers in identifying problems as well as enhancing overall management effectiveness in resolving identified concerns in a timely way.

3. Adequacy of training personnel in the identification and resolution process is related to Underlying Root Cause 2 which states, in part, that: "there was not an integrated or consistent process used to identify, analyze, correct, and assess problems in a timely way." As the corrective actions are implemented in response to this corrective action objective and the processes used for recognizing and resolving problems are improved, training will occur. As procedures are issued or revised, formal training occurs as part of the normal Niagara Mohawk procedure development and implementation process and, therefore, training is not addressed as a specific corrective action of the Restart Action Plan.

In addition to the restart corrective actions and long-term strategies associated with Underlying Root Cause 2, corrective actions associated with the Specific Issues provide training in the identification and resolution process. An example of this is Specific Issue 4, Inservice Inspection, Corrective Action 4.A.4. Even though this corrective action addresses Specific Issue 4, it has broader implications in that it requires the retraining of personnel to revised procedures related to occurrence reporting that is not limited merely to inservice inspections.

The Restart Action Plan has been updated in Part I, Section 2, Underlying Root Causes to reflect how these three areas were addressed.

4. It is not clear how the underlying root causes are applied to the independent oversight functions in addition to the line management. In light of the shortcomings that existed in the apparent role that the Quality Assurance (QA) Department had in assuring that previous issues were identified and resolved, the licensee needs to explain more fully the organizational and reporting relationship to the Executive Vice President for nuclear matters. What specific causes and corrective actions have been identified to assure that QA can be an effective management tool for the Executive Vice President?

RESPONSE:

The Nine Mile Point Unit 1 Restart Action Plan issues, causes, and corrective actions apply to the Quality Assurance Department and other support departments as well as nuclear departments. For example, improved identification of problems and more aggressive corrective action monitoring are just two of the items being actively addressed by the Quality Assurance Department as it strengthens its effectiveness.

Regarding the Quality Assurance Department organizational and reporting relationship to the Executive Vice President - Nuclear Operations for nuclear matters, Niagara Mohawk has modified the organization to strengthen this relationship by having the Vice President - Quality Assurance report administratively and functionally to the Executive Vice President - Nuclear Operations for all nuclear matters. The Vice President - Quality Assurance retains direct access to the President and the Chairman and Chief Executive Officer on any nuclear quality assurance matters.

Several actions assure that Quality Assurance can be an effective management tool for the Executive Vice President - Nuclear Operations. These include performing assigned verification actions plus applicable corrective actions contained in Restart Action Plan Tables U1 thru U5, active participation in Nuclear Division staff and other meetings at all levels, and reporting on quality assurance related matters including significant findings, recommendations, trends, and overdue actions to various Nuclear Division managers including the Executive Vice President - Nuclear Operations.

5. The Restart Action Plan (RAP) does not adequately address the last sentence of item 2 in CAL 88-17. "For actions proposed for completion after restart, you will provide justification for why completion after restart will not have an adverse impact on safe plant operation." The criteria or process the licensee used to determine which items could affect safe operations (and therefore should be completed prior to restart) was not sufficient for the NRC to understand and therefore judge acceptability. Please provide an explanation of the criteria or methods used to determine potential impact on safe plant operation.
6. The Plan does not address a schedule for completion of items after startup as committed to in item 2 of the CAL. Adequate justification was not documented for deferral to post restart or long term strategies. Please provide the deferral justification in a revision to the RAP and provide a schedule for implementation of those long term strategies that address the underlying root causes of management ineffectiveness.

RESPONSE TO QUESTIONS 5 AND 6:

Each corrective action was evaluated to determine its significance to safe plant operation or its necessity to demonstrate sufficient progress on resolution of the issues that will not be fully resolved before restart. The prioritization of corrective actions can be characterized as follows:

Priority 1 - Those corrective actions considered necessary to support safe operation of the plant, to demonstrate sufficient progress in weak performance areas, or to correct significant deficiencies.

Priority 2 - Corrective actions which identify additional improvements to areas which are functionally satisfactory now or which when completed achieve the desired cultural environment.

Priority 3 - Corrective actions involving longer-term enhancements to programs/processes which are considered currently satisfactory.

NOTE: In the Nuclear Improvement Program "priority" has been changed to "category." Although "priority" has not been changed in the Restart Action Plan to avoid confusion, it should be noted that "priority" is used to categorize the completion of actions in addition to identifying their relative importance to restart. Priority 1 actions must be completed before restart. Priority 2 and 3 actions will be completed after restart even though some may be started prior to restart.

Corrective actions requiring completion before restart were classified as Priority 1. Completion of Priority 2 and 3 corrective actions will establish levels of performance beyond that necessary to support safe operation and is, therefore, not required before restart.

Where significant deficiencies were identified, Priority 1 corrective actions were developed to address them. The methods used to determine potential impact on plant operation typically included consideration of the following:

- A. Whether the action is needed to resolve known hardware or programmatic deficiencies to ensure equipment/system operability.
- B. An assessment of several "what if" scenarios, e.g., what if we started up and missed a Technical Specification required surveillance. (This resulted in Corrective Action 1.2.3 being classified a Priority 1.)
- C. The relative impact on employee effectiveness and attitudes.
- D. Whether the corrective action contributes significantly to our ability to identify, avoid, or resolve problems.
- E. Whether other corrective actions, if implemented, accomplish similar results.
- F. Whether the corrective action contributes to identifying and/or describing the desired cultural environment.

The process used to assess the impact of corrective actions on safe plant operation consisted of a review of corrective actions by several levels of the organization representing a cross-section of the Nuclear Division and its support organizations. Typically, reviews were done by the assigned Task Manager (for Specific Issues), the Restart Task Force, the Integrated Team, and Senior Management.

As an initial step in the priority process, the Integrated Team reviewed each corrective action listed for each underlying issue and assigned each corrective action a priority.

The Integrated Team reviewed each corrective action and its associated priority again after it was redistributed under its respective Corrective Action Objective. This resulted in some changes in priorities as each corrective action was considered in the context of the group of corrective actions to be carried out to satisfy its Corrective Action Objective.

Senior Management reviewed the recommended priority for each corrective action, considering the corrective action both individually and in the context of a group of corrective actions under each Corrective Action Objective, to determine if the corrective actions collectively would be sufficient to satisfy the Corrective Action Objective. Senior Management also assessed if the intended completion of each corrective action either before or after restart was considered reasonable based on the methods used to prioritize them.

During these reviews, each participant was given the opportunity to express his/her position. The merits of these positions were scrutinized, debated, and agreed upon. During this process some corrective actions had their priority changed. Several were changed from a 2 to a 1, some Priority 2 and 3 corrective actions were subdivided, and the resulting elements were designated as Priority 1 corrective actions. Other corrective actions were lowered in priority based on information presented and discussed in group meetings.

The reviews were iterative and participative in that each reviewing body communicated extensively with the others, i.e., feedback was established and maintained. The collective judgment of the participants provided the basis for deciding on the priority of each corrective action. Additionally, employee feedback was reviewed to ensure general consensus with the direction and the priorities of the improvement program. This resulted in some additional changes in some corrective actions and some of the priorities assigned to certain corrective actions.

Priority 1 items are scheduled for completion prior to restart. Priority 2 items are projected to be completed within approximately one year following restart. Priority 3 items are intended to be completed within a five year time frame after startup. Since the Nuclear Improvement Program is considered a "living" process, periodic review, evaluation and adjustment may affect the longer-term completion dates currently envisioned.

The process used for prioritizing corrective actions was complete and comprehensive and provides confidence that the priority assignments are appropriate. Using the process, Niagara Mohawk has identified Priority 1 corrective actions that, when considered in conjunction with other day-to-day and programmatic activities, will establish the conditions necessary and sufficient to safely operate the plant.

The Executive Summary of the Restart Action Plan has been revised to clarify the criteria used to classify items as Priority 1, 2, or 3. A new Appendix C has been included in the Restart Action Plan to address the process for prioritizing corrective actions.

(NOTE: This response applies to Question 1 on the Nuclear Improvement Program.)

7. In multiple examples identified by the Restart Panel, the designated verification action(s) were not considered adequate to provide for a comprehensive assessment of the satisfactory completion of the corresponding corrective action. It appeared to the Panel that this integral step of the restart process warrants further development by the licensee. Please revise the RAP to reflect an improved explanation of the verification activities listed on Page II-1 of the RAP.

RESPONSE:

The Restart Action Plan has been revised to more clearly reflect the intended two-step process that will be employed to assure that corrective actions are completed and verified. Following completion of the corrective action, a review by the responsible manager is conducted. Following this review, the responsible manager signs off on the Issues and Corrective Action Closure Form, signifying his/her certification of the satisfactory completion of the corrective action.

The second step in the assessment process is the performance of the verification actions, as described in the Restart Action Plan. The individual completing the verification action(s) signs off the Verification Action Closure Form, signifying completion of the verification action(s). We have clarified the verification actions listed on Page II-1 of the Restart Action Plan to provide an improved explanation of the verification activities that will be performed. In addition, we have reviewed Tables U1 through U5, and have specified additional verification actions for certain corrective actions.

The composite list of verification actions also provides the basis from which the comprehensive self-assessment program (see Corrective Action 4.2.1) is developed. That is, while the self-assessment program developed in Corrective Action 4.2.1 contains the entire set of actions listed on Page II-1 of the Restart Action Plan, the verification of Corrective Action 4.2.1 requires only the performance of Verification Actions 2 and 6.

The Executive Summary, Part I Section 4, Page II-1 and Tables U1 through U5 of the Restart Action Plan have been revised.

8. What document(s) assign accountability and responsibility for corrective actions and verification actions? Add to the Plan those persons (by title) who are responsible for the corrective and verification actions. Explain how the corrective actions will be verified by both the line and independent organizations.

RESPONSE:

Temporary Administrative Control Procedures N1-88-6.0, N1-88-7.0 (currently draft), and N1-88-8.0 (currently draft) identify the responsible individuals or organizations for each corrective action and verification action. In addition, each issue has an associated schedule which details the corrective actions and verification actions, identifies responsibilities for corrective actions and verification actions, and establishes schedules.

Since these procedures are referred to in the Restart Action Plan under Specific Issue 1, a list of those persons (by title) who are responsible for the corrective and verification actions has not been included in this response and the Plan. The procedures are available

for NRC staff review on site. We have revised the Restart Action Plan, however, to identify more clearly how accountability and responsibility is assigned for corrective and verification actions.

The verification actions are explained in response to Question 27.

The Restart Action Plan Part I, Section 4 has been revised.

9. The Restart Action Plan needs to be updated to address (NRC) questions and concerns. Updates (page changes) should be provided until plant restart is authorized. NMPC need not update the Plan with any new specific issue unless it addresses a new underlying root cause.

RESPONSE:

The Restart Action Plan has been updated to address NRC questions and concerns. Updates (page changes) will be provided to the NRC as a controlled document until restart authorization is granted by the NRC. The Plan will not be updated with any new specific issue unless it addresses a new underlying root cause. Updates (page changes) will be controlled by appropriate identification of revisions, review, and approvals. The revised pages will be identified at the top, right-hand corner by revision number, and a vertical line in the left margin will indicate the location of the change.

The Introduction of the Restart Action Plan has been revised.

EXECUTIVE SUMMARY

10. In the discussion of review of past initiatives "Shortcomings" in previous action plans and the self-assessment process are recognized by Niagara Mohawk. Explain why these shortcomings took place and why they will not appear in implementing this Plan.

RESPONSE:

These shortcomings in past initiatives resulted from deficiencies in management and organizational effectiveness as evidenced by the absence of buy-in by line management; resources applied to Nine Mile Point Unit 2, at that time, at the expense of Nine Mile Point Unit 1 activities; too narrow a focus in identifying root causes and corrective actions; and too short an evaluation time. The shortcomings will not appear in implementing this Plan because current improvements to management and organizational effectiveness involve a more comprehensive review of issues; a retrospective look; focus on management issues; a formal root cause analysis; expanded involvement by senior management; and buy-in by responsible organizations to assure timely and effective implementation.

The Executive Summary of the Restart Action Plan has been revised.

11. The summary of 5 underlying root causes is silent regarding what appears to have been significant weaknesses in: 1) management and leadership skills; 2) effectiveness of independent assessment; and 3) why the plan doesn't address what appears to have been a significant knowledge, training, or sensitivity weakness with regards to timely resolution of identified deficiencies? This question pertains to groups such as Engineering, Quality Assurance, and Unit 2 personnel.

RESPONSE:

The three areas listed are related to one or more of the Underlying Root Causes, as follows:

1. Adequacy of management and leadership skills is related to all five of the Underlying Root Causes. The corrective actions associated with each Underlying Root Cause will provide in-line training which will improve management and leadership skills. Specifically, Niagara Mohawk will be addressing the following skills through the in-line training associated with implementing the corrective actions: planning, goal setting, establishing standards of performance, performing self-assessments, identifying and resolving problems in a timely manner, communicating, coordinating, and fostering cooperation. An example of this is Corrective Action 1.1.1, the development of the Nuclear Division vision and goals, in which managers will improve their skills in establishing goals.
2. Effectiveness of independent assessments is related to Underlying Root Cause 4 which states, in part, that "self-assessments have not been consistent or effective." The term "self-assessments" includes those independent assessments performed by Niagara Mohawk's Quality Assurance Department. Also related is Underlying Root Cause 2, in that the process that Niagara Mohawk is implementing for problem solving includes assessing the results of the actions taken against the results expected.
3. Relative to item 3, the Plan addresses the underlying root causes of this issue. Specifically, Underlying Root Cause 5, lack of effective teamwork, contributed to the time required to resolve deficiencies; Underlying Root Cause 3, an organizational culture that diverts attention away from the needs and effective use of employees, contributed to establishing a climate in which the concerns of the employees were not listened to; and Underlying Root Cause 2, not having an integrated and consistent process for resolving deficiencies, contributed to the time required to resolve deficiencies.

The corrective actions associated with these Underlying Root Causes apply to the Nuclear Division and its supporting organizations.

12. Root Cause No. 5 involves lack of coordination and communication in carrying out responsibilities. Why did this take place? Is it continuing?

RESPONSE:

Lack of coordination and communication took place because of lack of effective teamwork as part of the overall management and organizational effectiveness category of causes.

The Restart Action Plan and the Nuclear Improvement Program provide for assimilating proper management of cooperation and communication into the organization's standard management practices. This will be one of the consequences of completing, verifying, assessing the results, and monitoring the implementation of the corrective actions for the five Underlying Root Causes, particularly those associated with Underlying Root Cause 5, lack of effective teamwork.

Improvement of cooperation and communication is an on-going process that will continue as the Restart Action Plan and Nuclear Improvement Program corrective actions are implemented.

13. The last paragraph on page 3 and conclusion on Page 1-7 indicates that all of the issues fall into the Management and Organizational Effectiveness category and have, therefore, had a corresponding detrimental effect on morale and attitude. In light of this what action is being taken to correct and verify correction of the "..... detrimental effect on morale and attitude", and why should not it be complete before restart?

