
Cook Nuclear Plant Restart Plan

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Cook Nuclear Plant Restart Plan

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References:

PMP 7200,RST.001, Restart Issue Closeout Documentation Packages
PMI 7030, Corrective Action Program
PMI 7200, Restart Plan Implementation
NRC 0350 Checklist

Attachments:

- A. System Engineer Review Board (SERB) Charter**
- B. Restart Oversight Committee (ROC) Charter**
- C. Criteria for Work Included in Restart Scope**
- D. Plant Systems to be Reviewed by ROC**
- E. Restart Process Maps**
- F. Plant Performance Assurance Oversight of Restart**
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- H. Restart Team Program Management Charter**
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- J. Condition Report Review Process for Potential Restart Issues**
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Introduction and Overview

1.1 Purpose

The Cook Nuclear Plant Restart Plan has two objectives:

- A) To describe the activities and management controls that will be implemented to ensure the facility is ready to safely start up and operate in an event free manner. This includes the identification of the actions necessary to achieve this objective and the establishment of requirements, directly or by reference, for the implementation of those actions.
- B) To use the activities being performed for plant restart as the foundation on which to build a strong plant safety culture through the identification, correction, and improvement of plant equipment and programs such that the organization will be positioned for long term, event free operation.

The Restart Plan represents a comprehensive corrective action plan based on the root cause conditions that resulted in plant shutdown. The Restart Plan is also intended to be a living document and will be revised as changing information is learned or conditions emerge.

1.2 Scope

The Restart Plan addresses the activities listed below directly or by reference to plant procedures. Restart issues identified prior to the effective revision date of this plan which are still within the implementation and closure phase must be processed in accordance with this Restart Plan revision. The scope of this plan defines and addresses the following:

- Restart objectives.
- Management expectations for restart.
- Guidance for communicating management expectations to employees, regulators, and other stakeholders. The central focus of all site activities is safe plant operation.
- Control of the Cook Nuclear Restart Plan.
- Criteria and processes for identifying, evaluating, and implementing restart outage work, and verifying results.

- Directions for defining a clear scope of work that will be completed prior to start-up and the creation and maintenance of an associated restart database and restart schedule.
- Directions for the establishment of restart strategies.
- Controls for restart management.
- Requirements for restart issue closure and documentation.
- Requirements for plant start-up and power ascension process.
- Controls for post restart actions.
- Requirements for independent review of restart activities.
- Requirements for near term post restart actions.
- Requirements for post restart long term actions.

1.3 Roles and Responsibilities

While the line organizations, using existing procedural processes, will perform the actions necessary to start-up the units, supplementary processes, functional teams, and individual functional roles, as described below, have been established to implement the Restart Plan. This additional management structure will support the line organization. The entire organization is responsible for the success of the restart effort.

The roles and responsibilities for the execution of this plan are as follows:

1.3.1 Executive Vice President Nuclear Generation

Responsible for authorizing startup and power ascension and providing senior management oversight of the restart process.

1.3.2 Site Vice President

Overall responsibility for the management and implementation of the Restart Plan to achieve the purpose described in section 1.1. Serves as chairman of the Senior Management Review Team (SMRT).



1.3.3 Restart Project Manager

Responsible for the management and control of restart work activities and coordination of resources to ensure that restart issues are scheduled, completed, and closed in accordance with the Restart Plan. The Restart Team Project Management Charter is contained in Attachment G.

1.3.4 Restart Program Manager

Responsible for the development and revision of the Cook Nuclear Restart Plan; for providing leadership in the development and implementation of plant procedures and processes necessary to implement the Restart Plan; and, for administration of the Restart Database. The Restart Team Program Management Charter is contained in Attachment H.

1.3.5 Outage Manager

Responsible for the day to day management of outage work activities in accordance with the Restart Schedule. Provides timely communication to the Restart Project Manager regarding issues which may impact outage scope or schedule. The Outage Manager is the Chairperson of the Outage Review Board. As a member of the Restart Oversight Committee (ROC), the Outage Manager represents the Restart Project Manager and must assure that ROC decisions are provided to the Restart Project Manager in a timely manner to support Restart Schedule and Restart Database updates.

1.3.6 Nuclear Licensing Manager

Responsible for assuring restart item closure documentation is complete and ready for NRC inspection in accordance with PMP 7200, "Restart Issue Closure Documentation Package." The Nuclear Licensing Manager is also responsible for communicating such results to the NRC, providing assistance to other plant departments on regulatory issues related to the restart, and establishing expectations and requirements for plant communications with NRC personnel for restart issues.

The Nuclear Licensing Manager must also submit required information to the NRC and other licensing agencies on a schedule that supports the restart efforts and must ensure such submittals are accurate.

1.3.7 Plant Manager, Engineering Managers, and Department Superintendents

Responsible for the accurate and comprehensive completion of the restart work, performing assessments of functional area readiness to support unit restart and safe, reliable power operations, implementing necessary corrective actions, and providing affirmation of readiness to the ROC.



The Plant Manager is also responsible for Operations acceptance of restart assessments for system readiness and for oversight activities relative to power ascension.

1.3.8 System Engineers

Responsible for successful completion of restart work on selected systems, performing assessments of system readiness to support unit restart and safe, reliable power operations, implementing necessary corrective actions, and providing affirmations of readiness.

1.3.9. Restart Strategy Owner (RSO)

The individual responsible for the successful resolution and completion of a restart item. The RSO is expected to be the single point of accountability for the actions necessary to successfully resolve a restart issue. Personnel assigned as RSOs must be given sufficient authority, resources, and management support to ensure the restart issue is adequately completed.

1.3.10 Nuclear Generation Employees

Responsible for supporting restart activities by focusing on safe operation and continuous improvement. Employees are obligated by plant procedure requirements, and expected, by management direction, to raise quality concerns to management's attention through the corrective action program. (PMI 7030, "Corrective Action Program")

Through the use of the corrective action program, personnel will ensure issues are brought to management's attention for evaluation as potential restart items. It is also expected that notification will be made to the Restart Project Manager as quickly as possible when an individual or group recognizes that the accepted schedule for a restart activity will not be met.

As the restart process progresses through the stages described below, it is of critical importance that identified unsatisfactory conditions which could impact restart plan requirements be brought to the attention of management in a timely manner to allow planned resolution of the issue. All personnel taking ownership for successful restart completion and openly communicating with one another throughout the restart process will achieve this objective.

1.3.11 Restart Plan Communication Coordinator

Responsible for development of the Communication Plan as described in Section 4.2.

1.3.12 Senior Management Review Team (SMRT)

Members: Site Vice President (Chairman)
 Chief Nuclear Engineer
 Director Performance Assurance
 Director Regulatory Affairs
 *Independent Safety Review Committee Member
 **Restart Project Manager
 **Restart Program Manager

*This member will actively participate as available, and will perform a continuous oversight role. Routine communication with this member may be accomplished through review of meeting minutes, phone conferencing, and follow up interviews with the SMRT members.

**This member will actively participate on a regular basis in an advisory capacity.

The SMRT is responsible for the generation and approval of the criteria for screening work items required for the completion of restart and for providing concurrence for restart schedule changes. The SMRT is also responsible for monitoring and oversight of the processes for affirmation and approval of plant and staff readiness for restart.

1.3.13 Restart Oversight Committee (ROC)

Responsible for determining the scope of restart work using consistent standards and criteria approved by the SMRT. The ROC is also responsible for assessing plant readiness to restart and resume power operations. The ROC charter is provided in attachment B.

1.3.14 System Engineering Review Board (SERB)

This board, internal to Nuclear Engineering, is responsible for assessing the readiness of plant systems and providing recommendations for additional restart scope to the Restart Oversight Committee (ROC). The SERB charter is provided in attachment A.

1.3.15 Condition Report Review Team (CRRT)

Responsible for review of open Condition Reports issued prior to August 14, 1998, screening of Condition Reports per Restart Screening Criteria, classifying issues as restart items, and recommending actions to the ROC. The CRRT will also review non-engineering department Condition Report corrective actions recommended for inclusion as restart items for Condition

Reports issued after August 14, 1998. The CRRT Charter is contained in Attachment I.

1.3.16 Management Review Board (MRB)

Responsible for review of Condition Reports issued on or after August 14, 1998, screening of Condition Reports per Restart Screening Criteria, classifying issues as restart items, and entering such items into the Restart Database. A flowchart for this process is contained in Attachment J.

1.3.17 Outage Review Board (ORB)

Responsible for review of Action Requests not classified as required for restart to determine need for inclusion into restart schedule for work during the outage. If the ORB determines an issue should be classified as a restart item, a recommendation must be made to the ROC for inclusion as restart item.

1.3.18 Performance Assurance (PA)

Responsible to discharge performance assurance responsibilities under 10 CFR 50, Appendix B, to provide assurance that activities affecting quality are satisfactorily accomplished. In addition, Performance Assurance provides oversight review of activities associated with the Restart Plan and implementing procedures to assure restart program requirements are met. Attachment F contains additional expectations for Performance Assurance in restart activities. PA responsibilities for restart oversight are detailed in the Restart Readiness Verification Plan.

1.3.19 Independent Safety Review Group (ISRG)

Responsible for the identification and review of key information and issues associated with restart and for providing feedback regarding restart program effectiveness to the Site Vice President and other management personnel.

2.0 Cook Nuclear Plant Restart Process Overview

The restart process is structured in a logical progression to ensure a safe, successful start-up and reliable operation. The following are the primary stages of the restart program:

- Management Expectations
- Communications
- Development, approval, and control of Restart Plan

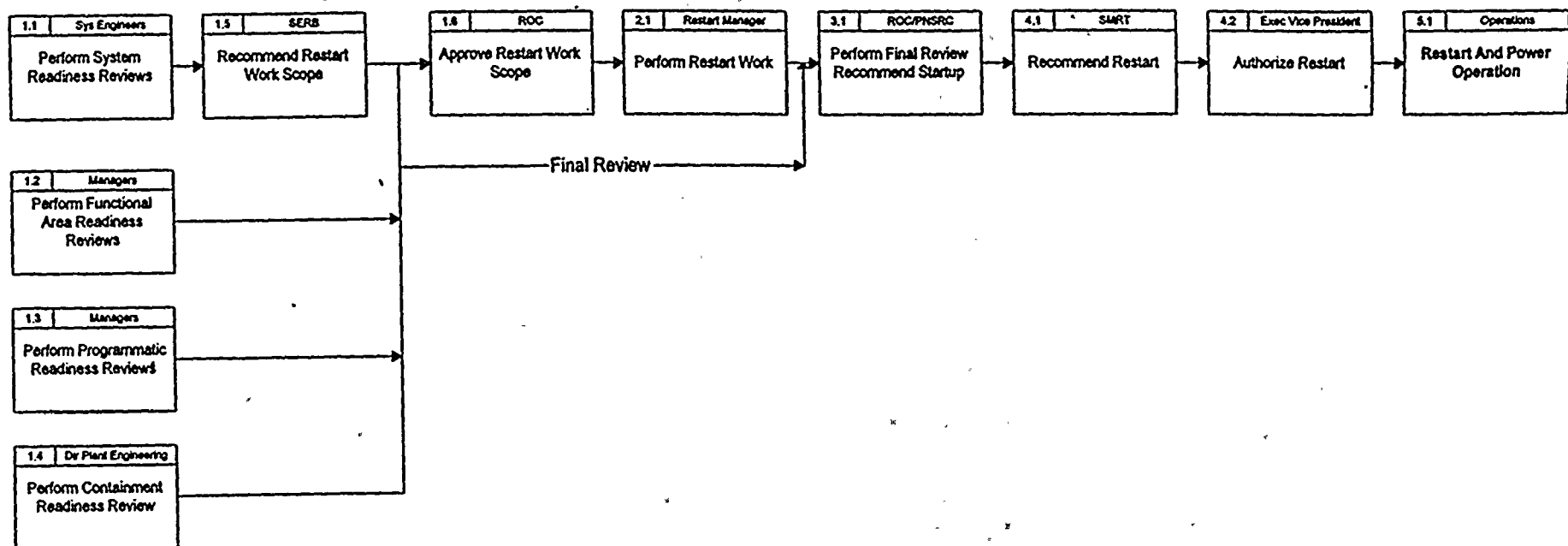
- Identification of potential restart issues
- Criteria for classifying an item as a restart item
- Development and approval of restart strategies
- Establishment and tracking restart items
- Restart Management
- Restart items closure/documentation
- Authorization to Restart
- Management of post restart issues
- Independent Verification
- Near Term Post Restart Actions
- Long Term Post Restart Actions

These stages of the Restart Plan encompass the following major activities:

- (1) scope determination
- (2) work performance
- (3) readiness assessment
- (4) start-up authorization
- (5) start-up and power ascension

The following is a process map summarizing the activities associated with major restart activities. More detailed information is presented in later sections of this document.