RESPONSE:

Morale and attitude are indicators of the quality of leadership, mutual respect, working relationships, and achievement in an organization. As we address the five Underlying Root Causes (which are essentially leadership and management effectiveness issues), morale and attitude will improve at all levels of the work force.

The following Restart Action Plan corrective actions with their associated verification actions illustrate the types of actions being taken prior to restart to correct causes which affected morale and attitude:

- 2.1.1 - Problems identified, evaluated, and corrected
- 2.1.8 - Personnel interviewed to determine problems involving process
- 3.1.3 - Restart Action Plan communicated to employees with feedback on their concerns
- 5.1.1 - Management meetings convened to promote teamwork
- 5.1.2 - Town Hall meetings convened to share information and gather feedback
- 5.1.3 - Nuclear Division vision and goals for 1989 communicated to employees.

The above-mentioned corrective actions will be completed before restart. It is recognized that actions related to morale and attitude involve cultural change. (See response to Question 14 regarding cultural change related matters.)

In addition, Corrective Action 3.2.1 has been added to the Restart Action Plan stating: "Provide organizational development professionals to work with the Executive Vice President - Nuclear Operations and his direct reports to facilitate in-line training within their respective organizations."

The organizational development professionals provide individual coaching to management, facilitate management staff meetings at which good management practices are discussed, offer informal training sessions on specific skills, and reinforce demonstrated good management practices. Other methods used by these professionals to improve morale and attitude include holding meetings between work groups to identify ways to improve working relationships and program management, and promoting management modeling by observing and learning from recognized excellent managers.

The process that has been initiated is intended to be an iterative process, constantly pushing for improvement to bring about the intended cultural change. It can be expected that the process will continuously identify interface relationships which will require corrective and preventive attention as the Nuclear Division evolves and deals with inevitable external and internal changes.

The Restart Action Plan has been revised.

14. The plan discusses on page 4 the need for a "cultural change", but implies this effort will be addressed only in the Nuclear Improvement Program. What efforts to initiate a "cultural change" will be pursued/completed before restart? What is the justification for those efforts that will not be completed until after restart?

RESPONSE:

The effort to change the culture of the Nuclear Division has already begun. Specifically, the identification of the five Underlying Root Causes and the development of corrective actions and their respective Corrective Action Objectives and the implementation of Priority 1 corrective actions ensure that the present Nuclear Division culture is already in the process of being changed.

This cultural change effort is augmented by the following restart corrective actions that have been established.

- ° Identification and communication of problems have been actively encouraged by all levels of management.
- ° An integrated restart plan and schedule have been developed, exemplifying teamwork, cooperation, and participation by all affected parties.
- ° An intensive effort is being made to provide management responses to concerns raised by employees.

Niagara Mohawk has initiated additional efforts to help employees understand each of interrelated changes in the Nuclear Division's organizational context:

- ° An integrated set of Vision, Mission, Objectives, and Goals for the Nuclear Division that will provide a clear statement of direction to which all Nuclear Division employees are expected to contribute and support. This is an outcome of Corrective Actions 1.1.1, 1.1.2, and 5.1.3.

- ° Standards of Performance, validated by consensus, that will guide the way in which Nuclear Division employees at all levels decide to perform their respective responsibilities. This is an outcome of Corrective Action 4.1.1.
- ° An explicit statement of the Executive Vice President - Nuclear Operation's philosophy and policies on management in which he clearly describes his expectations of all Nuclear Division supervisory and managerial personnel. This is a derivative outcome of the completion of Corrective Action 5.1.2.

Niagara Mohawk maintains that, by completing the corrective actions committed to be done before restart, it considers these actions collectively represent appropriate cultural improvements, sufficient to support safe plant operation.

Thus, the culture change effort has already started. The rate of change is, by definition, limited by the extent to which elements of the Nuclear Division culture are deeply embedded in the fabric of the organization. Nevertheless, the process (described above) of making appropriate changes in these cultural elements is proceeding. But it is unlikely to ever be completed--before or after restart--since the Nuclear Division culture, like all corporate cultures, must continuously evolve to match the inevitable changes in the company's internal and external environments.

The Restart Review Panel is chartered to review and evaluate the effectiveness of the actions referenced above to ensure the continued movement in the desired direction prior to restart, and that sufficient cultural change has taken place to support restart and safe operation.

The Executive Summary and Part I Section 2 have been revised in the Restart Action Plan.

15. The Outage Manager receives plans and schedules for "each issue" from the responsible manager. What are the Outage Manager's duties and responsibilities? How does he ensure he tracks all issues needing to be tracked?

RESPONSE:

Temporary Administrative Control Procedures N1-88-6.0 and N1-88-7.0 (currently draft), together with memo J. L. Willis to Distribution, dated 11/15/88, Subject.- Organization Changes and Responsibility Reassignments define the Outage Manager's duties and responsibilities. A Restart Action Plan Corrective Action Database Management System has been developed and implemented to track restart corrective actions through the closure and verification process. Procedures N1-88-6.0 and N1-88-7.0 control the tracking, closure, and verification process.

OVERVIEW OF PLAN DEVELOPMENT AND IMPLEMENTATION

16. In several places the Plan alludes to a "previous lack of buy-in by plant staff" as a significant past problem. Explain what "lack of buy-in" means and why it existed. How does this Plan ensure "buy-in" has been achieved throughout the nuclear organization, including Unit 2?

RESPONSE:

"Lack of buy-in" means lack of ownership due to not involving people who are impacted by a decision in the decision making process such that they are aware of and support the resulting set of actions. It specifically refers to a lack of buy-in of the corrective actions associated with the I&C technician allegations. The lack of buy-in existed previously because of the approach used to define and resolve the issue. In particular, a task force was established outside of the line organization. This task force performed an analysis and made recommendations to Senior Management. The corrective actions were committed to without directly involving all of the people responsible for carrying out the actions.

This Plan ensures buy-in by having the manager who will be responsible for implementing the actions also responsible for doing the root cause analysis and action planning with input and agreement by affected parties. Buy-in is also enhanced by implementing Corrective Actions 5.1.1 through 5.1.5:

- 5.1.1 - Convening meetings with senior management, managers, and supervisors
- 5.1.2 - Town Hall Meetings
- 5.1.3 - Communicating vision and goals
- 5.1.4 - Establishing a Restart Task Force
- 5.1.5 - Establishing an Integrated Team

The corrective actions associated with the Underlying Root Causes apply to both Unit 1 and Unit 2 through the Nuclear Improvement Program, and thus the buy-in process described above applies to personnel from both Units, as appropriate.

17. With respect to the 3rd bullet on Page 1-1, what involvement in identification of issues, development of root causes and corrective actions is intended for the QA organization?

RESPONSE:

The Quality Assurance Department has been represented on the Restart Task Force since its inception. This provided an opportunity for the remainder of the Quality Assurance organization to input into the content of the Restart Action Plan. The Quality Assurance Department is also part of the line organization with which the Restart Task Force coordinated in the development and implementation of the elements of the Plan. As discussed in the responses to Questions 3 and 4, the Quality Assurance Department is an integral part of the corrective actions related to the Underlying Root Causes contained in the Restart Action Plan.

The Restart Action Plan has been revised.

18. The list of historical documents used as sources of problems on page 1-2 and 1-3 is limited. Please explain why NMPC feels this is a sufficient body of information to evaluate. As an example why weren't the following used? NMP2 LERs and the Self-Assessment Report.

RESPONSE:

In developing the body of information to be evaluated, Niagara Mohawk considered information from internal assessments and external assessments during the periods which it felt would provide extensive data to identify the underlying root causes. This data was sufficient in that it allowed Niagara Mohawk to determine the presence of patterns which additional data only proved to corroborate. These patterns indicated the underlying root causes that need to be addressed in order to bring about the fundamental improvements required to minimize recurrence of problems and concerns.

Three sources of information were assessed for issues and trends. In developing one of those sources, the Restart Task Force Matrix, various documents were reviewed. In particular, the Nine Mile Point Unit 2 Self-Assessment Report was reviewed. Relative to the Nine Mile Point Unit 2 Licensee Event Reports, it was decided that the information from them would have been included in the most recent Systematic Assessment of Licensee Performance information and, therefore, did not require an additional review.

Part I Section 2 of the Restart Action Plan has been revised.

19. Page 1-2 mentions an ".... ongoing process for identifying and reviewing new issues to determine if they involve regulatory concerns". How does NMPC track these issues to resolution?

RESPONSE:

Per Restart Action Plan Specific Issue 1, Outage Management Oversight, once an issue is determined to involve a regulatory concern, it is added to the computerized tracking list of the Restart Action Plan Corrective Action Database Management System under Temporary Administrative Control Procedures N1-88-6.0, N1-88-7.0 (currently draft), and N1-88-8.0 (currently draft). The Outage Manager is responsible for tracking these items.

Temporary Administrative Control Procedures N1-88-6.0, N1-88-7.0, and N1-88-8.0 require each Task Manager to submit an Issues and Corrective Action Closure Form documenting completion of all corrective actions. These procedures also require that individuals completing verification actions submit a Verification Action Closure Form documenting completion of verification actions. These closure forms are reviewed by the Outage Manager and are subject to Site Operations Review Committee approval before an issue is considered resolved.

20. Page 1-5

To what degree and in what manner have the Nuclear Oversight Committee of the Board participated in the development of the Restart Plan? What expertise will this Committee bring to its review and monitoring of the restart process?

Also, provide the qualifications and review functions of the Safety Review and Audit Board, and the Restart Review Panel.

RESPONSE:

The Restart Action Plan was regularly discussed with the Nuclear Oversight Committee of the Board prior to its submission to the NRC. The members of this Committee are all Directors of the Company and have been elected to these positions because of their knowledge, skills and experience. This Committee has considerable management experience which it will bring into the restart assessment process as described in Part I Section 4 of the Restart Action Plan. The qualifications for Safety Review and Audit Board members are included in the plant's Technical Specifications. The criteria for the selection of individuals for the Restart Review Panel and the review functions of the Safety Review and Audit Board and Restart Review Panel will be described in the Restart Readiness Assessment Plan.

21. Page 1-5:

Only a very preliminary outline of the Self-Assessment process (i.e., Readiness for Restart), and Restart Review Panel are presented in the Restart Action Plan. When and how does NMPC plan on providing more details on this critical portion of the restart plan?

RESPONSE:

A Restart Readiness Assessment Plan has been drafted. The Restart Review Panel, which is expected to be selected and hold its initial meeting in March, will review this plan before it is approved by the Executive Vice President. It is then Niagara Mohawk's intention to meet with the NRC and describe the assessment process in more detail. When the Restart Readiness Assessment Plan is approved internally, we will provide a copy to the NRC. The implementation details of the self-assessment process and the Restart Review Panel will also be documented in the Readiness for Restart Report. The Readiness for Restart Report will be submitted to the NRC as required by Condition three of Confirmatory Action Letter 88-17.

PART II - ISSUES/ROOT CAUSES:

22. Describe the relationship between the root causes discussed in Tables U1 through U5 and the root causes provided for the specific issues.

RESPONSE:

Underlying Root Causes are related to specific branches of the Niagara Mohawk Root Cause Coding Tree involving Management and Organizational Effectiveness shown in boxes numbered M2, E16, M4, E15, and M3. Programmatic aspects of the stated root causes of the Specific Issues are also reflected as a part of the five Underlying Root Causes. Therefore, carrying out corrective actions related to the five Underlying Root Causes will also provide for preventive measures to minimize recurrence of similar specific issues in the future.

UNDERLYING ROOT CAUSES:

23. Page II-1:

Eleven verification actions are listed, but only numbers 1, 2, 3, 5, 6 and 7 are referred to in the following Tables. Where are the other verification actions applied? Explain why more "hands on" verification actions are not planned.

RESPONSE:

Verification Actions 3, 4, 9, 10, and 11 are not used for the Underlying Root Causes, but are used with specific wording for the Specific Issues. Underlying Root Cause corrective actions have been reviewed, and use of "hands-on" verification actions, including Action 8, has been reflected in the updating of the Restart Action Plan under Underlying Root Cause Tables U1 through U5. Also note per response to Question 7 that Restart Corrective Action 4.2.1 will include the entire set of actions on Page II-1 of the Restart Action Plan as part of the overall self assessment of readiness for restart.

24. Page II-1, Item #6:

Will interviews with personnel, in addition to testing "knowledge and understanding", attempt to examine attitude and morale issues, or solicit feedback on old or new issues? What measures will be used to judge attitude and morale?

RESPONSE:

As listed here this action represents a verification technique. Verification techniques are used to determine if corrective actions have been completed. These interviews will not necessarily examine attitude and morale issues or solicit feedback on old or new issues unless the Corrective Action Objective and corrective action involve these issues. However, an assessment of attitude and morale will be a major function of the Restart Review Panel. Additional discussion regarding the measuring of attitude and morale is included in the response to Question 13. Verification Action 6 has been clarified in the Restart Action Plan to read as follows: "Interview personnel to confirm that corrective actions have been completed and are understood."

25. Page II-1, Item #9:

What does "Inspect . . . for condition" mean? Does it mean only do a visual examination for appearance of cleanliness or does it mean test the equipment to determine its operability, or what?

RESPONSE:

Verification Action 9 has been clarified and changed to read as follows: "Inspect equipment or facilities for housekeeping and material condition as appropriate."

26. Page 11-1, Item #11:

What does "check equipment status and lineups" mean?

RESPONSE:

Verification Action 11 refers to a type of verification that could be applied to confirm that corrective actions involving physical plant equipment or systems have been satisfactorily completed relative to operating status per required plant procedures for the expected plant operating condition.

Item 11 has been clarified in the Restart Action Plan.

27. Page 11-1, verification:

What will be the instructions to the person doing the verification?

RESPONSE:

A generic set of instructions is being developed for use by individuals assigned the task of verifying the completion of corrective actions. The instructions will provide: guidance for confirming that corrective action has been completed and that documentation substantiates this effort; steps to be taken when conditions exist which do not permit the verification of completion of corrective action; and direction in the development of the documentation of the verification action performed.

UNDERLYING ROOT CAUSE 1:

28. In part, Corrective Action Objective 1.1 is to develop and communicate senior management's vision, direction, and performance expectations. None of the three Restart Corrective Actions discusses communicating these policies. When and how is this to be accomplished? How will the "management's vision, direction and performance expectation" be made available to the NRC?

RESPONSE:

All five Underlying Root Causes interrelate. The corrective actions that cover the communications aspect of Senior Management's vision and goals (Corrective Actions 1.1.1 and 1.1.2) are listed with Underlying Root Cause 5, specifically, 5.1.3.

Management expectations are addressed via Corrective Action 1.1.3 in which a monthly document is distributed. Communication occurs through the distribution, review, and discussion of this document which contains current data from the responsible managers and targets established as management expectations.

Communication regarding management's vision, goals, and performance expectations is ongoing in accordance with Corrective Actions 5.1.3 and 1.1.3.

Management vision, direction, and performance expectations are being documented as part of the corrective actions and, as such, they will be made available for the NRC to review on site as the documents are finalized.

Table UI has been revised in the Restart Action Plan.

29. Corrective Action Objective 1.1 discusses management's vision, direction and performance expectations. The three Corrective Actions discuss: Nuclear Division vision and goals; Corporate objectives; and senior management expectations. The Long-Term Strategies discuss goals, objectives and operating principles? How are all of these items related to each other?

RESPONSE:

Senior Management's vision and direction are promulgated through the development of a vision and mission statement. Its performance expectations are promulgated through the development of objectives and goals. The hierarchy and interrelationship of these items are evidenced by the following definitions:

1. Vision - Clear statement of the overall long-term expectation for the organization.
2. Mission Statement - Clear statement of reason to exist including who is served inside and outside of the organization and what is done for them.
3. Objective - An intended accomplishment designed to resolve a critical issue, improve the execution of key operational responsibilities, and/or fulfill major operational obligations by identifying measurable results.
4. Goals - A specific target to be achieved in a set time frame in support of an objective.

The term "operating principles" has been replaced in the Restart Action Plan with the term "standards of performance" to maintain consistency with the Restart Action Plan for Corrective Action Objectives 3.2, 3.3, 4.1, and 4.2.

The Restart Action Plan has been revised to include these definitions in a glossary.

30. Regarding Corrective Action 1.1.3, why is verification action 6 not included to be sure expectations of management are known and understood by subordinates?

RESPONSE:

Upon completion of Corrective Action 1.1.3, the cover letter that transmits the Monthly Performance Monitoring Report to the designated users will detail how and where Senior Management's expectations have been incorporated into the report. With this action, it is felt that Verification Action 6 is unnecessary. Knowledge and understanding by subordinates will be assessed as part of Corrective Action 4.2.1, Self-Assessment Readiness for Restart.

31. Concerning the long-term strategy, why is it not necessary to improve linkage between organization goals and individual performance before plant restart?

RESPONSE:

It was not felt necessary to provide linkage between organizational goals and individual performance expectations prior to plant restart because this activity was determined to be both non-regulatory and not required for safe operation of the Unit. However, it is estimated that individual performance goals linked to organization goals should begin about eight weeks following issuance of the Nuclear Division 1989 Goals. Individual performance goals forming part of employee evaluations are on an approximate twelve month cycle.

32. Concerning the following restart corrective actions:

- 1.2.3 - Why should not existing procedures be reviewed for adequacy and needed improvements made?
1.2.4 - How can verification action 1 (review procedure) assure that responsibilities are understood.

RESPONSE:

1.2.3 The original problems in this area concerned meeting Technical Specification schedule frequencies, not procedure acceptability. In addition to the normal two year cycle, procedure update and review required by Administrative Procedure 2.0, a sampling of Surveillance Procedures will be reviewed for completeness and technical accuracy as part of Restart Action Plan Corrective Action 1.2.5. The sample will number about 10% of the total Surveillance Procedures and consist of instrument channel functional tests which are typically the most complex and difficult Surveillance Procedures.

1.2.4 In addition to Verification Action 1, Verification Action 6 has been added to assure that persons understand responsibilities assigned as they relate to this corrective action.

33. Concerning corrective action 1.2.5, how will it be assured that all preventive maintenance, surveillance testing, or other operational requirements on the controlled lists have been completed before restart?

RESPONSE:

The way Niagara Mohawk will be assured that the pre-restart preventive maintenance, surveillance testing, or other operational requirements are completed before restart is to have them tracked by the Outage Manager for completion, review, and documentation as part of Specific Issue 1 (see Table 1 listing for examples in the Restart Action Plan Page I-6).

Not all the controlled lists of preventive maintenance, surveillance testing, or other operational requirements will be completed before restart. A compilation of lists was prepared, relating to Corrective Action 1.2.5 requirement items, and was evaluated by Nuclear Engineering and Nuclear Generation department management personnel to determine those specific lists that are needed prior to restart to assure the required lists are in place and controlled prior to start-up. For example, Technical Specification set points will be included in the lists before restart while other set points will be added to the lists after restart.

These lists are not limited to actions required before restart, but address the broad spectrum of requirements necessary for overall operation. An administrative procedure is being developed to include the use of these lists in the performance of these activities.

UNDERLYING ROOT CAUSE 2:

34. How is the identification and the reporting of problems discussed in restart corrective action 2.1.1 to be accomplished in an "integrated and consistent process"? How will the "processing, evaluation, and implementation" of the problem reports discussed in item 2.1.2 be accomplished?

RESPONSE:

Corrective Action 2.1.1 was written to encourage all personnel, both on site and at Salina Meadows, to "flush-up" problems or concerns that they were aware of, which had not been put in a formal tracking system. Since 10/1/88, over 400 new Problem Reports have been generated. Problem Reports are processed, prioritized, evaluated, and implemented in accordance with site procedures S-SUP-2, Problem Report Program and OI-34-1, WCC Instruction for Problem Reports at Unit 1. In addition, Problem Reports have been and will continue to be evaluated until start-up using established criteria to determine if an issue is a regulatory concern requiring inclusion in the Restart Action Plan.

Problem Reports are tracked on a computer program in the plant Engineering Document Tracking System. They are reviewed by the Manager of Nuclear Engineering and the Station Superintendent with support from

their staff to establish priority for either core reload or startup in accordance with Procedure S-SUP-2. Problem Reports are closed out in accordance with the requirements of Procedure S-SUP-2.

These actions ensure that an integrated and consistent process is applied to the generation, processing, prioritization, evaluation, implementation, and close-out of Problem Reports prior to the unit reload or start-up.

35. Concerning restart corrective action 2.1.8, which personnel are to be interviewed and why? Please explain.

RESPONSE:

Managers in Nuclear Generation, Nuclear Engineering and Licensing, Training, Quality Assurance, Materials Management, Nuclear Services, Purchasing, and Construction Services selected a cross-section of individuals from their organizations to be interviewed from Manager/Superintendent to represented levels. During the period November 1988 to February 1989, 193 individuals were interviewed confidentially using a standard agenda including a written questionnaire to identify, at various levels in the organization, the existing management processes and tools, to identify process problems, and to obtain recommended solutions. The interviews identified concerns, obtained improvement recommendations, and provided an opportunity for oral feedback in addition to written responses from the Town Hall Meetings.

36. Concerning restart corrective action 2.1.9, will Niagara Mohawk assess the effectiveness of the current Problem Report program? Explain how this corrective action includes training.

RESPONSE:

Yes, an interdepartmental team has been formed to evaluate the existing deficiency reporting systems and to enhance those systems in the long term by integrating some processes. This team has evaluated the effectiveness of the existing problem reporting system and concluded that, when used in concert with the other deficiency reporting documents, the problem report process is effective.

Per Corrective Action 2.1.9, Niagara Mohawk will provide training on the existing deficiency reporting systems. The purpose of the training will be to: 1) clarify the various systems; 2) identify the documents to be used; and 3) train personnel on the purpose of the various forms, and the interrelationship, responsibility and implementation of the program.

37. Concerning restart corrective action 2.1.9, clarify the problem report process. Long term strategies include training and accountability issues. As discussed above, why do not corrective actions in this area need to be done before startup? Why delay improving the capability of employees to recognize and respond to problems until after restart? How will Niagara Mohawk measure the effectiveness of corrective actions in this regard? What will be considered success? How measured?

RESPONSE:

The basic problem report process is described in procedure S-SUP-2. It is one of our deficiency reporting mechanisms (others include nonconformance reports and corrective action requests). Because of the volume of problem reports generated during this outage in response to management's request, the basic process was supplemented as follows:

1. Problem Report coordinators were assigned to prioritize and monitor the process.
2. A computerized tracking system was established.
3. A trending evaluation/review process was established.
4. Independent periodic reviews by the Station Superintendent and Manager of Nuclear Engineering were performed to assure consistent prioritization and closure.
5. Closure mechanisms were strengthened by requiring follow-up disposition activities to be either completed or entered into another formal tracking system before the problem report was closed.

We believe our employees have adequate capability to recognize and respond to problems now. This is evidenced by the number of problem reports generated since 1986, as stated in the response to Question 36. The act of encouraging employees to report any perceived problems on a continual basis and providing a response to address such matters provides a measure of improvement toward recognizing problems. Additionally, participation in corrective actions related to Specific Issues (such as Inservice Inspection and Fire Protection) which involve problem identification provides an opportunity for in-line learning. Communicating to employees the types of problems encountered also serves to improve problem identification capability of the organization. Enhancements to the reporting systems are intended to simplify and clarify the process to further improve its effectiveness. Some training, including some involving the current deficiency reporting schemes and their interrelations, will be done before restart. Since the long-term strategies address improvements in areas that we consider satisfactory now, they are not required before startup.

Measures to determine the effectiveness of the Long-Term Strategies have not yet been developed. With regard to this outage, however, success will be attained when all problem reports prioritized as "necessary before startup" are resolved, with feedback to the organization. Interviews will also be conducted to determine the effectiveness of training and employee awareness and use of the deficiency reporting systems.

38. Restart corrective action 2.1.7 states, "Review lessons learned from NMP-2 that may identify issues applicable to NMP-1 that may relate to restart." Please clarify what specifically will be reviewed.

RESPONSE:

The Unit 2 Operations, Site Mechanical/Electrical Maintenance and Site I&C Lessons Learned books and the Unit 2 Chemistry Assigned Reading Log are being reviewed for issues applicable to Unit 1 that may relate to restart.

UNDERLYING ROOT CAUSE 3:

39. Regarding Underlying Root Cause 3, how will employee needs be determined or acted on?

RESPONSE:

Employee needs will be determined and acted upon through a combination of approaches and corrective actions. For example, during the "Town Hall" meetings, employees have been encouraged to report their needs to their supervisors, and supervisors have been requested to put high priority on meeting those needs. In the near-term (i.e., prior to restart), identification of and response to employee needs are being facilitated and accomplished through Corrective Actions 5.1.1, 5.1.2, and 5.1.3. These corrective actions provide for information exchange among all levels and organizations. Corrective Action 2.1.8, involving interviews of personnel, also provides an additional source of relevant information.

In addition, Niagara Mohawk Power Corporation uses a formal but voluntary approach for employee input and feedback called the "Reverse Review Process" whereby:

- The manager conducts a self-assessment of his/her managerial knowledge and skills.
- The manager asks three or four peers and/or subordinates (nominees) to use the same inventory to assess him/her.
- The nominees' ratings are averaged and compared with the manager's self-assessment, item by item.
- Where the scores are "low," the manager reviews the results with a training staff member who suggests self-development activities.

In the long term, a program is being developed (see the Long-Term Strategy for Underlying Root Cause 3) that will build upon the near-term actions and result in a comprehensive process to assure employee needs continue to be identified and met.

40. Concerning corrective action objective 3.2, what will be the criteria for measuring success of efforts to improve interpersonal management, teambuilding and coaching skills? What improvement will be sought prior to startup? What could be considered success? How is it measured?

41. Concerning corrective action objective 3.3, what degree of improvement in training and recruiting practices will be sought prior to startup? How will success be measured?
42. Regarding corrective action objectives 3.2 and 3.3, describe why an "Increased Focus on training" is not required for restart based on the significance of the findings discussed in specific issues 2 and 3.

RESPONSE TO QUESTIONS 40, 41, and 42:

Corrective Action Objectives 3.2 and 3.3 are explicitly tied to Corrective Action 4.1.1 which requires the development and communication of Standards of Performance. This action must be completed before we can develop the criteria against which to measure and assess performance. Corrective Action 3.2.1 has been added to the Restart Action Plan and involves the use of organizational development experts to assist in the improvement of certain management skills. Corrective Action 3.3.1 has also been added to the Restart Action Plan. It requires in-line training regarding standards of performance for the entire management chain in support of restart Corrective Action 4.1.1. In addition, there are restart corrective actions related to Underlying Root Cause 5 that support the Corrective Action Objectives 3.2 and 3.3. Corrective Actions 5.1.1 through 5.1.5, which will be completed before restart, are related to the development of an environment that promotes team-building and development of the management skills of coordination, cooperation, and communication.

Although the Restart Action Plan does not specify any degree of improvement in training and recruiting practices before restart, improvement is expected as a result of implementing Corrective Actions 4.1.1 and 5.1.1 through 5.1.5. Furthermore, the Restart Review Panel will be assessing training and recruiting practices, as well as interpersonal management, team-building, and coaching skills. The assessment conclusions will be included in the Readiness for Restart Report.

Although an increased focus on training is not explicitly stated in the restart corrective actions for the Underlying Root Causes, there are a number of corrective actions related to Specific Issues that do involve training. In addition to Specific Issues 2 and 3, where training is a central issue, training activities are involved in Corrective Actions 4.C.2, 14.C.1, and 18.A.3. Furthermore, many of the Specific Issue corrective actions involve revising procedures. Changes to procedures also involve training of those individuals who must use them. Finally, Corrective Actions such as 3.1.2, 3.1.3, and 4.1.1 which involve communication of information to personnel are considered by Niagara Mohawk as a form of training activity in the broadest sense of the term. All these corrective actions that will be completed prior to restart are further supported by the added emphasis on training contained within the corrective actions of the Nuclear Improvement Program.

The Restart Action Plan has been revised to add Corrective Actions 3.2.1 and 3.3.1.

UNDERLYING ROOT CAUSE 4:

43. Does Restart Corrective Action 4.1.1 include standards of performance for individuals?

RESPONSE:

A proposed plan for restart Corrective Action 4.1.1 has been developed for generating, reviewing, establishing, approving, and communicating a set of Standards of Performance. This set of Standards will serve as guidelines and provide qualitative values for organizations and individual contributors within the Nuclear Division and its support groups.

44. Describe the difference between Restart Corrective Action 4.1.1 and the Long-Term Strategy associated with Corrective Action Objective 4.1. How much of " develop and communicate standard of performance" is intended to be completed prior to startup?

RESPONSE:

Restart Corrective Action 4.1.1 provides for the development and communication of Standards of Performance in terms of qualitative values and guidelines which will apply across all levels of the Nuclear Division and its support groups. An initial set of Standards of Performance for the Nuclear Division will be developed before restart.

Corrective action with regard to the Long-Term Strategy relates to the development of more specific Standards of Performance at the department level and lower.

45. Underlying root cause 4 states ".... self-assessments have not been consistent or effective". Please clarify, "self-assessments" of who, or what? Why have they not been effective?

RESPONSE:

Self-assessments refers to management's review of its own performance and to evaluations of corrective action programs performed by Niagara Mohawk resources (e.g., I&C Technician Allegations).

Self-assessments were not effective in the past because they were not performed in a timely fashion; they were not performed by the appropriate people to assure buy-in; there was too narrow a focus on identifying root causes and corrective actions; and the assessment of results was less than effective.