Cook Plant Restart Plan Overview



**Restart Readiness
Assessments**

1.1	Sys Engineers
Perform System Readiness Reviews	

1.2	Managers
Perform Functional Area Readiness Reviews	

1.3	Managers
Perform Programmatic Readiness Reviews	

1.4	Dir Plant Engineering
Perform Containment Readiness Reviews	

The objective of the restart readiness assessment is to ensure that the integrated set of plant equipment, human resources and work programs are capable of supporting safe and reliable power operations. The restart readiness assessment will be initiated in parallel with the execution and completion of restart work.

The restart readiness assessment will focus on the following areas:

- plant system readiness
- functional area readiness
- programmatic readiness
- containment readiness

1.5	SERB
Recommend Restart Work Scope	

The restart work scope may be increased as a result of the plant system assessments or other ongoing work. The system engineers will recommend the restart work scope to the System Engineer Review Board (SERB).

<table border="1"> <tr> <td>1.6</td><td>ROC</td></tr> <tr> <td colspan="2">Approve Restart Work Scope</td></tr> </table>	1.6	ROC	Approve Restart Work Scope		<p>All restart scope additions will be approved by the Restart Oversight Committee (ROC). All restart items must have an associated Condition Report or Action Request linked to the restart item.</p>
1.6	ROC				
Approve Restart Work Scope					
<table border="1"> <tr> <td>2.1</td><td>Restart Manager</td></tr> <tr> <td colspan="2">Perform Restart Work</td></tr> </table>	2.1	Restart Manager	Perform Restart Work		<p>Following determination of the restart work scope by the ROC, the Restart Project Manager is responsible for coordinating the planning, scheduling, and completion of the work.</p>
2.1	Restart Manager				
Perform Restart Work					
<table border="1"> <tr> <td>3.1</td><td>ROC, PNSRC</td></tr> <tr> <td colspan="2">Perform Final Review Recommend Startup</td></tr> </table>	3.1	ROC, PNSRC	Perform Final Review Recommend Startup		<p>Results of the restart assessments will be presented to the Restart Oversight Committee (ROC) with an affirmation by the responsible system engineer or engineering manager, and the functional area superintendent of the readiness of the system or organization to support plant startup and safe, reliable power operations.</p>
3.1	ROC, PNSRC				
Perform Final Review Recommend Startup					
<table border="1"> <tr> <td>4.1</td><td>SMRT</td></tr> <tr> <td colspan="2">Recommend Restart</td></tr> </table>	4.1	SMRT	Recommend Restart		<p>Following presentation and acceptance of the assessment results by the ROC, the Site Vice President will convene the SMRT to perform an integrated review of the affirmations, verify compliance with regulatory commitments and any other special criteria that may impact the initiation of startup activities.</p>
4.1	SMRT				
Recommend Restart					
<table border="1"> <tr> <td>4.2</td><td>Exec Vice Pres</td></tr> <tr> <td colspan="2">Authorize Restart</td></tr> </table>	4.2	Exec Vice Pres	Authorize Restart		<p>Based on the results of this review, the Executive Vice President Nuclear Generation will authorize start-up and power ascension.</p>
4.2	Exec Vice Pres				
Authorize Restart					
<table border="1"> <tr> <td>5.1</td><td>OPS</td></tr> <tr> <td colspan="2">Startup and Power Ascension</td></tr> </table>	5.1	OPS	Startup and Power Ascension		<p>Start-up and power ascension following the completion of start-up work will follow a deliberate and controlled approach that ensures operational and personnel safety. The normal startup process defined in Cook Nuclear Plant procedures will be supplemented with appropriate management oversight and support from engineering and maintenance organization such that issues or concerns are promptly addressed and the startup can be accomplished in a safe, controlled manner.</p>
5.1	OPS				
Startup and Power Ascension					

3.0 Management Expectations

3.1 There are several key expectations which Cook management expects all personnel involved in this plan and effort to achieve. These are:

- Remove them and they-replace with us and we
- Communicate effectively-Promptly identify and correct problems
- Plan, plan, plan-then execute, check, adjust
- Do what we say we will do
- Mutual accountability
- Have passion!
- Pass it on

4.0 Communications

4.1 NRC Communication Plan: An important and basic element of the Restart Plan is ensuring that the Cook Nuclear Power Plant meets the expectations of the Nuclear Regulatory Commission (NRC). The NRC has established a D. C. Cook Restart Panel to review plant progress and ensure the restart issues identified by the NRC are resolved prior to start-up. Careful coordination of submittals with NRC review and inspection activities is required. Management will apprise the NRC of plans, actions, and results as the Restart Plan is implemented to ensure regulatory expectations are being met and to facilitate the regulatory process.

The key contact point for plant activities is Nuclear Licensing. The Manager, Nuclear Licensing is expected to establish a NRC Communication Plan which will provide plant personnel direction on how to communicate with the NRC.

4.2 Plant Communication Plan: The successful implementation of the Restart Plan and subsequent continuing improvement efforts will depend strongly on the full engagement and commitment of the entire organization. Because of the importance of organizational communication, a communications plan must be developed by the Restart Plan Communication Coordinator.

The Communications Plan must contain an outline of the methods, media, and responsibilities for communication to and with employees about restart objectives and plans as well as about progress, successes, course adjustments, and lessons learned. The Communication Plan must also provide for redundant channels for communication of important information and allow for two-way exchanges between senior management and personnel.

The plan must also address communication with plant constituents such as AEP corporate officials, local and state officials, community members, and the general public.

5.0 Restart Plan Development, Approval, and Control

PMI 7200 has been developed to provide directions for the development, approval, and control of the Restart Plan. The procedure establishes the requirement for plant personnel to follow the Restart Plan for the control of restart activities.

6.0 Identification of Restart Issues

6.1 Potential Restart Issues: Restart issues may be identified from a variety of sources. Attachment K provides a list of the types of activities that may result in the identification of potential restart items. Personnel involved in these activities must maintain a "questioning attitude," consider the potential restart impact(s) of emergent issues and conditions, and assure that if such impacts exist, they are appropriately processed per the Restart Plan. Potential restart issues must be identified on a Condition Report or Action Request.

6.2 Readiness Assessments: In addition to normal sources of problem identification, the Restart Plan identifies four (4) specific readiness assessments that will be performed to determine plant readiness for restart. The intent of these assessments is to verify that the organization and systems are ready for start-up and operation.

These are:

- **Plant system readiness:** System engineers review plant systems. The plant system review process consists of the following elements:

Selection of Plant Systems:

Plant systems are selected for a detailed review and affirmation based on the historical performance and risk significance of the system. The review is performed in accordance with plant system readiness review instructions. Results of the assessment of selected systems are presented to the SERB and, upon concurrence, to the ROC. Restart items are identified with appropriate recommendations for additional actions to be performed after restart. The systems reviewed are listed in attachment D.

The remaining systems will be assessed and evaluated as part of the line responsibility of the engineering organization under the functional area assessments. Results are presented to the SERB and, upon concurrence, to the ROC. Restart items are identified with appropriate recommendations for additional actions to be performed after restart.

Restart Work Scope Additions:

Based on review of open work items against the criteria presented in attachment C, the system engineer is to provide recommendations for the restart scope changes for the selected systems in attachment D to the SERB and, upon concurrence, to the ROC. This review includes the following:

- (a) Defining and evaluating the magnitude, significance, and risk of items which will be resolved after restart;
 - (b) assurance that recurring problems on the system that could affect safe and reliable operations are being fixed;
 - (c) assurance that any design basis and licensing issues on the system are being addressed within a time frame that is appropriate for the issue; and,
 - (d) assurance that operators will not be significantly challenged by operation of the system during normal, abnormal, or emergency conditions.
- **Functional area readiness:** Functional area readiness is an assessment to determine that the department is in an appropriate state of readiness to support startup and safe, reliable power operation. Functional area readiness includes items such as:
 - (a) adequacy of staffing levels, personnel experience, training, and qualifications to demonstrate compliance with regulatory requirements and commitments;
 - (b) completion of personnel training on normal start-up evaluations, power ascension requirements, industry operating experience including extended shutdown and unusual events at similar plants, emergency preparedness, changes in plant configuration, changes in plant operating and emergency procedures, and changes in key administrative procedures and processes;
 - (c) resolution of significant performance deficiencies and reduction of backlogs (corrective action, corrective maintenance etc.) to manageable levels;
 - (d) establishment of goals and priorities for the continued improvement of the department including use of critical assessment methods; and,

- (e) review of system readiness of those systems not reviewed under the System Readiness Program.

Functional Area readiness is to be assessed in the following functional areas:

- Operations
- Maintenance
- Plant engineering
- Design engineering
- Production engineering
- Chemistry
- Radiation protection
- Outage management
- Licensing, including licensing support
- Fuels
- Plant protection
- Information management
- Plant performance assurance
- Document control and procedure development

- **Programmatic readiness:** Program readiness reviews confirm that programs are in place to support safe plant operation and regulatory adherence. Program issues identified during the programmatic readiness reviews are evaluated and necessary corrective or preventive actions completed for those programs classified as restart items. Programs in place at the time of unit start-up will ensure that the plant is operated in conformance with its design bases and in accordance with the AEP quality assurance program. As a minimum, the program reviews will include:

- 10 CFR 50.59 program
- Operating Experience
- Instrument Uncertainty
- Corrective Action Program
- Design Change Impact
- Calculations
- Design and Licensing Basis
- Procedures
- Performance Assurance
- Surveillances
- Operator Training
- FSAR Revalidation/Publication/Update Process

- **Containment readiness:** The containment readiness review assesses the ability of the containment system to meet the intended functional design requirements. The critical points of the review focus on the



system materiel condition, adequate surveillance testing, and the system configuration control.

- 6.3 NRC 0350 Restart Issues: The NRC has specifically identified 12 issues that require formal cause analysis to address. The Restart Strategy Owner is responsible for assuring that a Condition Report has been written to address the issue and that the Condition Report investigation has appropriately evaluated the issue. These are:

- Programmatic Breakdown in Surveillance Testing
- Corrective Action Program Breakdown
- Programmatic Breakdown in the Maintenance of the Design Basis
- Failure to perform Safety Evaluations and inadequate evaluations
- Operator Training Issues
- Resolution of Ice Condenser Issues
- Resolution of non-safety related cables going to shunt trip coils
- Resolution of Hydrogen Recombiner Operability issues
- Resolution of Distributed Ignition Technical Specification
- Resolution of Containment Spray System Operability issues
- Resolution of Hydrogen Mitigation System Operability and Material Condition Issues
- Resolution of Containment Liner Pitting

These issues require the following actions to be taken:

- Potential root causes of the conditions requiring the shutdown and any associated problems must be thoroughly evaluated.
- The scope of the analysis must consider the applicability of the related issues on similar systems, structures, components, procedures, processes, or activities at Cook and other industry facilities in an attempt to identify trends or generic concerns.
- A rationale must be provided for rejecting potential root causes and that rationale is clearly defined and documented for all root causes.
- A rationale for terminating the root cause and causal factors analyses must be based on a documented process that provides a reasonable basis for all conclusions reached.
- The population of potential root causes and their respective evaluations must be independently reviewed by the plant oversight committee.

6.4 Other assessments: Other plant readiness assessments for Operations Readiness and Nuclear Licensing Readiness will be performed prior to start-up. Other unique assessments, such as the Condition Report Review and FSAR Review, may be performed at the direction of management.

6.5 Processing attributes: Personnel performing readiness assessment or other self assessment activities are expected to detail the methodology used to perform the assessments and to provide sufficient justification for both positive and negative conclusion pertaining to the "Readiness" of a particular program, functional area, system, etc. Additional documentation requirements contained in PMP 7200, "Restart Issue Closeout Documentation Packages" should also be considered during this phase. Unsatisfactory conditions reported through the Corrective Action Process must be reviewed for restart impact as described in Section 7.0.

7.0 Criteria for classifying an issue as a restart item

7.1 Establishing Restart Work Scope: The restart work scope is defined through a determination process driven by the ROC consistent with their charter. Outstanding work items and issues identified through assessments are reviewed against defined criteria to determine which items should be included in the restart scope. The restart work scope determination process is outlined in attachment E.

7.2 Classifying Issues as Restart Items:

7.2.1 When an issue is identified, the restart work scope criteria contained in the Restart Plan must be used to screen the issue for inclusion in the restart work scope. Issues identified as potential restart issues must be reported on a Condition Report or Action Request per applicable plant procedures.