46. For restart corrective action 4.2.1 shouldn't all verification actions 1-11 be used?

RESPONSE:

Not all eleven verification actions are required to confirm Corrective Action 4.2.1; included are only those actions taken to verify that a comprehensive self-assessment program has been implemented to determine readiness for restart. The Corrective Action 4.2.1 self-assessment program itself will incorporate most, if not all, of the eleven verification techniques listed on Page II-1 of the Restart Action Plan. The outcome of this self-assessment will be documented in the Readiness for Restart Report.

Part II Section 1 has been revised in the Restart Action Plan.

UNDERLYING ROOT CAUSE 5

47. In order to improve communications, where are corrective actions to address the past problem of untimely resolution of identified deficiencies? (Time constraints on resolving potential system operability issues)

RESPONSE:

Corrective actions to address the past problem of untimely resolution of identified deficiencies are addressed under Underlying Root Cause 2, Corrective Action Objective 2.1 and are listed under the Specific Issue associated with that deficiency. For example, resolution of identified deficiencies associated with inservice inspection will be addressed via the Inservice Inspection Coordinator established by Corrective Action 4.B.3; deficiencies associated with fire barrier penetrations will be addressed via revisions to Walkdown Specifications/Instructions by Corrective Actions 6.A.1, 6.A.2, 6.A.3, 6.A.4; deficiencies associated with inservice testing will be addressed by changes to the administrative controls per revised Corrective Actions 17.A.1 and 17.B.1.

The Restart Action Plan has been revised to add restart Correction Action 5.1.6.

48. Restart corrective action 5.1.1 through 5.1.5:

Why should observation of the effectiveness of these activities through observing work or training in progress not be used to verify success (verification actions)? Please explain.

RESPONSE:

Verification Action 5 was not used because more precise Verification Actions 6 or 7 were used instead. Verification Action 7, Observe meetings to assess communications and relationships, meets the objectives for Corrective Actions 5.1.1, 5.1.2, and 5.1.5. Verification Action 6, Interview personnel, meets the objectives for Corrective Actions 5.1.3 and 5.1.4.

49. Pg. 11-10 of RAP

Regarding the long-term strategies, who will be performing the "follow-up assessment"? (Third party or internal NMPC)?

RESPONSE:

There is not a specific Nuclear Improvement Program corrective action to perform a follow-up assessment of these activities. The words in Underlying Root Cause 5, Long-Term Strategies requiring a follow-up assessment of the activities listed were included in the Restart Action Plan to highlight that assessment efforts will be integral to effecting changes in teamwork, communication, and cooperation. The specific Long-Term Strategies will be implemented by the Nuclear Improvement Program Corrective Actions 5.1.7 and 5.1.6.

These corrective actions, as with all other Nuclear Improvement Program corrective actions, will be subject to an assessment conducted by Niagara Mohawk personnel including self and independent assessments. During development of action plans, the responsible manager will identify what indicators will be used to judge the plan's effectiveness. The action plan, including these aspects, will be reviewed by the Integrated Team and approved by Senior Management. As specific tasks in the action plan are completed, the Nuclear Improvement Program Administrator will coordinate the assessment of the task to determine the long-lasting effectiveness of the actions taken to resolve the original issue or problem. The Nuclear Improvement Program Administrator will use Quality Assurance, Nuclear Compliance & Verification, or other personnel to perform the assessments. Procedure S-89-1 provides further details of how assessments are part of the overall Nuclear Improvement Program process.

NOTE: This answer is provided in response to this question as well as Question 8 on the Nuclear Improvement Program.

SPECIFIC ISSUE 1, OUTAGE MANAGEMENT-OVERSIGHT:

50. Page 11-14, Sub-element 1.2:

What criteria will be used to determine which maintenance backlog items must be completed prior to restart?

RESPONSE:

Procedure N1-88-6.5 requires that a designated Unit 1 Senior Licensed Operator review open work requests (WRs) and identify those requiring closure prior to (1) reload and (2) startup. Following this review, the Operations Superintendent will review and approve or modify the classification of work requests. The criteria used to classify work requests are:

(a) Required for system operability by Technical Specifications for reload or startup.

- (b) Required to support a Surveillance Test requirement.
- (c) Required to support a regulatory commitment/requirement.
- (d) Required to assure a high degree of plant reliability in the judgment of the reviewer.

SPECIFIC ISSUE 2, MAINTENANCE OF OPERATOR LICENSES:

51. Regarding the long-term strategy, what is the basis for allowing upgrades to the operator requalification program to go beyond restart?

RESPONSE:

The current operator requalification program meets the requirements of 10CFR50.55. The upgrades described here are to support accreditation of the Systematic Approach to Training (SAT) program.

52. How many licensed individuals will be trainers by 12/31/89?

RESPONSE:

Currently, there are two licensed supervisors in the Training Department. Instructors conducting licensed operator training are Senior Reactor Operator certified but are not licensed. Two other instructors are undergoing licensed operator training to become licensed by 12/31/89. In addition, action is ongoing to rotate one or two licensed operators from Unit 1 Operations to the Training Department by 12/31/89.

53. Are staff license holders presently attending requalification training, pending the determination of the need for their license?

RESPONSE:

Insufficient instructor resources and simulator time prevented upgrading all staff license holders prior to 2/22/89, the end of the requalification year, which is a more restrictive time requirement than restart. The need for these licenses has been re-evaluated and six staff licenses are being dropped. The remaining staff license holders have received the upgraded training and the Long-Term Strategy on Page II-16 of the Restart Action Plan has been deleted to reflect this. The Long-Term Strategy on Page II-21 of the Restart Action Plan has also been deleted because in-plant training on Emergency Operating Procedures has been completed for the reduced number of license holders.

54. Regarding corrective action 2.A.2, how will operator feedback on program content be incorporated in the operator training program? How will training program ownership by the operators, as well as management, be encouraged?

RESPONSE:

Operator feedback is solicited in the following ways:

1. A course evaluation form is made available to operators following each week of training or each discrete course (for example, following the 12 hours of electrical print reading). Completed forms are reviewed by Operations and Training management who determine what action should be taken in response.
2. Feedback is solicited through the Operator Training Program Advisory Committee (OTPAC), by OTPAC members on specific issues, and through OTPAC feedback forms available in the classroom. These forms are sent to the OTPAC chairman (currently a licensed operator) and reviewed by the full committee at the next meeting. A response is made to the submitter and changes to the program are determined during that meeting. OTPAC is a committee made up of operators, instructors, and Operations and Training management. This composition was selected to provide a cross-section of jobs to obtain differing viewpoints and have people on the committee with authority to act expeditiously on committee decisions.
3. Operations management holds shift meetings on Fridays during the training week depending on the training schedule and workload. Generally the first topic of discussion is the quality and content of the week's training, and this feedback is discussed with the training coordinator shortly after the meeting.
4. A Systematic Approach to Training (SAT) program is well underway, having started in late summer 1988. This program has involved virtually all operators in the task identification process, and many of them participated on a voluntary basis in the task analysis process. Participation has grown during this effort and the process is designed to encourage ownership through participation.
5. Operators are actively involved with the simulator fidelity process involving identification of discrepancies and verification that the discrepancies are fixed.

Ownership of operator training by the Operations Superintendent has been achieved, and the above efforts are proving successful in encouraging ownership of training by the operators, as evidenced by their participation in the program.

55. With reference to corrective action 2.A.2, what actions are planned to control (and limit) the assignment on shift to those personnel who have properly participated in or completed the requalification program?

RESPONSE:

The active license holders (shift operators) missed relatively small amounts of training, and they completed the required training several months ago. The license holders who had not completed significant portions of the program (staff licenses) have been inactive since the

revision to 10CFR50.55 in 1987. As the training staff resources were limited to make-up training (including extensive Emergency Operating Procedure training), six individuals could not be made up within the allotted time frame, and these licenses are being dropped. At this time all remaining license holders are up to date in their training. Procedures have been revised to identify in a timely manner individuals who are falling behind in their training through cycle delinquency reports. An Active License procedure is being prepared to ensure all required attributes are up to date or the individual is declared Inactive and prohibited from licensed duties.

56. Verification action 2.A.3.2 - Should this be limited to observation of a (one) training session? Is this a typographical error?

RESPONSE:

This is intended to state that each shift of operators will be observed through at least one training session, not that only one session will be observed. However, as with all verifications, the verifier must be convinced that the corrective action has been completed, and observations as necessary will be made. The wording has been clarified in a revision to the Restart Action Plan.

57. Verification action 2.A.4.1 - Should this be limited to attendance of a (one) OTPAC meeting? Explain.

RESPONSE:

Operator Training Program Advisory Committee (OTPAC) membership includes the Operations Superintendent and the Assistant Superintendent of Training and is often attended by the Unit 1 Station Superintendent. The meetings have been observed by a variety of people, so the membership is accustomed to this practice. One session should be enough for an observer to verify that the committee functions well as a team and can effectively resolve issues. However, as with all verifications, the verifier must be convinced that the corrective action has been completed and observations as necessary will be made. The wording has been clarified in a revision to the Restart Action Plan.

58. Corrective action 2.A.4, item (2) - What is management approval required for?

RESPONSE:

Management approval is required to implement recommendations made by operators and trainers. The Operating Training Program Advisory Committee was set up to include managers as members of the committee so that recommendations adopted by the committee can be implemented expeditiously (management approval is an inherent part of committee recommendations).

59. Concerning corrective action 2.B.3: What is the schedule for 1) identifying simulator deficiencies, 2) correcting simulator deficiencies (installing and verifying modifications), and 3) training the operators using the improved simulator? What is the nature and extent of simulator changes to be performed prior to startup?

RESPONSE:

Currently, the simulator is up to date with plant modifications affecting operator training. Operators have been training on the simulator throughout the process and have also been an integral part of identifying problems and verifying corrections. Although upgrading is an ongoing process, the simulator currently meets American National Standards Institute standards for fidelity.

60. Root cause 2.B states, in part, that the quality of training in some instances was not adequate due to inadequate management oversight. Corrective action 2.B.1 directs the superintendent of training to provide management oversight to assure quality of training. Is the superintendent of training the only individual assigned the responsibility or providing oversight on the quality and effectiveness of training? Will QA participate?

RESPONSE:

Oversight of the quality and effectiveness of training is a joint responsibility of the Training Superintendent and the Operations Superintendent. In addition to, and in conjunction with, management the Operator Training Program Advisory Committee oversees the quality and effectiveness of the training program. The Quality Assurance organization participates in the process by conducting surveillances of Training Department activities. Senior Management oversight is also conducted. For example, the President and Executive Vice President - Nuclear Operations have separately observed simulator training for both units.

61. Regarding verification action 2.B.5.2, what percent of the operators will be interviewed to assess the quality and effectiveness of the training?

RESPONSE:

Each shift will be interviewed as a shift. This will involve 100% of the licensed operators. The Restart Action Plan has been revised to clarify this.

62. Regarding Root Cause 2D, what will be done to assure that individual operators are knowledgeable of their own responsibilities for getting the required training?

RESPONSE:

A training module was developed and taught to all licensed operators during requalification training on the requirements and responsibilities of licensed operators contained in 10CFR50.55. The

training instructor and the Operations Superintendent independently questioned the shifts following the training to assure that individuals understood their responsibilities.

63. Regarding verification action 2.D.3.1, what will be done to verify that the training was effective?

RESPONSE:

Verification Action 2.D.3.1 has been changed in the Restart Action Plan to include interviewing instructed personnel. These personnel will be also interviewed to assess effectiveness of the training as part of the Restart Readiness Self Assessment.

The Restart Action Plan has been revised.

SPECIFIC ISSUE 3, EMERGENCY OPERATING PROCEDURES:

64. Please describe how the Restart Action Plan addresses the following concerns:

Inspection Report Findings 50-220/88-22-06 and the portion of 88-22-08, Item 8, regarding instructor training, do not appear to be adequately addressed in Specific Issue 3.

RESPONSE:

Investigation of this issue disclosed that instructors had the proper credentials to instruct operators on Emergency Operating Procedures, but record-keeping was poor and retrieval was difficult. The records were found later. The deficiency needing correction is record-keeping practices, which is reflected in Restart Action Plan item 3.F.1.

65. Corrective action 3.D.1 seems to say "operations line management" is responsible. Corrective action 3.C.2 says "operations superintendent" is responsible. Which is correct?

RESPONSE:

In Corrective Action 3.1.1 "operations line management" is a broad term including the Operations Superintendent and other superintendents as applicable whereas in Corrective Action 3.C.2 "Operations Superintendent" is specific to one individual.

66. Regarding verification action 3.C.4.1, should training department supervisors also be interviewed?

RESPONSE:

Yes, Training Department supervisors should also be interviewed. The Restart Action Plan has been revised accordingly.

67. Regarding corrective action 3.E.6, which items will not be completed prior to restart? Why is that acceptable?

RESPONSE:

As discussed and agreed upon in a telecon of 8/30/88 between R. G. Randall, Niagara Mohawk Operations Superintendent Unit 1 and D. J. Florek, NRC Senior Operations Engineer, Division of Reactor Safety, Region 1, action is being deferred on some of the concerns from Attachment C, NRC Inspection Report 50-220/88-22 and 50-410/88-23. The concerns being deferred include such items as: renumbering steps, use of transition symbols, embedded logic within steps, formatting of decision tables to extreme width, incorporating general operating instructions, hybrid steps, use of marginal type size, and use of dotted lines and intersections of dotted and solid lines. These items are considered enhancements or need further evaluation. Some of the items involve major changes to the flowchart Emergency Operating Procedures and will be evaluated during use of Revision 3 to the Emergency Operating Procedures. Changes will be made, if necessary, in Revision 4 of the Emergency Operating Procedures in late 1989.

68. Regarding verification action 3.E.1.1, why limit the review to only a (one) EOP? Is this a typographical error?

RESPONSE:

Verification Action 3.E.1.1 refers to an Operating Procedure (OP) rather than an Emergency Operating Procedure (EOP). The Restart Action Plan has been so revised. The Operating Procedures have been walked down by operators who documented any discrepancies in steps or labels, and so on. Corrective actions have been or are being taken and will be verified by the working organization. The verification action is to independently review the documentation and perform one random, independent re-verification.

69. Regarding verification action 3.E.2.1, why not check a number of procedure changes to confirm that the applicable EOP's were not affected or, if they were, that EOP's were appropriately changed.

RESPONSE:

The procedures that affect the Emergency Operating Procedures have been determined, and this list is being independently verified. This verification and the process of verifying that these procedures have administrative controls will substantiate that no changes have been made that are not currently reflected in the Emergency Operating Procedures or vice versa. Checking procedures that are known not to affect the Emergency Operating Procedures is not useful, and the procedures that are known to affect the Emergency Operating Procedures are being checked.

70. Root cause 3F is not used to address any of the sub-elements (1, 2, or 3) of Specific Issue No. 3. Identify the applicability of Root Cause 3.F.