When a restart item has been approved by the ROC, each corrective action related to that issue must also be evaluated by the issue owner to determine if all or some of the actions are required to be implemented prior to restart. The criteria for work to be included in the restart scope as defined in the Restart Plan must be used to make this determination.

7.2.2 Upon completion of the initial classification and the corrective action evaluation, the issue owner must enter the information into the Restart Database and submit the change to the appropriate screening organization, as follows:

- a) IF the issue is reported on a Condition Report, THEN the Condition Report and recommendation for the item to be classified as a restart item is submitted to the MRB. The MRB must then update the Restart Database to reflect their

decision as to the item's potential classification as a restart item. Attachment J depicts this process.

- b) IF the issue is a corrective action and represents an engineering related issue, THEN the recommended corrective actions as restart items are submitted to the SERB. The SERB must then update the Restart Database to reflect their decisions to the item's classification as a potential restart item. The information is then forwarded to the ROC for their review and approval as a restart item. Attachment J depicts this process.
- c) IF the issue is not engineering related, THEN the recommended corrective actions as restart items are submitted to the CRRT. The CRRT must then update the Restart Database to reflect their decisions to the item's classification as a potential restart item. The information is then forwarded to the ROC for their review and approval. Attachment J depicts this process.

7.2.3 Certain other processes require supplemental reviews and special processing requirements to provide additional rigor to assure restart impacts are thoroughly considered. These are:

- For System Readiness Reviews, the assigned System Engineer must determine if any identified issue represents a potential restart item. If so, the System Engineer must present a recommendation to the SERB to include the item in the Restart Database. If the SERB concurs with the recommendation, the SERB must update the Restart Database and forward the information to the ROC.
- For management directed reviews, such as the CRRT, the charter or other activity description document may direct submittal of findings and recommendations to the ROC. It is the responsibility of the activity leader to assure that recommended restart items are entered into the Restart Database prior to ROC review for these special projects and assessments. If new Restart Database screens are required, the Restart Program Manager must be contacted to initiate Restart database screen changes.
- The Outage Manager and Outage Review Board review all Action Requests which are not defined as restart items using the criteria contained in Attachment C. If the Outage Review Board determines an item should be classified as a restart item, the recommendation is made to the ROC.

- 7.3 In cases where the ROC does not concur with the recommended action, the item may be submitted to the SMRT for appeal.

8.0 Development and Approval of Restart Strategies

- 8.1 Purpose and objectives: The Restart Project Manager or the SMRT may direct strategies be developed for certain restart issues. Strategies are intended to provide a detailed plan which captures all actions required to successfully resolve a particular equipment, organizational, functional or programmatic problem. The relationship among the various strategies and the Restart Plan is depicted in Attachment N.

The objectives of strategy plans are:

- 1) To develop strategies for major restart issues to enable the concise identification of objectives and actions necessary to successfully achieve the resolution of the restart issue.
- 2) To provide a comprehensive overview of the major issues that will be resolved prior to restart. The development of these strategies will enable the identification of linkages and the integration of the strategies that constitute the overall plant Restart Strategy.
- 3) To enable clear and concise communication with Cook personnel, including such oversight groups as the SMRT and ISRG, on major issues and actions that will be resolved prior to restart.
- 4) To enable clear and concise communication with the NRC on major issues related to the restart effort.

- 8.2 Strategy Plan Preparation: The requirements for the preparation of a strategy plan are contained in Attachment N.

- 8.3 Strategy Plan Process: The strategy development, review, and approval process is the responsibility of the SMRT.

8.3.1 The SMRT will identify those restart activities for which a strategy is required and notify the restart strategy owner (RSO) that a strategy is needed.

8.3.2 The RSO must prepare the action plan in accordance with Attachment N and use Attachment L as a cover page. Unique actions required for restart

and most restart must be entered into the Restart Database by the RSO if they have not been entered.

8.3.3 Upon completion, the RSO must present the strategy plan to the SMRT for review and approval. Upon approval, the RSO must distribute copies of the strategy plan to the Restart Program Manager and the Restart Project Manager. .

8.3.4 The copy received by the Restart Team will be used to update the Restart Schedule.

8.3.5 The strategy must be revised as changing information or conditions emerge which affect the plan. The process for revisions is the same as that of the original.

8.3.6 Upon completion of the individual strategies, the population of potential root causes and their respective evaluations must be independently reviewed by the SMRT.

9.0 Establishment and tracking of restart items

9.1 The ROC approves or rejects items that are recommended to be added or deleted from restart. In cases where the ROC does not concur with the recommended action, the decision may be appealed to the SMRT. ROC meeting minutes are used to document restart related decisions.

9.2 Upon approval to add or delete a restart item, the ROC must notify the Restart Outage Manager to update the Restart Database and the Restart Project Manager to update the Restart Schedule.

9.3 The Restart Schedule represents the collection of all corrective actions required for resolution of restart issues. The Restart Project Manager is responsible for scheduling the activities in the Restart Schedule. The Restart Project Manager coordinates and integrates schedules for individual strategy plans and maintains a master schedule for tracking of milestones and closure of issues. The Restart Project Manager periodically issues the Restart Schedule, publishes a progress summary and status report of restart actions. The SMRT approves the Restart Schedule prior to distribution.

10.0 Restart Management

10.1 Restart Schedule Control: The Restart Schedule, as controlled by the Restart Project Manager, is used to define the outage scope, to determine outage completion, and to verify the unit and the organization are ready for start-up. An integrated flow chart of the implementation and closure process for restart issues is presented in Attachment D.

- 10.2 Restart Schedule Monitoring: Restart implementation requirements are identified for each restart item. Restart item implementation progress is routinely monitored by the Restart Project Manager and reported to Senior Management. Additional actions are taken if the restart implementation requirements are different than expected and each item is managed to completion. The Restart Schedule is the primary mechanism for engaging the larger Cook organization in the effective resolution of issues. Each restart item includes specific activities needed for successful resolution of the issue, accountabilities, milestones, and expected results. These provide the basis for assessing issue closure.
- 10.3 Restart Schedule Changes: Once a restart item is entered into the schedule, it is the responsibility of the issue owner to assure activities are completed per the approved Restart Schedule. If a change is needed to the schedule, a Restart Schedule Change Request (Attachment M) must be completed and submitted to the Restart Project Manager. The Restart Project Manager must secure concurrence of the schedule change from the SMRT and approval by the Executive Vice President.
- 10.4 Schedule Accountability: The Restart Project Manager schedules periodic accountability meetings of the Nuclear Operations restart issue managers and the management team to review restart progress and results. The purpose of these meetings is to review progress of the overall restart program, to review selected individual items in order to check and adjust plans to achieve expected results, and to share important lessons learned.
- 10.5 Scope Additions: Restart work scope additions are focused on those items not in the restart work scope and for emergent issues. Items already scheduled for completion prior to restart are evaluated against the criteria provided in attachment C if there is a proposal to delete them. The goal of the readiness reviews, other management directed assessments and the work scope addition process is to define the work necessary for completion prior to restart such that safe and reliable power operation is achieved. Attachment K lists sources of potential work scope additions.

Based on the review of open work items against the criteria presented in scope changes for the selected systems in Attachment D, items are presented to the SERB and upon concurrence to the ROC. Items recommended for addition to the restart scope for remaining plant systems are addressed on an item specific basis by the ROC following an initial review by line management. The restart work scope may be redefined based on the evaluation process described above. Decisions made by the ROC are documented in meeting minutes and the work item status is tracked.

- 10.6 Work Control: Following determination of the restart work scope by the ROC, the Restart Project Manager is responsible for coordinating the planning, scheduling and completion of the work, including the implementation of programmatic changes. The restart work scope performance process is outlined in attachment E. Close coordination and routine communications are expected to occur between the Restart

Project Manager and the Outage Manager as well as personnel in their respective organizations.

- 10.7 System Monitoring: During this period, System Engineering is to monitor the progress of work on assigned systems and address emergent issues as required per the above criteria. Any major restart scope impacts defined by emergent issues must be brought to the ROC following line management review. All other emergent issues are assessed daily by the engineering managers.

Also, the System Engineer is to use this period to complete the assessment and evaluation of system readiness in preparation for the final system readiness review and affirmation of readiness for restart as described in Section 6.0.

11.0 Restart Item closure/documentation

- 11.1 Requirements for the closure of restart items are detailed in PMP 7200.RST.001.

12.0 Authorization to Restart/Power Ascension

- 12.1 Restart Readiness: Start-up and power ascension following the completion of restart work will follow a deliberate and controlled approach that ensures operational and start-up safety. The normal start-up process defined in plant procedures will be supplemented with management oversight and support from engineering and maintenance organizations such that issues or concerns are promptly addressed and the start-up can be accomplished in a safe, controlled manner. Any significant restart work scope issues identified during this assessment period are to be brought to the prompt attention of the ROC, following line management review.

Prior to start-up, the readiness assessment process involves the review and assessment of organization units and systems to determine if Cook is ready to resume power operations. The restart readiness assessment is an integrated line management assessment that assists station management in determining the readiness to initiate startup and achieve safe, reliable power operation through the next operating cycle. The restart readiness assessment process is outlined in attachment E. This form of assessment is one element of a comprehensive plant assessment program that is the foundation of a continuous improvement philosophy. Implementation of this action is consistent with the experience and lessons learned of other nuclear utilities. The restart readiness assessment is being implemented at Cook based on lessons learned and will be captured such that this process can be implemented on a routine basis in the future.

The restart readiness assessment for restart will verify the completion of all defined restart work and the affirmation of system, department and restart

readiness for startup and power operations. Results of the assessment and affirmation of readiness will be presented to the ROC by the responsible system engineer, functional area manager and operations shift supervisor. Following acceptance by the ROC, the site vice president will convene an SMRT meeting to review these affirmations and verify compliance with regulatory commitments and any other applicable criteria. The site vice president will recommend start up based on this review, and assurance regarding the readiness of the station to initiate startup and safely, reliably operate through the next operating cycle.

The Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Plan will provide direction for the documented affirmation that the plant is ready for power resumption. Guidance will be provided in the Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Plan to address items that may be carried to an exception list.

- 12.2 Program and Functional Area Readiness: Prior to start-up, managers responsible for functional area and program assessments will affirm the readiness of that department and program to support an event-free start-up and safe, reliable operation. The assessment and affirmation will ensure that potential restart issues are identified, assigned actions are complete, necessary training is complete, and that departmental programs, processes, organizations, personnel, and management capabilities are sufficient to support safe and reliable operation. This affirmation will be documented per the Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Plan.
- 12.3 System Readiness and Containment Readiness: Prior to start-up, responsible System Engineers assess assigned systems to affirm the system readiness. As defined in the Restart Plan, system readiness requires a multi-discipline assessment that confirms the completeness of work to be performed during this outage. System readiness affirmations by the system engineer are to confirm that plant systems meet functional design requirements, have been suitably tested and are ready to support safe and reliable startup and operation through the next cycle. This affirmation is based on the work completed as described in section 6.0, and is to include a coordinated system walkdown of the system with operations and maintenance personnel on systems defined by the Chief Nuclear Engineer.

Where necessary, compensatory actions for rescheduled work or other areas of performance risk are to be defined and addressed. Final affirmation will be used to assist in the turnover of systems to Operations. Any exceptions remaining at final turnover to Operations will be scheduled for resolution commensurate with their significance. The System Readiness Review restart item may not receive final closure until final turnover to Operations

is performed per the Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Plan.

For system readiness affirmations the System Engineers will first submit their affirmations to the SERB for concurrence. System readiness affirmations are to be presented by the system engineer to the SERB and upon its approval to the ROC for the systems identified in attachment D. Affirmation of system readiness is documented with the signature of the system engineer and System Engineering manager. Affirmation of individual system readiness for the remaining plant systems will be addressed as part of the system engineering line management responsibility and will be one element of the functional area readiness evaluation.

12.4 Operation's Readiness: Prior to start-up, each Shift Supervisor will assess and affirm the shift's readiness to support an event-free start-up and safe, reliable operation. The assessment will ensure: completion of all required training, appropriate staffing levels, experience and qualification levels; acceptance of plant material condition, system readiness, operator work arounds (if any), and the control room environment. In addition, the following items must be assessed:

- Operability of Technical Specification systems, specifically those systems with identified operational, design and maintenance issues
- Operability of required secondary and support systems
- Results of pre-start-up testing
- Adequacy of system lineups
- Effectiveness of restart simulator/required training necessary to familiarize personnel with operating conditions
- Adequacy of surveillances/ tests/programs
- Significant hardware issues resolved (i. e., equipment with poor materiel condition, equipment aging, and modifications)
- Adequacy of power ascension testing program
- Effectiveness of plant maintenance program
- Maintenance backlog managed and its impact on operation

The affirmation will be documented per the Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Plan.