RESPONSE:

Root Cause 3.F, not Root Cause 3.C, is applicable to Sub-Element 3.3. The Restart Action Plan has been changed to reflect this.

71. Regarding root cause 3F and actions 3.F.1, 3.F.1.1, what procedural requirements are referred to here?

RESPONSE:

This refers to procedural requirements for documentation of personnel qualifications (see responses to Questions 64 and 70).

SPECIFIC ISSUE 4 INSERVICE INSPECTION:

72. The issue description address that 1) Engineering, QA, and the ISI group did not recognize that undispositioned DCA's affected component operability and failed to report these conditions to operations management. How is this problem being corrected? Also have all missing (or otherwise improper) examinations in the ISI program been reported to the NRC in LER 88-01 or a supplement?

RESPONSE:

Deficiency Corrective Action Reports (DCA's) were used only during the 1986 outage, and Niagara Mohawk has revised its procedures to eliminate the use of DCA's. Any condition identified during an inservice inspection examination or test that exceeds the ASME XI acceptance criteria is being reported and tracked by a Quality Assurance Nonconformance Report. The nonconformance program assures that defects are recognized and that Operations management is informed. DCA's have been re-evaluated by Engineering and any repairs or re-inspections required are being performed during the current refueling outage.

The examinations that were not performed during the first interval are being examined during the current outage. The final supplement to LER 88-01 will contain a summary of the examinations that were missed in the first interval.

73. Regarding long-term strategies why is oversight of contractors not a short-term item?

RESPONSE:

Niagara Mohawk has assembled a special task force to supervise inservice inspection activities during the current outage. The independent review of inservice inspection examination data conducted by Quality Assurance provides assurance of the quality and completeness of the examination performed by the nondestructive examination contractor. In the future, the nondestructive examination will be performed by Niagara Mohawk's Quality Assurance Department and will be reviewed by Site Engineering to assure that the required examinations have been performed. These and other organizational changes provide adequate contractor oversight during this outage and in the future.

74. In sub-element 4.1 reference to root cause 4.B suggests that the lack of management oversight was manifested only by failure to adequately assess resources. Was this the only manifestation of lack of oversight?

RESPONSE:

No, Root Causes 4.A and 4.D also apply. The Restart Action Plan has been changed accordingly.

75. Corrective Actions 4.A.1 and 4.A.4 discuss procedure revisions and personnel retraining. Explain why the verification actions include verifying that the procedures are revised, but do not include verifying retraining is completed.

RESPONSE:

Verification actions as presently implemented include a confirmation that retraining is completed. The Restart Action Plan has been revised.

76. Corrective Action 4.A.6 discusses the performance of a maintenance walkdown of a large bore safety-related piping system not included in the ISI program. What is the specific purpose of these walkdowns?

RESPONSE:

Based upon analysis of deficiencies reported during the inservice inspection of safety-related supports, Niagara Mohawk decided to implement an examination of safety-related supports exempt from ASME XI Inservice Inspection. This maintenance walkdown focuses on the same types of deficiencies identified during the inservice inspection. Niagara Mohawk made a presentation to Region I personnel in October 1988 on this program.

77. Regarding verification action 4.A.1.1, why is it limited to NCRs issued during outage?

RESPONSE:

Nonconformance Reports have replaced Deficiency Corrective Action Reports (DCA's) as the method for reporting and tracking inservice inspection identified deficiencies. The verification action ensures that the nonconformance program is being implemented during the current outage for deficiency reports. In addition, we are independently verifying that DCA's from the 1986 outage are properly closed. (See response to Question 72 for further information.)

SPECIFIC ISSUE 5, CONTROL OF COMMERCIAL GRADE ITEMS:

78. Were all purchase orders reviewed for safety-related and commercial grade items back to 1985, or just a sample? If just a sample, justify. What other documents were reviewed for each piece of equipment to determine what items needed to be re-evaluated?

RESPONSE:

To investigate the scope of this issue Materials Engineering reviewed all purchase orders for safety-related and commercial grade items back to August, 1985.

Documents reviewed to determine item application included Material Issues, Work Requests, and test and inspection results.

79. Regarding items procured prior to August 1985, what was done on those items; where recorded; what were the results?

RESPONSE:

Items procured prior to 1985 were evaluated as a result of a Niagara Mohawk Quality Assurance Corrective Action Request (CAR) 85.3045. The CAR identified one case of a commercial grade item installed in a safety-related application without dedication. The purpose of the review was to determine if this was an isolated occurrence or if other commercial grade items had been installed that might have degraded plant safety.

A review was performed to determine the total population of commercial grade purchase orders prior to August, 1985. A total of approximately 335 purchase orders were identified of which 154 purchase orders were reviewed.

The approach taken for the review was as follows:

- Identify Material Issues
- Identify Work Request that installed commercial grade items
- Review Engineering, Procurement, and Maintenance documentation
- Determine Acceptability
- Document the Review

The results of the review identified that no items were installed that might have degraded plant safety.

80. Regarding long-term strategies C.2 and C.4, what will be the schedule to complete these items. How can the commercial grade process proceed without the required training prior to restart?

RESPONSE:

With regard to the Long-Term Strategies, it should be noted that Niagara Mohawk management had taken corrective measures for the control and procurement of commercial grade items approximately six months prior to this being considered a restart issue. Niagara Mohawk had already written new procedures and revised those that were being used for commercial grade procurement. The new and revised procedures required that all commercial grade procurements be reviewed by the newly-formed Materials Engineering Group. This provided a focal point that would allow greater control and a common philosophy with respect to commercial grade procurement.

With that in mind, Item C.2 involves training personnel on procedures necessary to implement the commercial grade process. This is an ongoing program and will start when an individual begins work in the Materials Engineering Group and will not end until that individual leaves the group. This training includes, but is not limited to:

- Niagara Mohawk Procedures
- EPRI Commercial Grade Guidelines
- NRC Audits of Utilities on Commercial Grade Issues

Item C.4, the procurement program at Nine Mile Point, requires procurements for safety-related and commercial grade items to be reviewed by a Materials Engineer prior to placing a purchase order. All engineering work with respect to procurement of an item is documented and included in a database. The engineering document, a "Procurement Requirement Evaluation Form," is controlled, as is the database. This program was in place prior to the issue being evaluated as a restart item.

Niagara Mohawk believes the program currently in place will control future commercial grade items and that the in-depth reviews that were performed on past procurements have completely addressed this issue. Training has taken place and will continue to be performed as new personnel are assigned.

81. None of the three corrective actions described in Table 5 address procedure changes or training. Does this imply that current procedures and training for the control of commercial grade items are satisfactory? Explain.

RESPONSE:

At the time the corrective action was provided, the procedures related to commercial grade procurement, as well as procurement in general, had been written to establish a program consistent with the EPRI guidelines on commercial grade items. This program was developed by the Materials Engineering Group in late 1987. Experienced personnel were obtained to perform this activity. As stated above, these people were trained in these issues, and their work was reviewed in detail prior to acceptance.

82. Regarding corrective action 5.A.1, what will be done to assure that potentially inadequate parts are not installed in the plant?

RESPONSE:

Nonconformance Reports were written, and the potentially inadequate items were placed on hold per the Niagara Mohawk nonconformance program. The items will remain on hold until a disposition is provided and accepted. To date, we have scrapped some items, upgraded some items through dedication, and kept other items in a hold status awaiting disposition. Also, Materials Engineering personnel have been assigned in the storeroom to provide additional assurance that the correct parts are requested and provided.

SPECIFIC ISSUE 6, FIRE BARRIER PENETRATION:

83. Long-term strategies indicate that the Fire Department's surveillance test is being revised. Why is this not done prior to startup?

RESPONSE:

The Fire Department's Surveillance Procedure revision is complete for Technical Specification fire barriers. The Fire Department's Surveillance Procedure revision is underway for the remaining NRC required fire barriers and will be complete prior to startup. The Restart Action Plan has been revised accordingly.

84. Root causes 6.A thru 6.K do not address the "root" cause. Please explain.

RESPONSE:

These causes were developed as a result of a thorough self-assessment of the fire barrier penetration deficiencies and are the outcome of a structured approach utilizing the Kepner-Tregoe Problem Analysis method. Root Causes 6.A through 6.K contributed directly to the deficiencies discovered and are somewhat narrow in focus. The broader root causes involve lack of management effectiveness and are included in the five Underlying Root Causes.

85. Regarding root cause 6.D, what is the commitment mentioned?

RESPONSE:

The commitment mentioned is Amendment No. 33 to Facility Operating License No. DPR-63, the Nine Mile Point Unit 1 Safety Evaluation Report (SER), dated 7/26/79.

86. Regarding verification actions 6.B.3.1, and 6.C.1.1, shouldn't verifications include inspection of work completed to assure that the work was done satisfactorily as well as assuring that the paperwork is proper?

RESPONSE:

Yes, visual verification of Corrective Actions 6.B.3 and 6.C.1 will be accomplished for Technical Specification barriers/penetrations using the revised Fire Department Surveillance Procedures which provides assurance that the work was done satisfactorily. The Restart Action Plan has been revised.

87. Regarding corrective action 6.B.5, please explain the "confidence level" being achieved during destructive examinations on the penetrations and the justification for this level.

RESPONSE:

As a result of the destructive examinations, there is a 95% confidence that less than 4% of the penetrations are non-functional. The

non-functional penetrations found in the sampling plan contained asbestos. Although adequate test documentation for asbestos penetration seals was not available, asbestos is a non-combustible material with favorable heat transfer characteristics.

The justification for a 95% confidence that less than 4% of the penetrations are non-functional is based on the inherent conservatism of the fire barrier penetration seal design. The required rating of a majority of the fire barriers is substantially less than 3 hours; and where the combustible loading is significant, suppression systems have been installed. In addition, all of these assemblies were visually inspected and found to have acceptable configurations. Even in the worst case, the sampling plan non-functional penetrations are non-combustible enclosures with some degree of fire rating. If penetrations with fire ratings less than 3 hours are found, it is expected that an Engineering evaluation would demonstrate that the assembly would be adequate for the hazards present using the guidance of Generic Letter 86-10.

88. Regarding verification actions 6.E.1.1 and 6.I.1.1, shouldn't proper procedure use be verified?

RESPONSE:

Yes. Verification Action 6.I.1.1 in the Restart Action Plan has been revised to verify proper use of procedures prior to restart. Verification of use of procedures per Corrective Action 6.E.1 will be performed subsequent to their issuance and use. The use of these procedures may not occur until after restart.

SPECIFIC ISSUE 7, TORUS WALL THINNING:

89. What are the long-term plans for preventing corrosion of the torus wall beyond one cycle?

RESPONSE:

Niagara Mohawk's long-term program for torus wall thinning beyond one cycle was summarized to the NRC in its letter dated 2/14/89. This long-term program is to install mid-bay saddles in the twenty bays of the torus. This modification will provide additional structural integrity such that the anticipated corrosion for the life of the plant will not reduce the wall thickness below minimum requirements.

90. Table 7 of the plan indicates the root cause of this issue was failure to resolve the NRC inspector's concerns before they left the site. This is not a valid assessment. Inadequate technical review and possible understaffing are contributors; although, management's approach of determining how much more corrosion allowance can be used up, rather than trying to preserve as much margin as possible, is probably the largest contributor to this problem. Please address these concerns.

RESPONSE:

Niagara Mohawk's root cause analysis of this Specific Issue, Torus Wall Thinning, indicated that Niagara Mohawk did not provide adequate management oversight during the inspection to answer questions in a timely manner.

Niagara Mohawk had a program in place to address the Torus Wall Thinning Issue. We have been monitoring Torus Wall thickness since 1975. Data was being trended and evaluated. Programs were under consideration to resolve the issue. This effort was prioritized along with other work for Unit 1.

Therefore, had Niagara Mohawk provided this information during the inspection, less confusion and misunderstanding would have resulted regarding this item.

Our program on this issue was outlined in our 4/26/88 meeting with the NRC at Region I headquarters and our subsequent submittal of 5/27/88. We described our past and present programs and our future plans to address this concern. The program consisted of not only measurements dating back to 1975, but studies conducted from 1979 to the present regarding methods to control the corrosion and proposed long-term fixes.

The earlier studies (1979-1985) did not concentrate on the main source of corrosion (i.e., oxidation) but rather focused on a secondary source of corrosion (i.e., iron bacteria) and fixes related to that source of corrosion. Additionally, our earlier studies did not recognize that the original corrosion allowance of 1/16" was used to support analyses under the Mark I Containment Program.

These shortcomings were identified in 1987, and we initiated an accelerated effort to identify the required margin versus the remaining wall thickness and to study long-term solutions. This effort was well underway at the time the inspectors took their measurements in April, 1988. Additional examinations and inspections have verified the main source of corrosion as oxidation, and that iron bacteria is not a concern in the NMP1 Torus. We have studied the long-term solutions and selected one. Our study evaluated methods to reduce the corrosion rate and structural improvements to address corrosion effects. As indicated in our 2/14/89 submittal, installation of mid-bay saddles is the most effective way to resolve this concern.

Niagara Mohawk has concluded that, had we provided more management oversight during the inspection, less confusion and misunderstanding would have resulted. We have modified the Restart Action Plan to clarify Root Cause 7.A.

SPECIFIC ISSUE 9, APPENDIX J TESTING OF EMERGENCY CONDENSER AND SHUTDOWN COOLING VALVES:

91. Changes to Technical Specifications that involve Appendix j testing requirements are not "administrative" and would be expected to affect plant operations. This item should be clarified.

RESPONSE:

Niagara Mohawk agrees that not all changes to Technical Specifications are administrative and would be expected to affect plant operations. The second sentence under Long-Term Strategy on Restart Action Plan Page II-44 has been deleted. Additionally, the Restart Action Plan has been changed to indicate the need for an exemption for the containment spray isolation valves. As a point of clarification, prior to restart, Niagara Mohawk will be in compliance with the existing Technical Specifications and Appendix J as documented in the NRC's Safety Evaluation Report, or Niagara Mohawk will have NRC approved exemption requests.

92. Discussion of this open item is incomplete. Refer to NRC letter dated 11/15/88.

RESPONSE:

As discussed in response to Question 91, Niagara Mohawk has agreed to submit a Technical Specification change addressing Appendix J prior to startup. Therefore, Niagara Mohawk has addressed all of the items contained in the NRC's letter dated 11/9/88.

SPECIFIC ISSUE 11, EROSION/CORROSION PROGRAM

93. The licensee's proposed corrective actions appear to adequately address the issue; however, it should be noted that problem in the erosion-corrosion procedures and data acquisition process still existed during the December 1988 NRC inspection in this area. (See Inspection Report 88-81). Please address these concerns.

RESPONSE:

The NRC concerns were addressed verbally by Niagara Mohawk during the Exit Meeting (Page 8 of NRC Inspection Report 50-220/88-81 dated 1/19/89). The following actions have been taken to date to address this issue:

1. NEXT OUTAGE LOCATIONS RE-EXAMINED - The repeat locations for next outage were established by Engineering and action initiated by the Project Engineer. A surveillance was performed by Quality Assurance the week of 1/27/89. QA Surveillance Report No. 89-10015 is being finalized to reflect the results. Any deviations listed in the report will be addressed.
2. DOCUMENTATION/STD ORIENTATION - NES was directed to revise its UT examination procedure, to incorporate the changes regarding standard orientation and nomenclature. These changes are being incorporated. The document has been reviewed by Niagara Mohawk Quality Assurance, Site Engineering, and the Authorized Nuclear Inspector. Final approval is pending.
3. INDEPENDENT REVIEWER VERIFICATION - The next revision of the Nine Mile Point Unit 1 Carbon Steel and Low Alloy Piping System Erosion/Corrosion Review Program will require that an independent reviewer verify that the grid marking and UT examination procedures are adhered to.

SPECIFIC ISSUE 12, MG SET BATTERY CHARGERS

94. What was the basis for originally changing the battery chargers to non-safety related?

RESPONSE:

The basis for originally changing the battery chargers to non-safety related was that their failure would not result in the inability for safe shutdown or cause a significant release of radioactivity. At the time, it was believed that the batteries were sized to be self-sufficient and therefore did not require recharging.

95. Provide details of your close out of this issue for NRC review.

RESPONSE:

Close out of this issue with regard to restart will proceed in accordance with guidance contained in draft Temporary Procedures N1-88-7.0 (currently draft) and N1-88-8.0 (currently draft), and approved Temporary Procedure N1-88-6.0. Briefly, close out requires detailed documented evidence that corrective actions and verification actions have been completed. This is recorded and reviewed by the Task Manager and Outage Manager, and approved by the Site Operations Review Committee.

For this issue, close out includes generation and resolution of Nonconformance Reports N1-88-0115 and N1-88-0116, a review of the seismic qualification of components, and configuration document updates. Resolution of the nonconformances will be accomplished by dedication of components and repairs or replacement of components with safety-related components.

96. Regarding corrective actions 12.A.2 and verification action 12.A.2.1, who are the "involved personnel"? What is the Niagara Mohawk corporate's understanding of "Safety-related"? Is an overall review of the Q-list for completeness and accuracy needed?

RESPONSE:

Corrective Action 12.A.2 and Verification Action 12.A.2.1 state that involved personnel will sign a Lessons Learned Transmittal detailing the concern of Issue 12 and cautionary statements about using inadequate documentation. Involved personnel include all personnel that perform Appendix B determinations and are, therefore, in a position to duplicate the error identified in Root Cause 12.A.

Niagara Mohawk defines safety-related as activities, structures, systems, components, or parts thereof which are required to assure:

- a. Integrity of the reactor coolant pressure boundary
- b. Capability to achieve and maintain safe shutdown
- c. Capability to prevent or mitigate the consequences of postulated accidents which could result in off-site exposures comparable to the guidelines of 10CFR Part 100.

When an activity, structure, system, component or part thereof is determined to be safety-related as defined above, the eighteen criteria of 10CFR50 Appendix B are then applied.

As indicated by Corrective Action 12.A.3, a review of system and major component level determinations, which downgraded components from safety-related to non-safety related, will be performed. Additionally, as part of a long-range design base reconstitution effort; the Q-List will be reconciled with assembled design base documentation in order to ensure its consistency and accuracy. This effort will provide an overall review of the Q-List for completeness and accuracy.

97. Regarding corrective action 12.A.4, provide details of dedication plans for the MG set battery chargers.

RESPONSE:

The plans for correcting nonconforming items via dedication to safety-related are detailed in Nonconformance Reports N1-88-0115 (MG Set 161) and N1-88-0116 (MG Set 171) and include 1) dedication through verification of critical characteristics or 2) dedication based on past performance. In addition to dedication, another method of correcting nonconforming items will be by replacing them with items procured safety-related. The above-mentioned Nonconformance Reports are available on site. A summary of the dedication plans is provided on Table 97-1.

SPECIFIC ISSUE 13, IMPLEMENTATION OF I&C TECHNICIAN'S ALLEGATION

98. Regarding corrective action objective 2.1.1, what is the Niagara Mohawk corporate policy on how employee's concern and problems are identified and brought to management attention, evaluated and acted upon?

RESPONSE:

The policy is that employee concerns and problems are handled through the chain of command, but there are many by-passes which are encouraged if the the chain of command is not working: Quality First Program, tell the General Superintendent, call the Executive Vice President - Nuclear Operations, and so on.

Restart Corrective Action 2.1.1 required all supervisors to identify and report problems of which they or their people are aware and which have not been put into a tracking system. This action involved not just the supervisors but also their employees to identify problems and bring them to management attention for evaluation and action. As a result of this corrective action, a large number of problem reports have been written by many employees and processed through their supervisors for evaluation, further processing; action, and response back to the initiating employee. In addition, per restart Corrective Action 5.1.2, over 400 Feedback Reports containing over 1200 comments have been received from employees resulting from the Town Hall general meetings and subsequent meetings between supervisors and their people. Each of these comments is being evaluated, acted upon as appropriate, and responses to the originators provided through the chain of command. These are but two specific examples of how employees'

concerns and problems are being brought to management attention, evaluated, and acted upon. This process is ongoing and is planned to be continued beyond restart. As stated in Corrective Action 2.1.12 of the Nuclear Improvement Program, an integrated deficiency reporting system is being developed to bring concerns to management's attention from the Nuclear Division and its support organizations.

SPECIFIC ISSUE 14, SSFI:

99. Regarding corrective action item 14.A.4, for what purpose will the "one-time test of each core spray system" be run?

RESPONSE:

The one-time test of the core spray system is testing necessary to validate the core spray system pump curves. This validation is of the combined (core spray plus topping) pump curves. After this test to validate the pump curves, the core spray pump system operability will be determined in accordance with normal ASME inservice testing requirements at one point on the combined (core spray plus topping) pump curves. Testing to revalidate the curves will be done following major pump maintenance.

The Restart Action Plan has been revised.

100. Corrective action 14.A.7 states "... to prevent annunciation and" Why prevent annunciation? Under what conditions?

RESPONSE:

More appropriate wording for Corrective Action 14.A.7 would be "revise the alarm setpoints to prevent nuisance alarms and revise operating procedures to provide appropriate response to alarms when they occur."

The Restart Action Plan has been revised.

101. Clarify what are the corrective actions for sub-elements of item 14.

RESPONSE:

Table 101-1 provides the correspondence between sub-elements and corrective actions.

The Restart Action Plan has been revised.

102. Regarding corrective action 14.A.11, are not different graphs needed for flow in the common discharge line. (Rather than relabeling existing graphs)?

RESPONSE:

The NPSH and Vortex graphs were relabeled to indicate that the flow values apply to core spray system operation with one pump set (core spray and topping) on each loop. Calculations previously submitted to NRC show that two pump set operation does not approach Vortex or NPSH.

limits; therefore, different graphs are not required. NOTE: Although two pump set operation results in higher total flow, the flow from each pump set is significantly lower than when a pump set is run singly.

103. Regarding corrective action 14.A.14, what else will be done in addition to evaluating "system" capabilities? Is this a reference to the system discussed in 14.14?

RESPONSE:

The system addressed in 14.A.14 is HPCI/Feedwater System and corresponds to Sub-Element 14.14. As indicated in Niagara Mohawk's response of 12/16/88 to the NRC Quick Look Letter dated 10/26/88, no credit for HPCI is taken in the current 10CFR50 Appendix K analyses and, therefore, no further analysis is required. NRC Inspection Report 50-220/88-201 concurs with this assessment. The Final Safety Analysis Report will be revised to more clearly state the HPCI/Feedwater System capabilities.

104. General - the corrective action(s) applicable to each sub-element should be explicitly stated, e.g., does 14.A.14 apply to 14.14? 14.A.18 to 14.18? Please explain.

RESPONSE:

The corrective action, alpha-numeric designator relates the corrective action to the root cause of each sub-element, not to each sub-element (e.g., Corrective Action 14.D.2 applies to Sub-Element 14.21 and Root Cause 14.D). A one-for-one correspondence between the sub-element and the corrective action is provided in Table 101-1.

The Restart Action Plan has been revised.

105. Regarding corrective action 14.B.1, justification should be provided for any vendor recommended maintenance activity not included in Niagara Mohawk Procedures.

RESPONSE:

It is the intent of Corrective Action 14.B.1 to evaluate and provide justification for previous conclusions as to why vendor recommendations were not included in Maintenance Procedures. If justification cannot be provided, the recommendations will be included in the appropriate Maintenance Procedure or a new procedure developed.

The Restart Action Plan has been revised.

106. Regarding root cause 14.D and sub-element 14.18, it is not clear how "audits/evaluation lacked technical depth" caused excessive use of furmanite as discussed in 14.18.

Please review and clarify how the specific actions address each sub-element (problem) and root cause.

RESPONSE:

Root Cause 14.D is considered applicable since the continued application of Furmanite was not sufficiently evaluated with regard to cumulative effect on the specific component or other potentially affected systems.

Table 101-1 relates sub-elements to corrective actions. The corrective actions apply to root causes per the description contained on Page II-12 of the Restart Action Plan.

The Restart Action Plan has been revised to clarify how the specific actions address each sub-element.

107. Three items from the SSFI "quick look" letter were missing from the list. The missing items may not need to be resolved before restart, but they should be evaluated and addressed.

RESPONSE:

The three missing items from the SSFI Quick Look Letter were evaluated and were not specifically addressed in the Restart Action Plan for the following reasons. Issues 2.a and 2.f were considered programmatic and are elements of our Long-Term Strategy. Each is addressed in our 12/16/88 submittal. Issue 2.c did not require any additional action. The issues and a brief response are stated below:

- Issue 2.a - Examples were found where Surveillance Test Program data collection, results, review, and acceptance value determination would not adequately support system operability decisions.

RESPONSE:

As stated in the Niagara Mohawk response to the NRC Quick Look Letter, we believe the examples cited during the audit were isolated. To verify this assessment, Niagara Mohawk is performing a sampling of other surveillance records. If this sample indicates generic concerns, this matter will be evaluated and addressed in a manner consistent with the approach used in the Restart Action Plan.

Issue 2.c - Investigation into problems and assessment of reportability in accordance with 10CFR50.72 and 10CFR50.73 did not always appear to be adequate.

RESPONSE:

As indicated in the Niagara Mohawk response to the NRC Quick Look Letter, Niagara Mohawk believes it takes a conservative approach with respect to reportability of items under 10CFR50.72 and 10CFR50.73.

Issue 2.f - The QA Audit Program concentrated on programmatic issues and would not necessarily be able to identify significant technical issues with safety system operation, testing, design or maintenance.

RESPONSE:

As indicated in the Niagara Mohawk response to the NRC Quick Look Letter, Niagara Mohawk agrees that the Quality Assurance audit program needs to concentrate more on technical issues. Starting in 1987, the audit program focus has been changed from compliance-based to performance-based, although it is understood the audit program cannot completely remove the requirement to review compliance issues. Specific actions have been taken to improve the audit program. These are increased use of technical specialists in the areas audited; training of auditors and surveillance personnel in September 1988 in performance-based audit and surveillance techniques; and updates of individual audit checklists as audits are performed.

To date, we have completed initial training of our auditors in performance-based auditing. We have begun assigning technical experts to the audit teams. These experts come from various groups within the Nuclear Division. We also have plans to fill existing open audit positions with technical specialists. Niagara Mohawk expects these actions to have the same positive results as those achieved in our Surveillance Program.

SPECIFIC ISSUE 15, CRACKS IN WALLS AND FLOORS:

108. The licensee's proposed corrective actions appear to adequately address the specific conditions identified. However, does a licensee program for continued periodic monitoring of the condition of masonry and concrete structures exist or will one be implemented?

RESPONSE:

We are in the process of developing a program to identify and document cracks in safety-related masonry and concrete structures, including identifying any unusual indications (e.g., rust marks). The program will outline visual inspection and acceptance criteria, and reporting procedures for engineering evaluation. The program will include engineering assessment and acceptance guidelines to address various aspects of the cracked structural elements, such as the cause of the cracks, effects of corrosion (if applicable), and repair requirements.

109. Regarding root cause 15.B, what is the basis for speculation that the source of the water is the spent fuel pool? What is the basis for the conclusion that the cracks are not the results of overstress? What is the cause?

RESPONSE:

In September 1987, a Problem Report was initiated which identified build-up of a precipitated material at and around the telltale pipe end cap of the spent fuel pool leak detection system. Based on an initial chemical analysis of the build-up, the Problem Report disposition hypothesized that the likely source of the water was from the spent fuel pool. However, further investigation is being conducted to determine the source of leakage, since the initial chemical analysis is not conclusive.

A preliminary review of calculations revealed that the concrete structural components of the spent fuel pool are adequate to perform the required function even with the cracks. However, a detailed assessment is being carried out to confirm the preliminary assessment.

The cause of the crack, as determined and documented in Preliminary Report SDR-002, is believed to be due to temperature and shrinkage.

110. Regarding corrective action 15.C.1, on what basis has Niagara Mohawk concluded that no corrective action is required?

RESPONSE:

Niagara Mohawk has had an assessment done of the cracked concrete in the steam tunnel. The assessment indicates that the most plausible reason for the cracks is the shrinkage of the concrete. A contributory cause may be that the thermal movements of the structural elements induced restraint forces resulting in tensile stress cracks in the slab and bottom of the wall. The assessment also documents that it is unlikely that the cracks were caused due to loading.

The recommended course of action is to perform minor surface repair of the cracks to protect the reinforcing steel from potential exposure to moisture.

A quantitative evaluation is being prepared to further substantiate the assessment. Corrective measures will be taken if necessary based on the results of the evaluation.

SPECIFIC ISSUE 16, FEEDWATER NOZZLES:

111. The licensee's proposed corrective actions address the specific items identified but not the root cause of the problem which appears to be poor oversight of contractor activities. The proposed actions don't appear adequate to prevent similar problem in the future.

RESPONSE:

As stated in response to Question 73, future nondestructive examination will be performed by Niagara Mohawk Quality Assurance under the new inservice inspection organization. Contractors will work under the Quality Assurance program. The examination results will be reviewed by Site Engineering to ensure that the required examinations have been performed.

SPECIFIC ISSUE 17, IST:

112. Sub-element 17.1 states that the IST Program does not include all ASME class 1, 2, and 3 (safety-related) pumps and valves. Corrective Action 17.A.1 states that NMPC will finalize and implement the 2nd interval IST Program. Confirm that Corrective Action 17.A.1 means that the 2nd Interval IST Program will include all ASME Class 1, 2, and 3 (safety-related) pumps and valves. What will be tested prior to restart?