- 12.5 Nuclear Licensing Readiness: Prior to start-up, Nuclear Licensing shall assess and affirm compliance with regulatory requirements. This assessment shall include confirmation that:

- applicable license amendments have been issued
- applicable exemptions have been granted
- applicable reliefs have been granted
- imposed Orders have been modified or rescinded
- Confirmatory Action Letter conditions have been satisfied to the satisfaction of the NRC
- significant enforcement issues have been resolved to the satisfaction of the NRC
- allegations have been appropriately addressed
- 10 CFR 2.206 Petitions have been appropriately addressed to the satisfaction of the NRC

The affirmation will be documented per the Station Readiness for Restart Sequence, Reactor Restart, and Power Ascension Plan.

- 12.6 ROC reviews: Readiness assessments will be presented to the ROC, including affirmations of plant readiness. Specific areas and issues which the ROC will examine are detailed in Section 6.0 under the descriptions and requirements for these areas. The ROC will accept assessment results and affirmations.
- 12.7 SMRT reviews: Following acceptance of assessment results by the ROC, the Senior Vice President will convene the SMRT to perform an integrated review of the affirmations, verify compliance with regulatory commitments, and any other special criteria that may impact the initiation of start-up.
- 12.8 Restart Approval: Based on the recommendations of the ROC, SMRT, input from Plant Performance Assurance and the ISRG, and other input, the Executive Vice President will determine the readiness of the unit and the organization to restart and authorize initiation of Start-up and Power Ascension Program, per the Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Program.

12.9 Station Start-up: The Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Program Plan will cover start-up management, staffing and organization, start-up approach, and post start-up activities such as additional monitoring and surveillances. Of particular importance are the special measures that will be taken to assure safe start-up after an extended outage (e.g., additional hold points and a management approach for handling any contingencies that may arise during start-up, the configuration of the augmented Operations staff during start-up, and the identification of any additional resources that may be required for start-up).

12.9.1 During start-up and power ascension, the Cook Nuclear Plant management structure will be augmented with a shift plant manager and shift engineering to compliment the shift maintenance manager during start-up and power ascension. The responsibilities of these personnel are detailed below and in the Station Readiness for Restart Sequence, Reactor Restart and Power Ascension Program.

- Shift Plant Manager-The shift plant manager provides on-shift (24-hour) presence as a direct representative of the plant manager and is responsible for maintaining an overall perspective of the start-up process. If necessary, the shift plant manager is authorized to request operations to delay the start-up, reduce power, or shutdown to make necessary repairs.
- Shift Engineering Manager-The shift engineering manager provides on-shift (24-hour) presence as a direct representative of the Chief Nuclear Engineer and is responsible for maintaining an overall perspective of engineering support of the start-up process. The shift engineering manager will control on-shift engineering resources as necessary to support scheduled startup testing activities, resolve emergent operability issues, support maintenance and manage necessary reactor engineering test activities.
- Shift Maintenance Manager-The shift maintenance manager provides on-shift (24-hour) presence as a direct representative of the maintenance manager and is responsible for maintaining an overall perspective of maintenance support of the start-up process. The

shift maintenance manager will control on-shift maintenance resources as necessary to support scheduled start-up testing activities, resolve emergent equipment issues, and support operations.

This organization will be implemented as directed by the plant manager at critical evolutions during startup such as change to mode 4, initial criticality, turbine roll, and parallel to grid. This supplemental team is required to perform an assessment of plant staff performance during restart. The organization will be disbanded as directed by the plant manager but not before mode 4 to 30% power.

12.10 Performance Requirements: To minimize the potential for performance errors during plant start-up, the following actions will be taken:

- Operations personnel will utilize the simulator to practice the start-up evolution and ensure understanding and proficiency with applicable start-up procedures and special requirements. The supplemental team must assess the effectiveness of simulator/required training necessary to re-familiarize to personnel with operating conditions.
- A review of past Cook Nuclear Plant start-up issues and relevant industry operating experiences will be performed during the functional area reviews to ensure understanding of past experience and lessons learned.
- Prior to initiating the start-up evolution, Department communication meetings will be conducted with each plant department to discuss management expectations regarding start-up and power ascension processes, schedule, and responsibilities.

13.0 Management of Post Restart Issues

Upon completion of restart, there will be additional corrective actions and corrective action commitments which will require tracking, trending, and completion to effectively resolve all items associated with this outage. The Restart Project Manager is expected to provide overall monitoring of these activities and to provide routine issue statusing to the SMRT.

In addition, while certain issues, such as the enhancement efforts on the work control process, have been classified as not being required for restart, the issues may still impact Cook efforts at long term improvement and event free operation. Therefore, their completion is considered by management as necessary to conclude that the plant has successfully completed the outage. These issues must also be added to the Restart Database to ensure the activity is captured.

14.0 Independent Verification

- 14.1 Performance Assurance (PA): Performance Assurance will provide independent verification of the effectiveness of the restart through observations of restart scope management, review of evaluations and readiness assessments, review of restart actions, sampling of databases and schedules, observations of presentations to the SERB, ROC, and SMRT, and review of closure packages. The Restart Plan contains a list of activities which have been specifically identified for PA activities. (Attachment F)
- 14.2 Independent Safety Review Group (ISRG): The ISRG will identify and review key information about the restart and provide independent feedback regarding the restart program effectiveness to the Senior Vice President and other management personnel.

15.0 Near Term Post Restart Actions

Near term post restart actions are those actions which are required to provide continued focus on the plant for the first 7-14 days following the outage. This time frame has been shown to be the most likely period when outage related component maintenance will either experience a "run-in" and continue to display reliable operation, or some components will experience accelerated "wear out" and could potentially cause a forced outage. This extra attention to the plant during this period could detect early indications of equipment "wear out" and provide sufficient operator response time to take compensatory action which could prevent possible plant trip or a premature forced shutdown. Prior to escalating to a 100% full power, the Site Vice President and Plant Manager will decide what shift augmentation should remain during this period.

16.0 Long Term Post Restart Actions

Long term post restart actions are those actions which the plant will take based on the lessons learned from this restart experience and the strategy by which the organization will demonstrate commitment to achieve long term, improved performance. The Site Vice President will direct the development of a long term post restart plan which will establish and direct actions for long term event free operation. This plan must be completed prior to restart and power ascension activities and must include:

- a predefined time frame following the completion of corrective actions associated with the restart during which the effectiveness of corrective actions will be monitored.
- whenever possible, performance objectives established for long term strategy areas and based on a measurable set of criteria that is tracked and trended to provide continuous monitoring of the implementation and effectiveness of corrective

actions taken for the restart effort. The measures should provide precursor indication of declining performance.

ATTACHMENT A

SYSTEM ENGINEERING REVIEW BOARD (SERB) CHARTER

PURPOSE: Perform a system-based, multi-disciplinary technical review of potential restart issues associated with risk significant plant equipment. This board will ensure consistent application of the restart criteria contained in Attachment C of the Cook Nuclear Plant Restart Plan among system engineers, and ensure that restart decisions reflect the shared concerns of Operations, Maintenance and Engineering. The result of this review will be to define the equipment related work which is needed to ensure a safe and event free startup and achieve a reliable post startup operating cycle.

MEMBERS:

Electrical Systems Manager (Chair)
Mechanical Component Manager
Safety and Analysis Manager
I&C Manager
Performance Testing Manager
Preventive Maintenance Manager
Board Secretary

Non-Member: Additional attendance by members of Restart Oversight Committee is expected to reinforce expectations and provide oversight for the restart Issue review process.

Alternate chair: Site Engineering Managers

Alternate safety and analysis manager: Engineers in the Safety and Analysis Section, subject to acceptance of the SERB chair or alternate chair.

QUORUM: Chair (or alternate), two Onsite Managers, Safety and Analysis Manager (or alternate), and Secretary.

ACTIONS:

1. Review all potential restart items identified by System Engineers based on criteria defined in the restart plan; the System Engineer will present the proposed restart items for discussion. A representative of Operations and Maintenance knowledgeable of the system's restart issues will support the system engineer and ensure the perspective of the other production groups is considered. The Operations representative will normally be an SS or a US of the Operations crew responsible for the system, but can be an SS assigned to the Work Control Center.
2. Designate systems that are required to be presented to the SERB by system engineer, Maintenance and Operations.
3. The SERB will review all items identified as potential restart issues by the system engineer system readiness review. The system engineer, Operations or Maintenance representatives will also identify other issues which are not identified as potential restart issues but may be questioned.
4. A complete list of open issues on each system will be available during SERB meetings. The SERB will review and question additional items as desired to determine if they should be restart issues.
5. Ensure a record of all decisions and concerns raised by the SERB review is documented for future review.
6. As a result of the review, recommend specific potential restart items for approval by the ROC.
7. The Director of Plant Engineering is responsible for management oversight of SERB activities and for banding this board after startup when directed by the Site Vice President.



ATTACHMENT B

RESTART OVERSIGHT COMMITTEE (ROC) CHARTER

PURPOSE: Exercise management oversight and approval of physical and programmatic work scope necessary to ensure a safe and uneventful unit startup, and achieve a reliable operating cycle.

MEMBERS:

Position	Primary	Alternate
Plant Manager , Chair	Doug Cooper	Bob Gillespie
Operations Superintendent Vice Chair	Larry Weber	Guy Tollas
Production Engineering Director	Ken Baker	Alberto Verteramo
Plant Engineering Director	Don Hafer	Mike Finissi
Maintenance Superintendent	John Boesch	Mark Stark
Licensing Manager	Mark Ackerman	Gordon Arent
Radiation Protection/Chemistry Superintendent	Doug Noble	Paul Holland
Training Superintendent	Barry Wallace	Goerge McCullough
Outage Manager	John Stubblefield	Dick Strasser
Restart Plan Project Manager*	Phil Gora	Dale Tidwell
Secretary*	Betty Clark	Sandy McClintock

*Indicates non-voting members

QUORUM: Chairperson or vice chairperson, and three (3) additional voting members, two of which must be primary members. Attendance from Performance Assurance and Business Performance is strongly encouraged to perform an active oversight role.

ACTIONS:

1. Set and communicate expectations for the organization to evaluate work items against the restart scope criteria.
2. Ensure screening criteria are consistently applied via the restart oversight committee review, meeting and approval process.

Some items that meet one or more of the criteria may be deferred until after restart if there is special consideration that provides the basis for this

decision. Examples may include items that are only a concern during certain seasons, reduced risk of performing the work during a system outage, or implementation of adequate compensatory actions until a long-term solution is defined. A clear basis for deferral of these items is to be provided.

3. Review and approve:
 - A. Restart action items to be completed prior to startup.
 - B. Station readiness to initiate unit startup and power ascension as determined by the results of the assessment of readiness to start up.
4. Maintain a record of presentations, discussions, deliberations and basis for decisions and recommendations.
5. Review charter as necessary to accommodate changing conditions.

Convene as necessary to accomplish this charter prior to and during startup.
Disband after unit startup when directed by the site vice president.

ATTACHMENT C

CRITERIA FOR WORK INCLUDED IN RESTART SCOPE

To be included in the plant restart work scope, items must meet the following criteria:

1. Level 1 Screening

Resolves an immediate industrial or nuclear safety, operability or regulatory issue. These issues will be mandatory restart items.

1. Necessary to address the voluntary shutdown for the A/E inspection and related programmatic issues.
2. Necessary to address the confirmatory action letter.
3. Required to return an INOPERABLE system, subsystem or component to OPERABLE status. IF a Condition Report is issued for which an Operability Evaluation is performed and the system, subsystem or component is declared inoperable, THEN the issue meets Level I screening criteria. CRs identified as "inoperable" by the CR originator in Part A of the CR are not to be automatically classified as a restart issue but are dependent upon the performance of the operability evaluation to determine classification as a restart item..
4. Required to resolve an immediate industrial or nuclear safety concern.
5. Necessary to address regulatory commitments.

2. Level 2 Screening

Not an immediate industrial or nuclear safety, operability or regulatory issue. These issues will be considered for addition to the restart item list based on the review and recommendations of plant engineering, operations, and maintenance if the action:

1. **Eliminates** an existing component failure, deficiency, or condition that could result in operation in, or entry to, an LCO action statement.
2. Resolves existing deficiencies or conditions that:
 - a. would result in failure or inability to perform a required surveillance test during the current outage or the following operating cycle in accordance with the plant technical specifications;
 - b. would increase the risk to operation for safety associated with performing a surveillance; or

- c. would result in the failure to meet a license requirement or a restart commitment to an outside agency.
3. **Restores** degraded critical components or conditions that could result in a plant transient, power reduction or shutdown.
 4. **Resolves** conditions that have resulted in repetitive safety system or equipment failures.
 5. **Restores** licensing basis deficiencies to conforming conditions (extended programmatic reviews and scheduled corrective actions may be completed post-restart with the proper justification of no safety impact, a satisfactory OPERABILITY determination, and appropriate regulatory communication).
 6. **Corrects** equipment with design basis deficiencies; i.e., deficiencies in safety-related or technical specification equipment not in conformance with design basis documents such as the FSAR (extended programmatic reviews and scheduled corrective actions may be completed post-restart with justification of no safety impact, a satisfactory OPERABILITY determination and appropriate regulatory communication).
 7. **Corrects** deficiencies in configuration management programs, processes, engineering analysis codes, or operating, maintenance, or test procedures that have a reasonable probability of affecting equipment OPERABILITY (documentation deficiencies, which have no safety impact, may be completed post-restart).
 8. **Eliminates** conditions that create a potential for personnel radiation exposure, radioactivity release, or effluent discharge in excess of limits.
 9. **Reduces** cumulative deficiencies, backlogs or conditions that, in the aggregate, are evaluated to have significant negative impact on safety, operability or reliable plant operation. (Not applicable to individual work items).

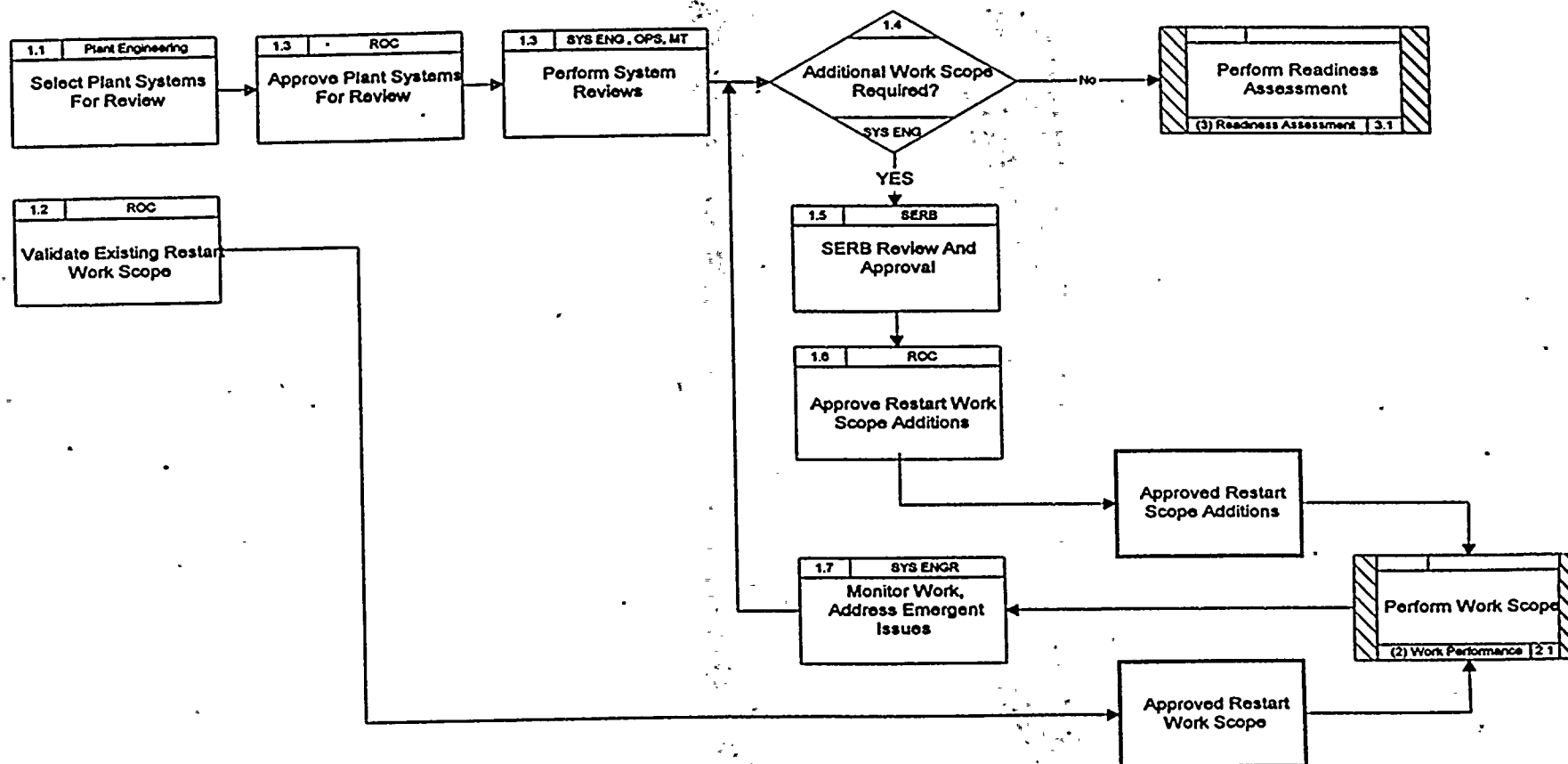
Issues not meeting level 1 or level 2 criteria above are not restart issues. Through this screening process, each of the corrective actions is assigned an appropriate priority based on safety significance to ensure the proper resources and attention are devoted to the issue.

ATTACHMENT D

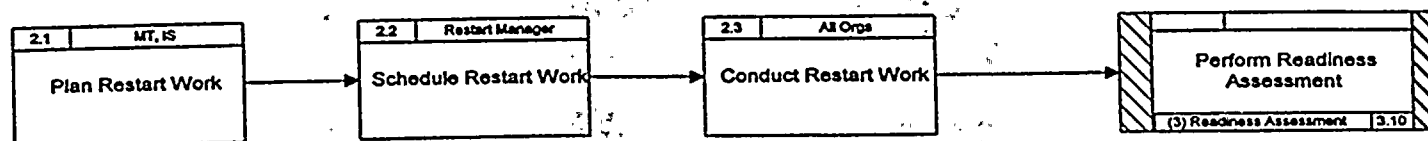
PLANT SYSTEMS TO BE REVIEWED BY ROC

120 Vac/CRID Inverters
Air Recirculation/Hydrogen Skimmer
Auxiliary Feedwater
250 Vdc Station Batteries
Component Cooling Water
Containment
Containment Spray
Control Air
ECCS Accumulators
ECCS Charging Modes 1, 2, 3/CVCS High-head Injection
ECCS RHR
ECCS SI
Electrical Safety Busses (4000 V/600 V)
Emergency Diesel Generators
Essential Service Water
Ice Condenser
Main Steam
Non-essential Service Water
Plant Air Compressors
Reactor Coolant System/RCS Pressure Relief
Reactor Protection System/Solid-state Protection/ESFAS

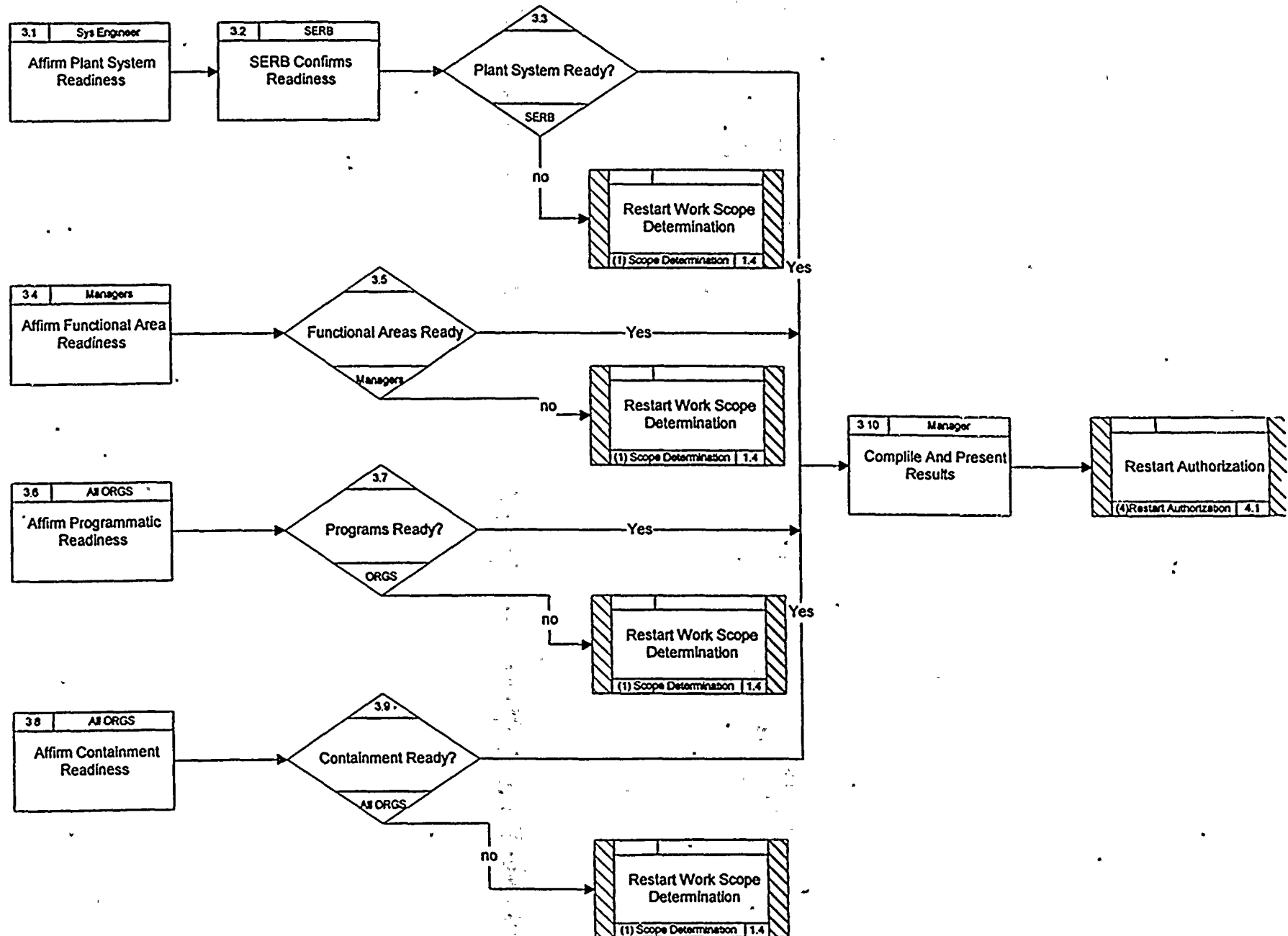
(1) Restart Work Scope Determination



(2) Restart Work Scope Performance

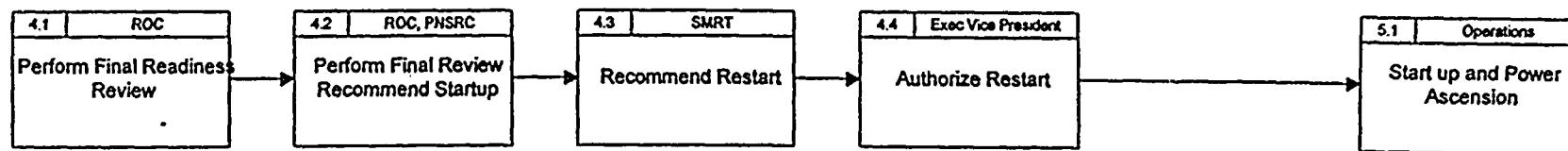


(3) Readiness Assessment



(4) Restart Authorization

(5) Power Operation



Performance Assurance Oversight of Restart

The purpose of this oversight effort is to discharge Performance Assurance responsibilities, under 10 CFR 50, Appendix B, to provide assurance that activities affecting quality are satisfactorily accomplished. This oversight will include providing independent feedback to line management concerning the adequacy of the restart plan and how effective the plan is being implemented. To enhance independence, personnel conducting this oversight will include those who have not been involved with the evolution of practices and lessons learned as the Restart Plan has been implemented.

Critical activities were identified from the restart plan. Critical attributes of these activities were identified and scheduled for oversight as follows:

List of Critical Activities

- System Readiness Reviews
- Functional Area Reviews
- Programmatic Reviews
- Containment Readiness Reviews
- Determination of Restart Work Scope
- Restart Work
- SERB
- ROC
- Integration of Reviews
- Startup and Power Ascension

Critical Attributes of Critical Activities

System Readiness Reviews

- Are the right systems being reviewed?
- Are the right methods being used to conduct the reviews?
- Are the reviews effective?

Functional Area Reviews

- Are the right areas being reviewed?
- Are the right methods being used to conduct the reviews?
- Are the reviews effective?

Programmatic Reviews

- Are the right programs being reviewed?
- Are the right methods being used to conduct the reviews?
- Are the reviews effective?