RESPONSE:

Table 17 has been extensively revised. Revised Corrective Action 17.A.2 means that the second interval inservice testing program will include all active ASME Class 1,2 and 3 safety-related pumps and valves. The pumps and valves identified in the second interval program plan will be tested in accordance with ASME code requirements prior to startup.

The Restart Action Plan has been revised.

113. NMPC recently reported that the IST program only included about 50% of required components. Explain the basis for plans to request "interim relief" from the NRC. Why should missed safety related components not be tested before startup?

RESPONSE:

Niagara Mohawk will test the components identified in the second interval program plan prior to startup. Since Nine Mile Point Unit 1 was designed prior to the promulgation of ASME XI, there are certain code requirements pertaining to test methods that are not feasible to implement. These situations are identified in relief requests and alternative test methods proposed. Niagara Mohawk is requesting interim (or final) approval of these relief requests to support plant startup.

SPECIFIC ISSUE 18, 125V DC SYSTEM CONCERNS:

114. The long-term strategy states that several enhancements to the 125 VDC system have been identified and that reviews are expected to be completed within a year after restart. Regarding the long-term strategies, when will the decision on priority and resource assignments be made. If some modifications are needed to assure safety they should be done prior to startup. Clarify that prior to restart, the 125 VDC system will meet its design and functional operability requirements.

RESPONSE:

We anticipate making the decision regarding priority and resource assignments for Long-Term Strategies by the end of 1989.

The inclusion of Corrective Action 18.A.2 in Table 18 is intended to ensure the 125 VDC system will meet its design and functional operability requirements. Modifications necessary to meet safety-related requirements will be completed prior to startup.

115. Regarding corrective action 18.A.2, why should Niagara Mohawk not complete the modification and perform tests to verify design calculations prior to startup?

RESPONSE:

Corrective Action 18.A.2 will be complete before restart. To the degree that field tests/measurements are appropriate, they will be used to verify calculations. The appropriate verification related testing will be completed before restart.

APPENDIX C - CRITERIA TO DETERMINE IF AN ISSUE IS A REGULATORY CONCERN:

116. Immediate safety concerns should not be limited to items a through l. We note emphasis on "regulatory concern(s)" and compliance. The issue should be safety.

RESPONSE:

Niagara Mohawk agrees and has put the principal focus on safety in developing the Restart Action Plan. This is further amplified in responses to Questions 5 and 6 to the Restart Action Plan and Question 1 to the Nuclear Improvement Program.

Although Appendix C, Question 4 states "Does this concern address an immediate safety issue relating to..." items listed as a through l, it is only one of nine questions that are all addressed. For example, questions that relate to other specific aspects of safety include Questions 5 and 6. In applying the criteria of Appendix C to any given issue, each of the nine questions were answered and if any one or more answers was "yes," the issue was put into the Restart Action Plan.

At the 10/18/88 meeting with the NRC, Niagara Mohawk discussed the issue of regulatory significance. In responding to NRC concerns, we agreed to provide [in the Restart Action Plan] only those problems or issues that are of regulatory significance. We also agreed that the NRC staff will review the remainder of the issues on site to see if there is any disagreement. Appendix C delineated the process Niagara Mohawk used to decide which issues were of regulatory significance. Niagara Mohawk considers the nine questions in Appendix C to be responsive to the agreement of 10/18/88 and that these questions do go beyond compliance, e.g., Questions 6-9. Since this list of questions is not necessary to be included in the Restart Action Plan, it has been deleted. It has been replaced with material related to the process used to prioritize corrective actions.

NRC Questions Concerning Nine Mile Point Unit 1
Nuclear Improvement Program
And
Niagara Mohawk's Responses

1. The NIP establishes three priority levels to Program objectives (priority one - items must be completed prior to restart; priority two - completed near term following restart; and priority three - completed longer term after restart). Neither the RAP or the NIP adequately defines the criteria for these prioritizations. Further clarification of these criteria is requested.

RESPONSE:

Each corrective action was evaluated to determine its significance to safe plant operation or its necessity to demonstrate sufficient progress on resolution of the issues that will not be fully resolved before restart. The prioritization of corrective actions can be characterized as follows:

Priority 1 - Those corrective actions considered necessary to support safe operation of the plant, to demonstrate sufficient progress in weak performance areas, or to correct significant deficiencies.

Priority 2 - Corrective actions which identify additional improvements to areas which are functionally satisfactory now or which when completed achieve the desired cultural environment.

Priority 3 - Corrective actions involving longer-term enhancements to programs/processes which are considered currently satisfactory.

NOTE: In the Nuclear Improvement Program "priority" has been changed to "category." Although "priority" has not been changed in the Restart Action Plan to avoid confusion, it should be noted that "priority" is used to categorize the completion of actions in addition to identifying their relative importance to restart. Priority 1 actions must be completed before restart. Priority 2 and 3 actions will be completed after restart even though some may be started prior to restart.

Corrective actions requiring completion before restart were classified as Priority 1. Completion of Priority 2 and 3 corrective actions will establish levels of performance beyond that necessary to support safe operation and are, therefore, not required before restart.

Where significant deficiencies were identified, Priority 1 corrective actions were developed to address them. The methods used to determine potential impact on plant operation typically included consideration of the following:

- A. Whether the action is needed to resolve known hardware or programmatic deficiencies to ensure equipment/system operability.

- B. An assessment of several "what if" scenarios, e.g., what if we started up and missed a Technical Specification required surveillance. (This resulted in Corrective Action 1.2.3 being classified a Priority 1.)
- C. The relative impact on employee effectiveness and attitudes.
- D. Whether the corrective action contributes significantly to our ability to identify, avoid, or resolve problems.
- E. Whether other corrective actions, if implemented, accomplish similar results.
- F. Whether the corrective action contributes to identifying and/or describing the desired cultural environment.

The process used to assess the impact of corrective actions on safe plant operation consisted of a review of corrective actions by several levels of the organization representing a cross-section of the Nuclear Division and its support organizations. Typically, reviews were done by the assigned Task Manager (for Specific Issues), the Restart Task Force, the Integrated Team, and Senior Management.

As an initial step in the priority process, the Integrated Team reviewed each corrective action listed for each underlying issue and assigned each corrective action a priority.

The Integrated Team reviewed each corrective action and its associated priority again after it was redistributed under its respective Corrective Action Objective. This resulted in some changes in priorities as each corrective action was considered in the context of the group of corrective actions to be carried out to satisfy its Corrective Action Objective.

Senior Management reviewed the recommended priority for each corrective action, considering the corrective action both individually and in the context of a group of corrective actions under each Corrective Action Objective, to determine if the corrective actions collectively would be sufficient to satisfy the Corrective Action Objective. Senior Management also assessed if the intended completion of each corrective action either before or after restart was considered reasonable based on the methods used to prioritize them.

During these reviews, each participant was given the opportunity to express his/her position. The merits of these positions were scrutinized, debated, and agreed upon. During this process some corrective actions had their priority changed. Several were changed from a 2 to a 1, some Priority 2 and 3 corrective actions were subdivided and the resulting elements were designated as Priority 1 corrective actions. Other corrective actions were lowered in priority based on information presented and discussed in group meetings.

The reviews were iterative and participative in that each reviewing body communicated extensively with the others, i.e., feedback was established and maintained. The collective judgment of the participants provided the basis for deciding on the priority of each corrective action. Additionally, employee feedback was reviewed to ensure general consensus with the direction and the priorities of the improvement program. This resulted in some additional changes in some corrective actions and some of the priorities assigned to certain corrective actions.

Priority 1 items are scheduled for completion prior to restart. Priority 2 items are projected to be completed within approximately one year following restart. Priority 3 items are intended to be completed within a five year time frame after startup. Since the Nuclear Improvement Program is considered a "living" process, periodic review, evaluation and adjustment may affect the longer-term completion dates currently envisioned.

The process used for prioritizing corrective actions was complete and comprehensive and provides confidence that the priority assignments are appropriate. Using the process, Niagara Mohawk has identified Priority 1 corrective actions that, when considered in conjunction with other day-to-day and programmatic activities, will establish the conditions necessary and sufficient to safely operate the plant.

The Executive Summary of the Restart Action Plan has been revised to clarify the criteria used to classify items as Priority 1, 2, or 3. A new Appendix C has been included in the Restart Action Plan to address the process for prioritizing corrective actions.

(NOTE: This response applies to Questions 5 and 6 on the Restart Action Plan.)

2. Objective 1.1.1.A "integrate, align and develop goals, objectives, critical issues, and operating principles from top down to the first line supervisor with action plans developed from bottom up. Provide linkage between the organization goals and individual performance expectation" is assigned priority (2). Provide the basis for not making this objective a priority (1).

RESPONSE:

Objective 1.1.1.A was given a Priority 2 classification because it was determined to be not critical for safe operation of the units, and it was intended to be completed in the near term following restart. We are developing a mission statement, issues, goals, and standards of performance from the top down to first-line supervision using the "buy-in" process; these items will be completed for 1989 before restart. In the near term after restart these items will be reviewed for 1990 with action plans developed from the bottom up and with linkage between goals and performance.

(NOTE: The term "operating principles" has been replaced with "standards of performance" to maintain consistency with the Restart Action Plan. The Nuclear Improvement Program will be revised to reflect the change.)

3. Objective 1.1.7 - "Develop Nuclear Division policy on developing procedures including: (sub-steps 1 through 6)" is a "non-regulatory" objective, but appears to be fundamental to improving performance in "regulatory" areas. Clarify and justify the classifications and prioritizations.

RESPONSE:

The methods currently used by Nuclear Generation and Nuclear Engineering & Licensing to develop procedures have been and are effective. Nuclear Improvement Program Corrective Action 1.1.7 will address how the Nuclear Division will deal with procedures - from how they will be written to how proposed changes will be reviewed and approved. The intent of Corrective Action 1.1.7 is to streamline our procedure process and provide a uniform method. In some cases Nuclear Generation and Nuclear Engineering & Licensing use different methods to accomplish the same objectives. Consequently, there are some potential efficiencies available if a common method for dealing with procedures is established for both organizations.

4. Critical Issue 2.1 - "Develop and implement an integrated and consistent problem solving process by which issues are effectively identified and analyzed, and corrective actions are implemented and assessed in a timely way," does not have a specific objective which addresses "assess(ment) in a timely way." Please explain.

RESPONSE:

You are correct that the specific objectives in the Nuclear Improvement Program under Critical Issue 2.1 do not specifically mention assess(ment) in a timely way. This was an oversight. The Nuclear Improvement Program will be changed to include assessments of effectiveness being performed in a timely way as an integral part of the problem solving process for Objectives 2.1.11 and 2.1.12.

5. Objectives 3.1.8 and 3.1.8.A, and their respective priorities appear to be in conflict. Explain why critical training needs of Engineering personnel are "non-regulatory" priority (1) and "regulatory" training needs are priority (3).

RESPONSE:

The use of the term (non-regulatory) on Objective 3.1.8.A is misleading and has been deleted from the Nuclear Improvement Program. Objective 3.1.8 relates to action to be carried out in response to underlying issues that relate to regulatory matters but involve enhancements.

Appropriate training of Nuclear Engineering & Licensing is a regulatory concern. Resolution of this issue involves developing and implementing an improved training program. The program is intended to enhance current training and avoid a future safety concern. In the review of the Restart Action Plan by our personnel, there was a strong feeling that actions should be taken in the training area prior to

restart. This was not because of a concern about safe operation without immediate Nuclear Engineering & Licensing training; but rather, personnel wanted near-term visibility of actions being taken to improve training, particularly in certain critical areas.

Consequently, Niagara Mohawk decided to determine Nuclear Engineering & Licensing critical needs training before restart. This resulted in a Priority 1 classification being assigned. This action includes identifying critical training and establishing a schedule for it. It was considered "non-regulatory" because completion of this activity was not required to satisfy an NRC commitment or to safely start up Unit 1.

6. **Objective 4.1.3 - "Establish performance expectations and define responsibility for contractor oversight, administratively and technically." Explain why this is a priority (2) vice priority (1) item, in light of the current outage efforts and past problems with contractor oversight.**

RESPONSE:

Improvement with regard to contractor oversight is an ongoing effort within the Nuclear Division and its support groups. Corrective Action 4.1.3 in the Nuclear Improvement Program is classified as Priority 2 since we do not anticipate completing formal activities to establish performance expectations and define responsibilities until after restart. Some improvements have been initiated and continue to be pursued as they are identified. For example, a) revisions to our "Master Specification" were made to more clearly identify and define interfaces, strengthen technical and administrative requirements, and emphasize quality of workmanship (the "Master Specification" is a guidance document available to contract originators describing different programmatic and/or technical criteria or requirements for work), b) internal procedures have been developed to further define responsibilities and work flow, c) an observation checklist has been developed and will be used to monitor compliance to administrative procedures and practices, and d) Task Manager responsibilities/accountabilities have been emphasized in specific cases. These actions are contributing to improved contractor oversight.

In addition, Niagara Mohawk will develop and disseminate a policy to more accurately define specific responsibilities pertaining to contractor oversight. This will be done before restart of Unit 1.

The Restart Action Plan has been revised.

7. **Objective 4.2.1 - "Develop and implement a comprehensive self-assessment program to determine readiness for restart" is a priority (1); however, objectives 4.2.2, 4.2.3, and 4.2.4 are priority (2) and appear essential elements/prerequisites to a comprehensive self-assessment. Explain reasoning for this prioritization.**

RESPONSE:

The Nuclear Improvement Program Corrective Actions 4.2.2, 4.2.3 and 4.2.4 are the steps that must be taken to institutionalize, for the long term, the self-assessment process which will be carried out to assess readiness for restart. These Nuclear Improvement Program corrective actions are consistent with the Long-Term Strategy described in the Restart Action Plan under Corrective Action Objective 4.2. Niagara Mohawk expects that the long-term self-assessment process will develop from the knowledge, experience and skills obtained during the performance of the Restart Self-Assessment Program required by restart Corrective Action 4.2.1.

8. Long-Term Strategies for RAP Underlying Root Cause 5 addresses the performance of a follow-up assessment of these activities. The inspectors could not find a corresponding NIP objective for this long-term item.

Identify or explain how this long-term strategy is accomplished per the NIP.

RESPONSE:

There is not a specific Nuclear Improvement Program corrective action to perform a follow-up assessment of these activities. The words in Underlying Root Cause 5, Long-Term Strategies requiring a follow-up assessment of the activities listed were included in the Restart Action Plan to highlight that assessment efforts will be integral to effecting changes in teamwork, communication, and cooperation. The specific Long-Term Strategies will be implemented by Nuclear Improvement Program Corrective Actions 5.1.7 and 5.1.6.

These corrective actions, as with all other Nuclear Improvement Program corrective actions, will be subject to an assessment conducted by Niagara Mohawk personnel including self and independent assessments. During development of action plans, the responsible manager will identify what indicators will be used to judge the plan's effectiveness. The action plan, including these aspects, will be reviewed by the Integrated Team and approved by Senior Management. As specific tasks in the action plan are completed, the Nuclear Improvement Program Administrator will coordinate the assessment of the task to determine the long-lasting effectiveness of the actions taken to resolve the original issue or problem. The Nuclear Improvement Program Administrator will use Quality Assurance, Nuclear Compliance & Verification, or other personnel to perform the assessments. Procedure S-89-1 provides further details of how assessments are part of the overall Nuclear Improvement Program process.