Containment Readiness Reviews

- Is the right scope being reviewed?
- Are the right methods being used to conduct the reviews?
- Are the reviews effective?

Determination of Restart Work Scope

- Are the right criteria being used to determine restart work scope?
- Are there any hidden inventories of items that are not being considered?
- Review work not included in restart?
- Adherence to Criteria
- Expert Judgement

Restart Work

Is restart work being performed to proper standards?

Engineering
Maintenance
Operations
Other

SERB

Is the charter adequate?

Is the SERB effectively carrying out the charter?

ROC

Is the charter adequate?

Is the ROC effectively carrying out the charter?

Integration of Reviews

Is the method of integrating reviews adequate?

Plant Equipment

Human Resources

Work Programs

Startup and Power Ascension

Is it adequately Planned?

Is it adequately Scheduled?

Is adequately Performed (Onshift Observations)?

**NGG
RESTART TEAM
PROJECT MANAGEMENT
CHARTER**

PURPOSE:

It is the Cook Plant Restart Management Team's charter to provide to the NGG organization a detailed high quality schedule that ensures that all restart issues are identified, scheduled, completed, and closed in accordance with the Restart Plan. The Team will be composed of individuals who will aggressively seek out and coordinate the resolutions of challenges to the schedule. The Team will work through conflict and confrontation to ensure decisive actions are taken to develop simple solutions to problems that challenge the schedule. Team members will interact face to face with Line and Senior Management to ensure that issues are known, understood, and resolved in a timely manner. The Team will interface with the NRC in an open and professional manner. The Team members will foster open communications both internally and externally. The Team will embrace Human Performance Improvement principles to ensure that a quality plan is produced that addresses safety, quality and cost. The Team will emphasize teamwork and mutual accountability by setting high performance expectations, being demanding customers, having personal accountability, and delivering what we commit to deliver.

ACTIONS:

1. Interface with all NGG departments to identify restart issues
2. Enter the restart issues in the restart data base
3. Ensure that all restart items have an identified owner
4. Ensure that restart items are planned
5. Develop a schedule logic that is sequenced and resource loaded
6. Ensure that the schedule includes all restart issues
7. Provide the physical work schedule to the Integrated Scheduling group for conversion to PODs
8. Develop a schedule for the functional and programmatic issues that at a minimum identifies the kind of resource (if not by name) and is resource loaded at least in terms of number of days of work/individual
9. Develop standardized format for "Work Down Curves"
10. Solicit data from functional area owners to produce weekly production reports
11. Develop set of effectiveness measures to monitor restart issue performance relative to an industry standard for excellence
12. Lead the weekly production meetings by providing an agenda that includes focus items that the team determines requires management attention
13. Frequently perform face to face contact with restart issue owners to determine status, concerns, and challenges to the schedule.
14. Be cognizant of and resolve schedule conflicts in a timely manner.
15. Co-ordinate and oversee the integration of scope, plan, schedule, estimates and cost.
16. Provide timely status updates to the Site Vice-president, Plant Manager, and NRC Resident.
17. Ensure that items approved as Restart issues by the ROC are accurately recorded in the Restart Database.
18. Ensure that all regulatory and close out issues are scheduled and completed on time.
19. Proactively drive issues to the ROC to ensure timely disposition toward scope identification.
20. Review and approve outside service requests to ensure scope is known and reflected on detailed restart schedule.

NGG
RESTART TEAM - PROGRAM MANAGEMENT
CHARTER

PURPOSE:

It is the NGG Restart Plan/Process Team's charter to provide to the NGG organization a plan and process that ensures that all restart issues are identified, captured, and driven to closure in an organized manner. The Team will be composed of individuals who will steadfastly seek to ensure closure of issues in a timely manner but also in a consistent manner that will withstand inspection. The Team will work closely with NGG Management, Regulatory Affairs, and Performance Assurance to ensure decisive actions are taken to develop simple solutions to problems that challenge the process. The team will hold all employees and each other accountable for adhering to the restart processes and procedures, and the expectations set by senior management for implementation of the restart plan. The Team will interface with the NRC in an open and professional manner. The Team will not place Schedule over Safety or Quality.

ACTIONS:**1. Provide administrative support for the SMRT including:**

- Schedule the meetings
- Set meeting agendas
- Providing high quality meeting minutes
- Provide administrative support

2. Coordinate the development of Restart Plan strategies**3. Provide project management support for the restart oversight committee (ROC).**

- develop and drive a comprehensive schedule for ROC presentations
- integrate the ROC schedule into the restart schedule
- develop and implement a consistent process to review emergent items
- screen presentations for consistency and quality prior to presentation to the ROC
- structure meeting presentations
- proactively drive issues to the ROC to ensure timely disposition of restart issues
- provide meeting moderation, structure, and rules of engagement
- provide high quality meeting minutes
- provide full engagement of the restart program manager and ROC membership.

4. Provide support to senior management and licensing for 0350 and other restart meeting presentations.**5. Develop milestones for Restart Plan activities for integration into the restart schedule.****6. Process/Procedure Development**

- Develop the processes and procedures required to support the restart plan.
- Maintain and control the restart plan and procedures.
- Be cognizant of and resolve restart process conflicts in a timely manner.
- Document processes used to perform restart plan reviews. (CR review, CM review etc.)

7. Develop and administer the restart database.**8. Interface with NGG departments to implement restart processes and identify restart issues.****9. Provide Restart Plan issue closure and oversight**

- Record strategy and assemble closure documentation for restart plan functional area assessments, ROC final reviews, SMRT final reviews, ROC meeting minutes, SMRT meeting minutes.

CONDITION REPORT REVIEW TEAM (CRRT) CHARTER

PURPOSE: To review all open Condition Reports issued before August 14, 1998 to identify:

- Condition Reports Investigations that address issues which are required to be resolved prior to restart so that their status is clearly known and captured in the Restart database;
- Condition Report commitments (i. e., corrective actions) which are required prior to restart so that their status is clearly known and captured in the Restart database;
- Condition Reports that need to be tied to a mode restraint so that power ascension is appropriately controlled;
- Condition Reports that need operability or "back-up" operability evaluations so that items are resolved prior to restart;
- Condition Reports that will require or have the potential to require an FSAR revision so that the information can be tracked by Nuclear Safety and Assessment..
- Identify those Condition Reports that pose significant risk to the restart schedule so that accelerated action is taken. Significant risk is defined as those actions which have the potential to delay restart if not completed in a timely manner to support the Restart schedule or unresolved issues whose corrective actions have the potential to effect Restart readiness. (Examples of such items would be Condition Report investigations which are not yet complete or scheduled activities which currently extend beyond anticipated restart date.)

MEMBERS:

Membership will consist of representatives from primary plant organizations who will function as project team managers to obtain required information from plant departments and to perform appropriate critical reviews and assessments to achieve the above stated purposes. The team will be chaired by the Manager, Corrective Action Program.

Membership includes:

Chairperson: W. Walschot

Alternate Chairperson: B. Gillespie

Operations Representative: B. Gillespie

Alternate Representative: G. Tollas

Maintenance Representative: A. Barker

Alternate Representative: J. Boesch

Engineering Representative: A. Verteramo

Engineering Representative: P. Halverson

Licensing Representative: G. Arent

Alternate Representative: R. Shoberg

Corrective Action Representative: P. Ganey

Alternate Representative: As assigned by CRR Chairperson

Sponsor: B. Powers

QUORUM: Meeting quorum will consist of Chairperson or designee and, as a minimum, 3 of the 4 representatives from the Operations, Engineering, Licensing, and Maintenance representative or alternate.

ACTIONS/METHODOLOGY:

1. An Open Condition Report database shall be developed by the Corrective Action Group for all open Condition Reports issued before August 14, 1998. The spreadsheet will serve as the documentation sheet for the collection of raw data. Condition Reports issued after August 14, 1998 will be reviewed for restart impacts by the Management Review Board per the Restart Plan.
2. The data will be sorted by responsible departments to facilitate data review and analysis.
3. Upon identification of plant departments responsible for the resolution of specific Condition Reports, CRR Team members will contact the department managers to have them provide the following information on each condition report:
 - Determination of restart status through the use of the Restart Criteria contained in the Cook Nuclear Restart Plan. Is the Condition Report a restart item? Are commitments associated with Condition Reports identified as restart items appropriately classified per the Restart Criteria?
 - Determination of risk and impact to Restart Schedule for those Condition Reports for which investigations have not been completed and for those Condition Reports whose corrective actions have not been completed.
 - Determination of mode constraint. During this outage, a number of Condition Reports which do not meet the criteria as a restart item will be worked as the schedule allows. Mode restraints may be required for some of these CRs. The CRR Team will identify and include these items in their final report. Therefore, it must be understood that not every activity included in this outage is a restart item and there is not a one for one correlation between items with mode restraints and restart items.
 - Determination of need for operability or "back-up" operability evaluation.
 - Determination of need for FSAR changes.
4. After department review of Condition Reports, departmental managers or their designees will meet with the CRR team members to discuss their findings. It is expected that CRR team members will adopt a questioning and challenging attitude to assure that a balanced and well
5. considered restart workscope is achieved as it relates to problems identified through the Corrective Action Program.
6. Evaluations performed and decision reached through these reviews and discussions will be documented in the Open Condition Report database by the CRR Team. Where appropriate, justifications will be provided for determinations reached. Operations will be the final authority on mode restraints.
7. Based on the review, the CRR Team will identify the following:
 - Recommended restart scope additions.
 - Recommended restart scope deletions
 - Identification of significant issues
8. Department Managers are responsible for updating KTP, the Outage Schedule and the Restart database based on results of the discussion with the CRR Team. The CRR Team will verify this action is taken prior to submitting recommendations to the ROC.
9. The CRR Team will present review results to the ROC per Restart Plan requirements.

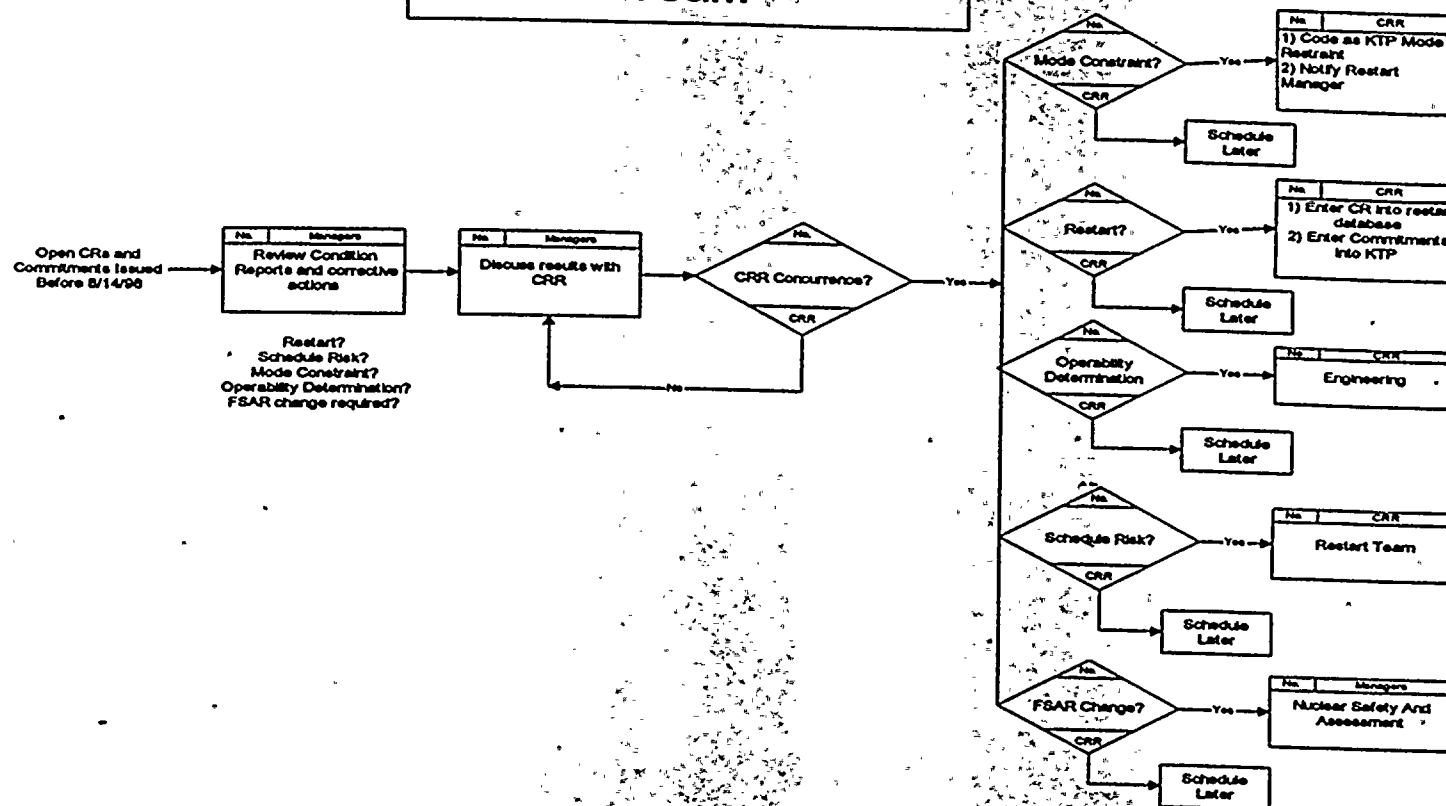
10. CRR Team members will provide the results of their review to the following groups:

- Mode Constraints-To the Corrective Action Group for input to KTP and the Restart Team for input to Restart Schedule.
- Restart items, (additions and deletions)-To the Restart Team for scheduling and the Corrective Action Group for KTP input
- Operability /"back up" operability reviews-To Engineering for performance of reviews
- FSAR impacts-To Nuclear Safety and Assessment
- High risk/impact issues-To Restart Team

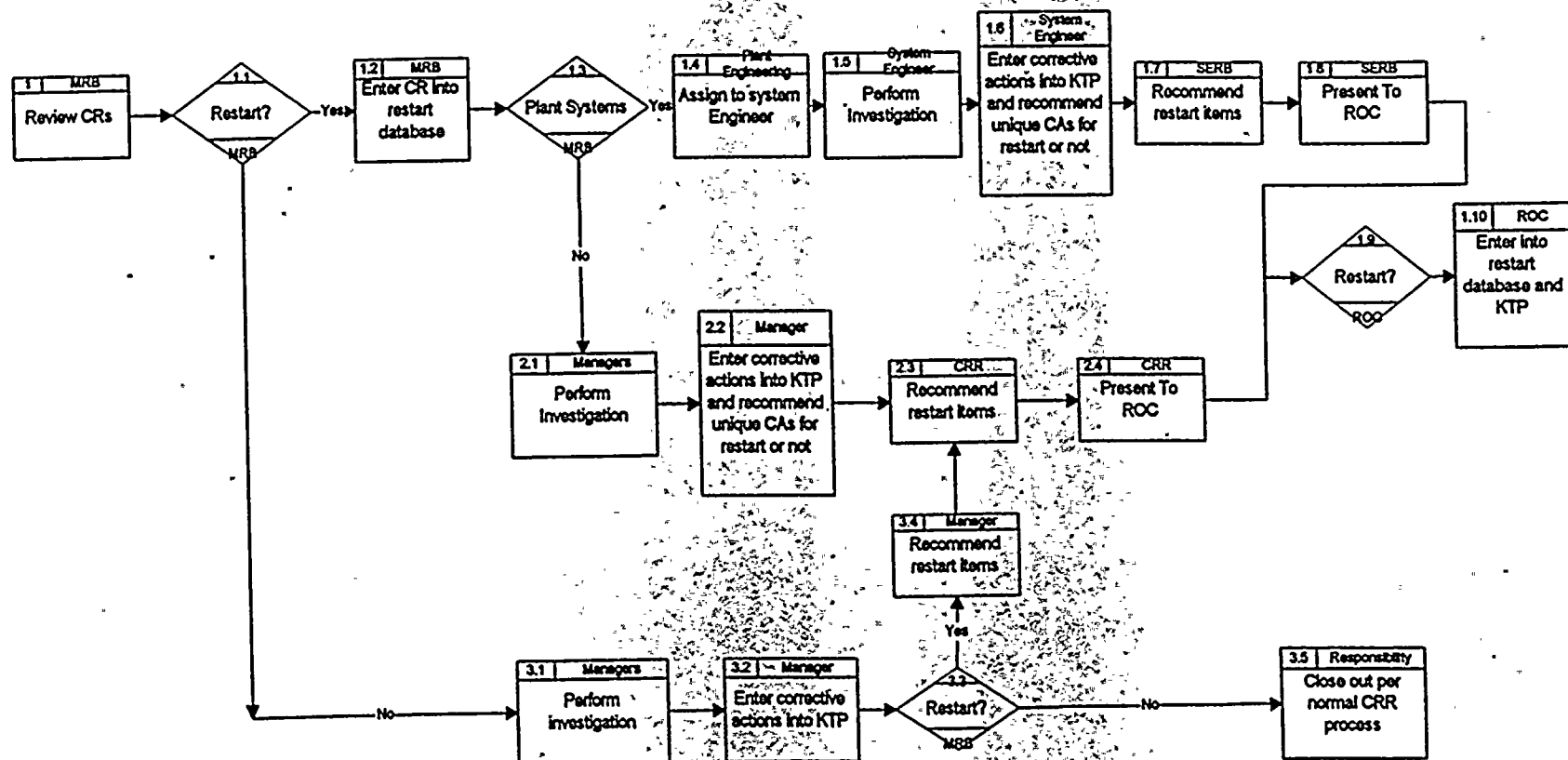
11. Work Controls, the Restart Team, Nuclear Licensing, and the Corrective Action Group shall modify their databases to reflect ROC decisions.

12. Working departments shall revise their plans and schedules to implement the changes determined by the CRR and approved by the ROC.

Condition Report Review Team



Condition Report Review Process For Potential Restart Issues



ATTACHMENT K

SOURCES OF POTENTIAL RESTART ISSUES

• Open condition reports & corrective actions
• Open NRC items
• Violations
• Unresolved items (URIs)
• Inspection follow-up items (IFIs)
• Minutes of NRC DC Cook Group Meetings
• Engineering Evaluation Requests/Engineering Technical Notes
• Open Action Requests
• Operator Work-around list
• OCRs
• Open PRC/ISRG issues
• Licensee Event Reports (LERs)
• NRC commitments
• Westinghouse Advisory Letters
• Surveillance procedures
• Generic Letters
• INPO Evaluations Open Items
• FSAR Review Program
• Design Bases Review
• SP changes
• Technical Specification changes
• Operating Experience (SOERs, SENs, IENs, etc.)
• Open DCPs
• Open Temporary Alterations
• 0350 Open Items
• Readiness Reviews
• Self Assessments
• Restart Reviews
• Performance Appraisal Oversight Findings
• Backlog Reviews

ATTACHMENT L

STRATEGY COVER PAGE

Restart Issue Number (if assigned):

Revision Level:

Issue Title:

Issue Description:

Strategic Objective/Goal:

Restart Strategy Owner (Printed Name):

Ext.:

Restart Strategy Owner Signature:

Date:

SMRT Review and Approval/Date:

Distribution:

Issue Owner (Original)

Restart Project Manager

Restart Program Manager

RESTART SCHEDULE CHANGE REQUEST

Purpose of Request:

Restart Issue Number:

Description of Change:

Justification:

Proposed Revised Schedule (start/finish):

Estimated Impact on Restart Schedule:

Requestor: _____ Extension: _____
Print name

Restart Project Manager Concurrence/Date: _____

SMRT Concurrence/Date: _____

Executive Vice President Approval/Date: _____

Distribution:

Requestor

Restart Project Manager

Restart Program Manager

DEVELOPMENT OF RESTART ITEM STRATEGIES

The Restart Project Manager or the SMRT may direct strategies be developed by strategy owners for certain restart issues. Strategies are intended to provide a detailed plan which captures all actions required to successfully resolve a particular equipment, organizational, functional or programmatic problem.

In the development of strategies, the corrective actions must include documented insights from the organizations or individuals that may have contributed to the event, those responsible for developing the corrective action, and those responsible for the implementation of the corrective action. This may be included directly in the strategy or by addendum.

Strategies are intended to be dynamic documents and the Restart Strategy Owner must assess changing information and conditions to determine if the strategy must be revised during the restart process.

A strategy must consist of the following elements:

Administration

- Restart strategy cover page

These items will be contained on the Strategy Cover Page.

Issue Description/Problem Statement

- Issue description/problem statement-The description must include the source(s) which identified the issue/problem, including related individual NRC findings and Condition Reports. The original cause analysis which established the issue/problem and the reason(s) for the issue/problem must also be included, if available. In certain cases, a formal cause analysis may not exist but is required to be performed as part of the assessment portion of the strategy. This fact must be stated in the issue description.
- The issue/problem statement must also include the link or relationship to the upper tier strategy.

Plan are to be used to make this determination. Justification must be provided for items which are classified as required for completion after restart (i. e., post restart issues).

- If the strategy is providing corrective actions for a variety of problem report documents and/or NRC findings under one issue, the source documents must be listed for each specific corrective action that resolves the unique problem. This will facilitate documentation requirements associated with the closeout phase.
- Consideration must be given to the potential impacts on other organizations and the strategy must account for activities other organizations may be required to take to ensure full implementation of the corrective action(s).
- Consideration must be given to and address the need for training, if applicable, in issue resolution. Training actions must include information from lessons learned from the event analysis and root cause determinations, if performed. Training must also be performed on technical and administrative changes made to facilities and/or practices and include discussion of why the changes are necessary. If training is not required as part of the corrective action, a justification must be provided.
- The proposed corrective actions must be clearly cross-referenced to all of the associated root causes and causal factors they are intended to correct as appropriate.
- Corrective actions must be sufficiently detailed to ensure that all activities related to completion of the corrective actions are identified (i.e., procedure or drawing changes, Technical Specification changes, etc.)
- Where applicable as defined by plant procedures, safety evaluations have been performed to ensure that corrective actions did not result in the loss of safety margin.
- Confirmation that applicable codes and standards were adhered to during the development and analysis of corrective actions.
- It is permissible to reference an attached list of corrective actions obtained from the Restart Database provided confirmation has been made that the list is complete or additional items not on the database are listed in this section.

Assessment

- Objective - Statement of the overall objective(s) of the assessment (e. g., to determine regulatory compliance for a program, functional area, etc.).
- Method(s) used to analyze problem
- Scope of the assessment- Description of the scope of the assessment including the logic and actions leading to the scope definition.
- The scope of the analysis must consider the applicability of the related issue(s) on similar systems, structures, components, procedures, processes, or activities at Cook and other industry facilities in an attempt to identify trends or generic concerns.
- Summary of findings- A summary statement of the root and contributing causes is to be included in this section. If a potential root cause is rejected, a clearly defined rationale must be provided and documented.
- Determination of extent of condition- A rationale for terminating the root cause and causal factors analysis must be based on a documented process that is clearly defined and which provides a reasonable basis for all conclusions reached.
- The potential root causes of the issue and any associated problems are required to be thoroughly evaluated.
- The assessment must consider the applicability of the related issues on similar systems, structures, components, procedures, processes, or activities at Cook and other industry facilities in an attempt to identify trends or generic concerns.
- A rationale must be provided for any potential root causes, which are rejected, and the rationale must be clearly defined and documented for all root causes.
- A rationale must be provided for terminating the root cause and causal factors analyses which is based on a documented process that provided a basis for all conclusions reached.
- For 0350 issues, the Restart Strategy Owner is responsible for assuring that a Condition Report has been written to address the issue and that the Condition Report investigation has appropriately evaluated the issue.

Corrective Actions

- Items are to be uniquely numbered (e.g., For Restart Item "X", the first corrective action would be listed as Item 1. Sub-entries associated with that unique corrective action would be lettered 1.a.)
- Each corrective action must be identified as either a restart issue or post restart issue. The criteria for the classification of items as restart items in the Restart

Project Plan

A typical project plan will include:

- Task Development
 - Owner
 - Duration
 - Estimated Completion
 - Logic Ties
-
- Items are to be uniquely numbered and must correspond to the corrective action numbering in the previous section.
 - Each action entry and sub-entry must have a projected detailed schedule that includes pre- and post-restart actions date and which identifies the organization responsible for the action. Resources required to complete the task and an estimated number of manhours for task completion must be assigned for each action item associated with a specific issue.
 - Actions are specifically identified as required for restart or not.
 - In the case where long term actions remain to be accomplished, it must be clearly documented when the action will be complete, the basis for the delay in the actions, and how the actions will be tracked and trended to assure completion.
 - If interim corrective actions are developed, they must be documented when permanent corrective actions are not implemented because of time constraints or completion requirements before plant restart.
 - It is permissible to reference an attached detailed schedule provided it is confirmed that all items contained in the Corrective Action section are addressed or accounted for in the detailed schedule.

Expected results and effectiveness measures

- Identify strategic objectives/goals of the corrective actions. The strategic objectives must be defined and include interim objectives to assess the progress of the plan. The objectives must be focused on ensuring a lasting improvement in the operation and maintenance of the plant.
- Actions must identify the desired conditions to be achieved and include measurable performance indicators, whenever possible, to assure the actions can be assessed as effective to preclude repetition of the problem. These measures



should form the acceptance criteria and provide precursor indication of declining performance.