(NOTE: This answer is provided in response to this question as well as Question 49 on the Restart Action Plan.)

9. Objective 6.1.3 - "Continue with corporate research and development program to improve the man-machine interface." Provide the basis for this objective and specific NMPC objective(s) in this regard.

RESPONSE:

This objective is related to human factors developments which could be applied to improve the use of Emergency Operating Procedures. The intent is to continue our involvement in industry developments relating to human factors and man-machine interface. This will allow for ongoing evaluation of future program improvements.

FIGURE 1 - 1
 (Reference RAP Question 1)
 Savannah River Reactor Incident Root
 Cause Coding Tree

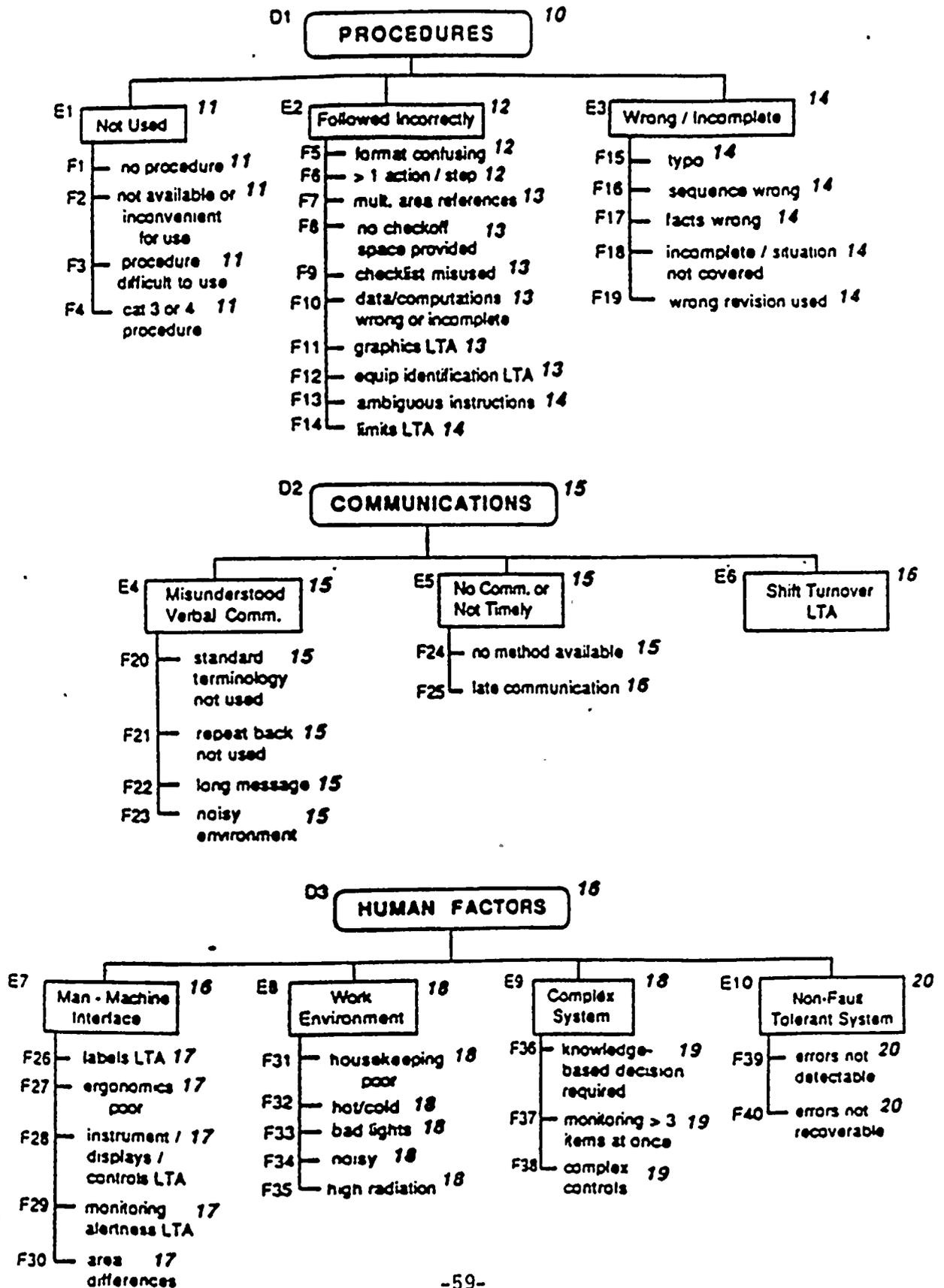


FIGURE 1 - 1
 (Reference RAP Question 1)
 Savannah River Reactor Incident Root
 Cause Coding Tree

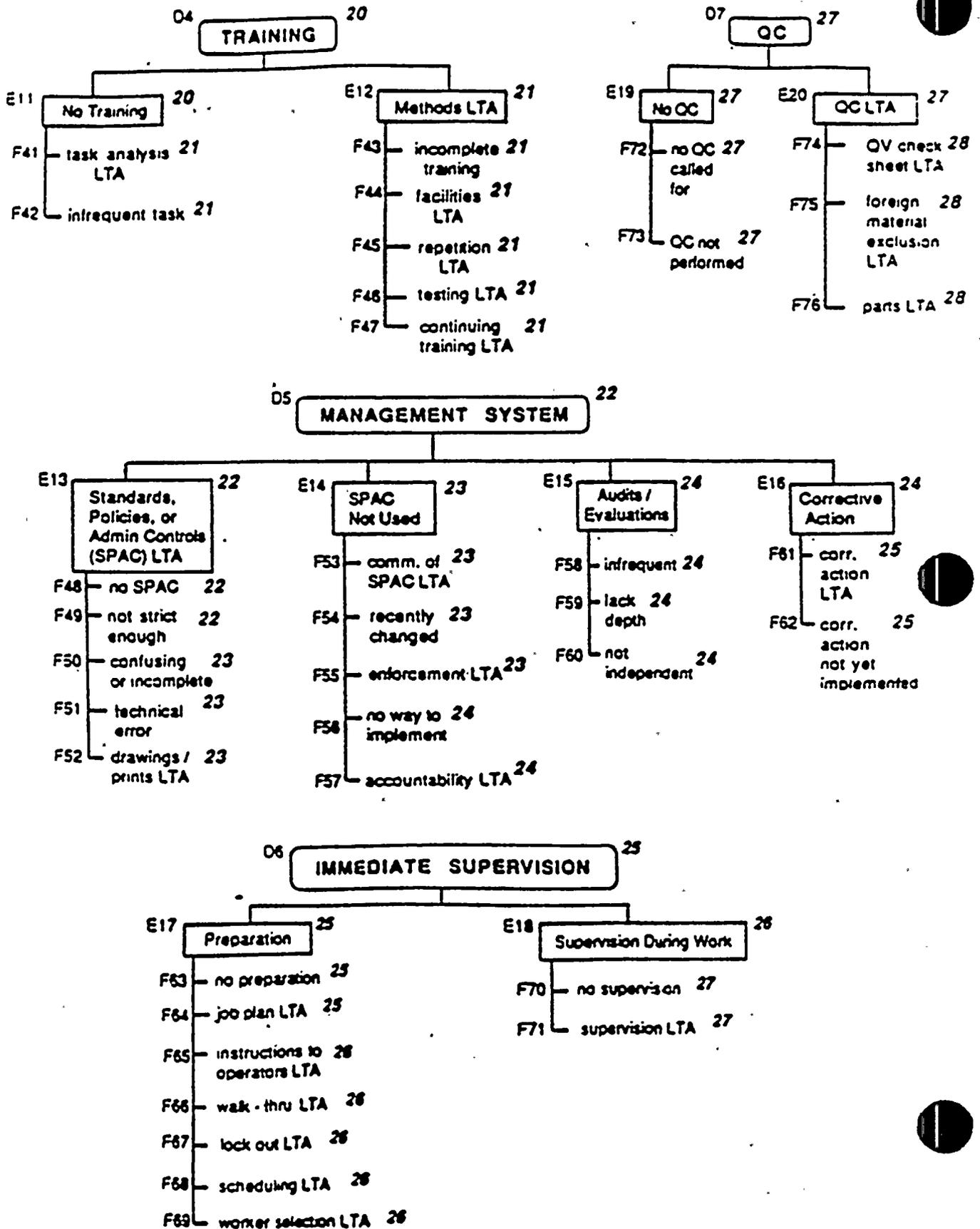
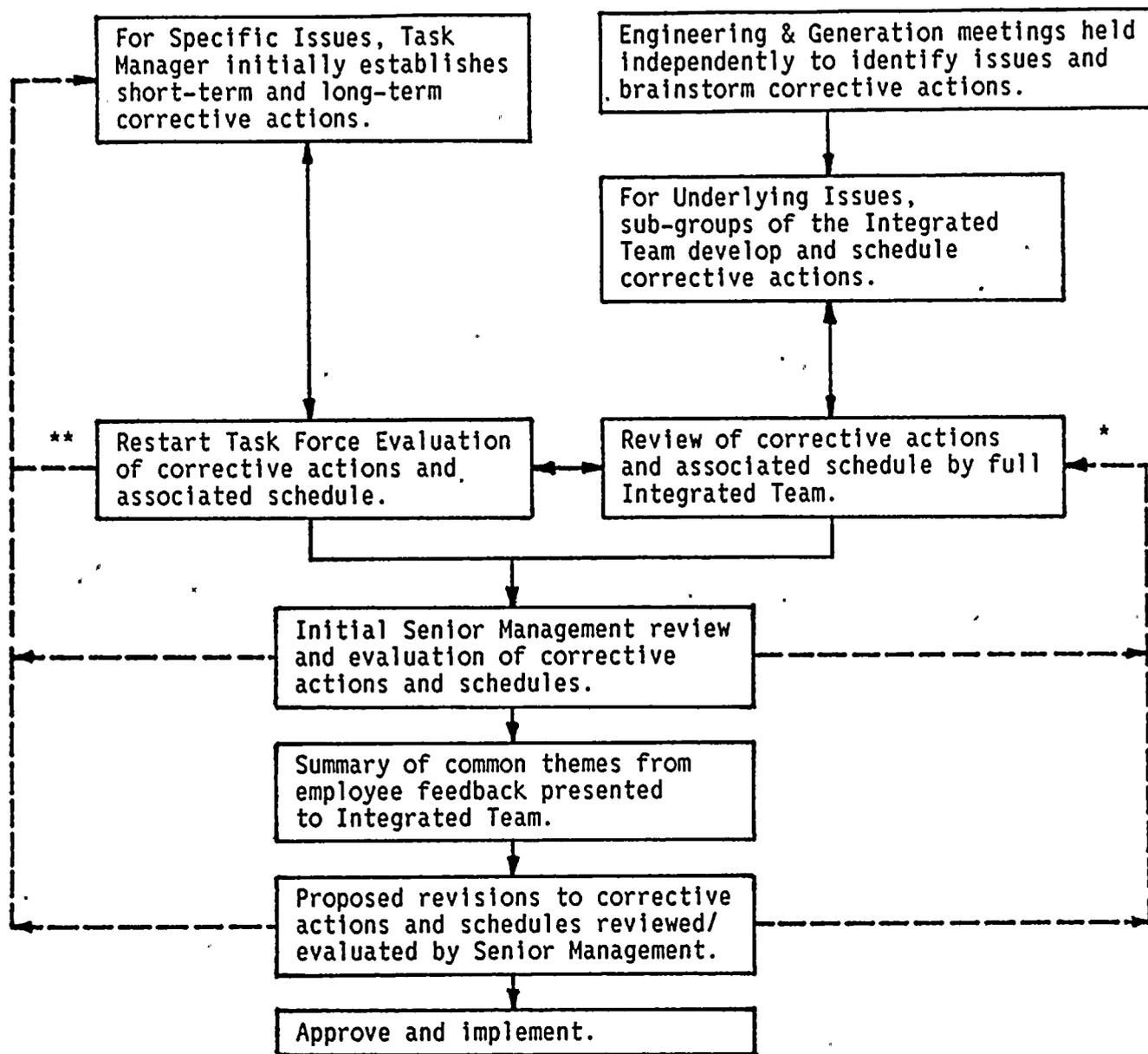


FIGURE 6-1

(Reference Questions 5 - 6)



* Ongoing, Continual Review

** Applies while Restart Task Force is in operation as a group

TABLE 97-1

(Reference Question 97)

Dedication Plans MG Set 161, 171

Component/Repair	MG Set	Function No.	Dedication Method
AC Voltage Regulators	161, 171	90V	Verify functionality by bench test (apply rated voltage and establish regulation point exists).
Potentiometers	161, 171	1P, 2P, 3P	Verify insulation resistance, end-to-end resistance, no resistance discontinuities for full rotation (bench test).
Bearings	161, 171	--	Verify proper type received, dimensions (bench test), and vibration (post-installation).
Rectifier Assembly	171	CR	Verify voltage waveform as expected, voltage level, current proper for load resistance (all post-installation).
Relay Coil	161	Part of "2"	Install in relay and verify pickup voltage, and insulation resistance.
Control Switch	161	CS	Verify contact continuity, contact development (configuration).
DC Machine Shaft Repair	171	--	Verify bearing temperatures, vibration, winding insulation resistance, poleration index.
AC Machine End-Bell Replacement	171	--	Same as above.
DC Machine Brushes	161, 171	--	Verify past performance satisfactory.
Control Transformer	161, 171	5 PT	Verify past performance satisfactory.
Unijunction Transistor 6Q (part of DC Speed Regulator)	171	Part of 90S	Verify DC regulator controls MG Set properly in all modes (post installation).

TABLE 101-1

(Reference Questions 101, 104, 106)

SUB-ELEMENT/CORRECTIVE ACTION
CORRESPONDENCE

<u>Sub-Element</u>	<u>Corrective Action</u>
14.1	14.A.1
14.2	14.A.2
14.3	14.A.3
14.4	14.A.4
14.5	14.A.5
14.6	14.A.6
14.7	14.A.7
14.8	14.A.8
14.9	14.A.9
14.10	14.A.10
14.11	14.A.11
14.12	14.A.12
14.13	14.A.13
14.14	14.A.14
14.15	14.A.15
14.16	14.A.16.a
14.16	14.A.16.b
14.17	14.A.17
14.18	14.D.1
14.19	14.A.18
14.20	14.A.19
14.21	14.D.2
14.22	14.B.1
14.23	14.D.3
14.24	14.C.1
none	14.D.4



**N Y NIAGARA
N M MOHAWK**

**NINE MILE POINT UNIT 1
RESTART ACTION PLAN**