- Corrective actions must include restoring systems and equipment to service and verifying they can perform their intended safety functions through post maintenance or post modification testing.
- Near and long term effectiveness measures must be identified.

Documentation

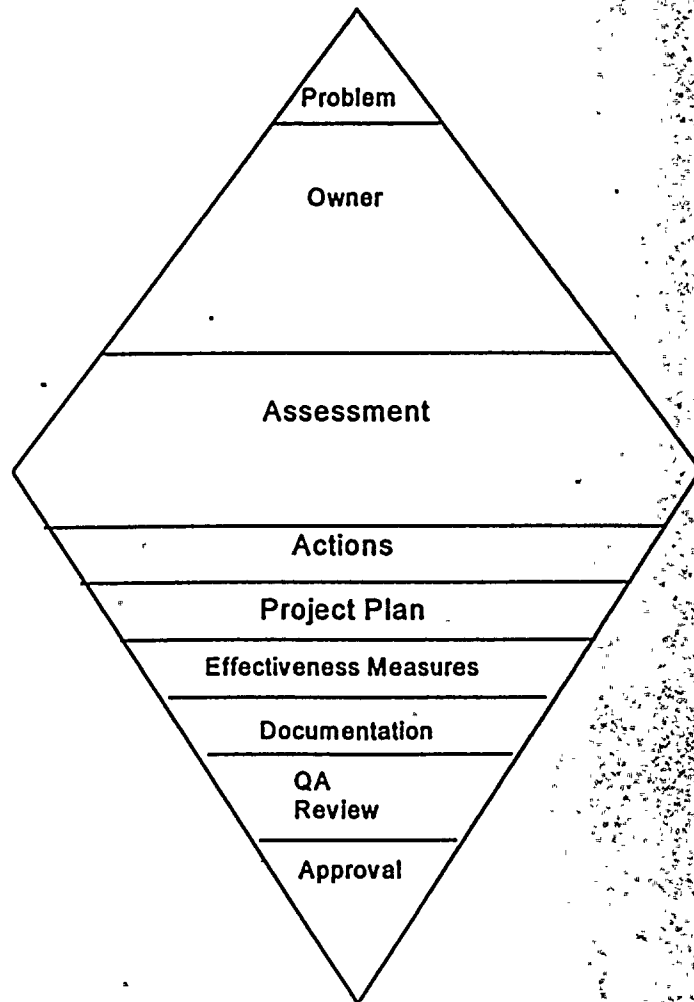
List documentation which will be needed to support the closure of the package.

QA Review/Effectiveness assessments

- The strategy must include requirements to have self-assessments, and as necessary, independent assessments, of the implementation of the effectiveness of the strategy. (i.e., a method to confirm actions were effective)



Restart Plan Strategy Diamond



Description of the problem (list source documents).
Description of the link to the previous strategy/problem.

Strategy Owner

Description of goals for the future.

Description of the scope of the assessment including the logic
and actions leading to the scope definition.

Actions for addressing problems and achieving future goals.

Detailed schedule that includes pre and post restart actions.

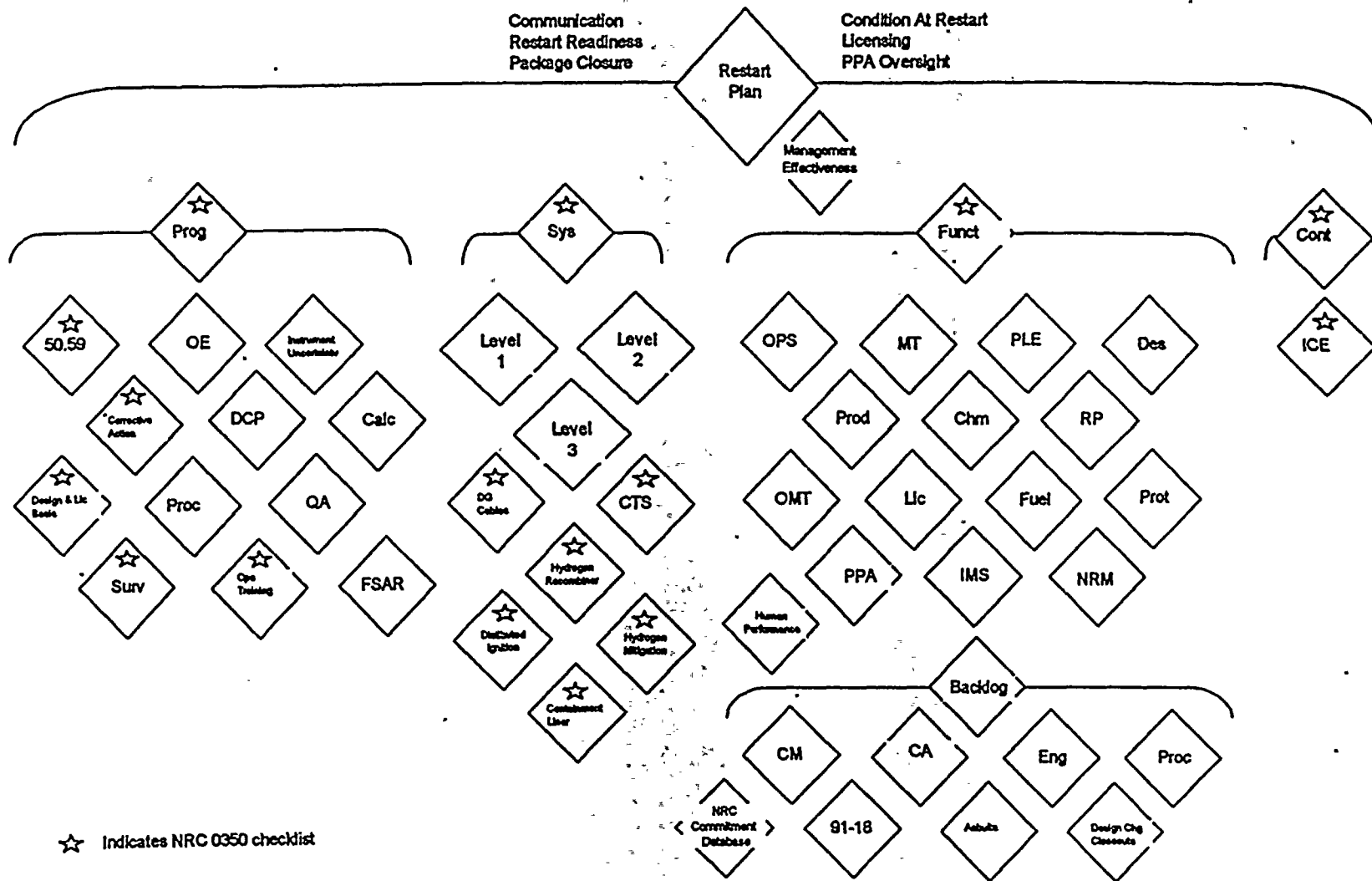
Metrics for determining effectiveness of actions. (future
assessments, performance measures, field monitoring etc.)

Based on closure requirements

Independent method to confirm actions were effective.

Management approval of strategy.

Restart Plan Major Strategies





ATTACHMENT O

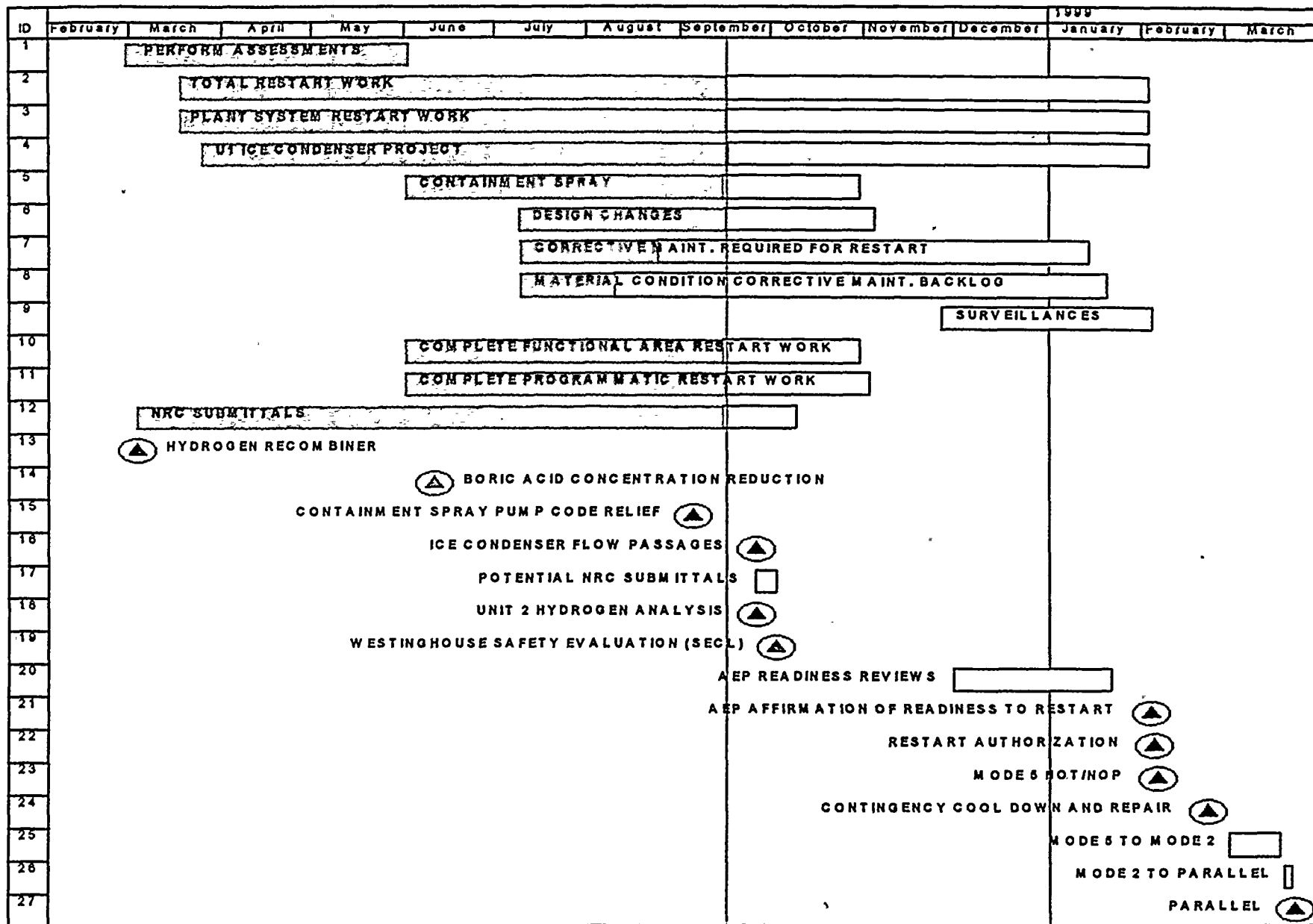
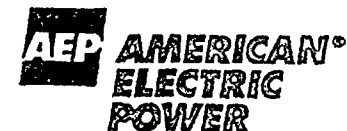
Restart Plan Revisions		
Revision Number	Description	Date
1	Page 26: Newpage. Added Revision Block.	4/7/98
	Page 8 "Authorize Restart": Deleted Executive Vice President Nuclear Engineering. Added Executive Vice President Nuclear Generation.	
	Pages 20 and 21: Added reference numbers to restart criteria.	
2	Sect 1.3.5: Added Director Regulatory Affairs to SMRT	5/6/98
	Attachment A: Added Preventive Maintenance Manager to SERB charter	
	Sect 1.3.10: Added Plant Performance Assurance responsibilities	
	Added Attachment F, Performance Assurance Oversight Of Restart	
	Index: Added Attachment F	
3	Attachment C: Added "operability or regulatory" to level 1 screening. Added 5. Necessary to address regulatory commitments. Added "regulatory" to level 2 screening.	
	The restart plan was completely revised to provide greater detail and direction to plant personnel for performing restart activities. Included in this revision are: <ul style="list-style-type: none"> -Restructuring of restart process to reflect the restart process model -Inclusion and expansion of individual and group roles during restart -Addition of restart responsibilities of the CRRT and MRB -Incorporation of NRC 0350 Restart Guidelines -Requirement to develop and process for strategy plans -Addition of management expectations, near and long term activities for restart. -Clarification of criteria 1.3 for classification of issues as restart items. 	

ATTACHMENT 1 TO AEP:NRC:1260GF
COOK NUCLEAR PLANT LEVEL 1 SCHEDULE

3 2 3 4



LEVEL 1 SCHEDULE



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