INPO®

INPO 12-011
October 2012

An Implementation Framework to Significantly Improve Nuclear Plant Performance

Recovery Guidance for Corporate and Station Leaders

Revision 0

INTRODUCTION

This document provides a basic framework of steps and a sequence of actions for integrating corporate and station improvements when a member utility's nuclear plant requires special focus from INPO to address persistent shortfalls or a significant decline in performance.

The document is intended for use by corporate and station leaders to improve their understanding of strong governance and oversight to reinforce the principles needed to develop and maintain these attributes for stations that have significantly declined in performance.

This document is complementary to and intended for use in conjunction with the *Template for Significantly Improving Plant Performance* (Attachment E) and *Principles for Strong Governance and Oversight of Nuclear Power Organizations* (preliminary). These documents describe the essential attributes for plants recovering from degraded performance and corporate governance and oversight, including the key elements needed to move plants toward excellence.

The guidance in this document is designed to enable organizations to integrate both corporate and station assessments and improvement actions into a comprehensive strategy to improve plant performance rapidly. Recovery plans should be developed, or missing steps added to existing recovery plans, based on this guideline. It can also be used to guide initial development of an integrated recovery plan, if one does not exist. For plants already achieving high levels of performance, a similar self-assessment may be useful in identifying missing elements that might impede the sustainability of that performance.

In June 2012, a group of industry executives and senior leaders who represent a cross-section of the nuclear industry and who have experience and expertise in recovering low-performing nuclear plants participated in a working meeting at INPO to identify important lessons learned. The attributes identified at that meeting have been incorporated within this document.

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TABLE OF CONTENTS

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THE FOUR PHASES OF RECOVERY

This framework represents a comprehensive recovery strategy and model based on lessons learned from the industry. The intent of this document is to guide the development of an integrated recovery strategy and plan. If a recovery strategy already exists, this document should be used as self-assessment guide.

An over-arching objective of a recovery strategy is to establish desired end-state outcomes and develop actions, milestones, and metrics that support the timely realization of the desired outcomes. In many cases, a rapid or accelerated recovery may be a primary objective in one particular functional or cross-functional area and will need to be the highest priority for performance improvement. As such, the phases of recovery discussed in this document may be applied in parallel to enable high-priority areas to progress more swiftly. For example, while an organization is performing leadership assessments and developing a comprehensive site recovery plan, immediate actions may be warranted to address urgent issues in a particular area of vulnerability. While the four phases are described as distinct and unique, differing priorities may dictate the need to take action in the execution phase for a given performance problem while the assessment phase for another area is being completed. High-priority actions should not be needlessly delayed while lengthy assessments are conducted for longer-term focus areas.

1.0 ASSESSMENT PHASE

1.1 Corporate and Station Performance Assessments

It is critical to accurately but rapidly (target within 90 days) diagnose the current leadership team behaviors (down to the department managers), the materiel condition of the plant, and the attitudes and behaviors of site personnel that contributed to the station decline. An independent assessment of corporate and station performance must be performed, focusing on leadership and management behaviors as a potential primary cause for declining plant performance.

A strong focus on understanding why previous station and corporate performance improvement efforts did not arrest or prevent a decline in performance is necessary. This is where the true underlying cultural issues that allowed the decline exist.

Immediate benchmarking of stations that have successfully diagnosed and recovered from declining performance is recommended.

Industry mentors who have recovery experience should be used early in the recovery effort. Mentors share operating experience, provide candid feedback from an outside perspective, and act as a sounding board for the senior station leaders during the recovery efforts.

1.1.1 Define Values and Vision

- Define, develop, or adjust the leadership model. The leadership model consists of the required values and behaviors expected of the station leadership team. All recovery actions and improvement efforts must be rooted in the vision and values of the station and the corporation.

- Create a new or revise the existing vision statement for the corporate and site organizations. In some cases, the current vision may need renewed communication and reinforcement to ensure ownership.

1.1.2 Corporate and Station Performance Assessment

Critical assessments of the leadership team to the vision and values of the station and the corporation (leadership model) must be done immediately and on an ongoing basis during recovery. Assessing the corporate and station leadership teams' understanding of the corporate nuclear operating model or governance, oversight, support, and perform (GOSP) model is equally important.

- Use independent personnel or organizations to perform a detailed assessment of station leadership behaviors, organizational and programmatic causes, and attitudes and behaviors of site personnel that contributed to the station decline.

(Refer to INPO *Leadership Fundamentals to Achieve and Sustain Excellent Station Performance*; NEI 09-07, *Fostering a Strong Nuclear Safety Culture*; and Attachment D, Cycle of Plant Performance, herein).

- The assessment must identify the true underlying issues, such as the following:

  — shortfalls in management standards, monitoring, and oversight
  — lack of accountability for results and behaviors
  — key company or station leadership changes that preceded the decline
  — lack of leadership alignment on core values
  — weaknesses in fundamentals, especially in operations
  — changes in operational context, or increased management distractions
  — ineffective use of the corrective action program
  — shortfalls in equipment performance; unresolved or long-standing issues
  — isolationism or insufficient self-criticism
  — lack of employee engagement and trust in leadership

- As part of the assessment, ensure missed opportunities to arrest and prevent the decline in performance are identified. Perform a collective review of both internal and external performance improvement documents and reports. For example, review several past INPO evaluation reports, external nuclear safety committee reports, independent oversight reports, and station root cause analyses and responses, with a focus on how management reacted, rationalized, or assumed ownership and how actions were taken to address the issues. Identifying the missed opportunities can provide a clear picture of what leadership behaviors are the true causes of the decline.

- Review the capabilities and the effectiveness of corporate and station leaders with the purpose of establishing a capable, stable leadership team with skills for recovery. Make and monitor necessary changes in leadership. Recognize that additional reviews will be required of leaders below the department manager level.

- Once the station performance assessment has been completed and causes for decline have been identified, perform an assessment of the corporate governance, oversight, support, and performance model that did not arrest or that contributed to the station performance decline. Focus on corporate involvement and oversight in previous station improvement efforts.

- Focus on corporate decision-making with regard to the financial commitment and the organizational structure and resource changes that occurred several years before the decline.

- Identify and capture past station and corporate vulnerabilities and threats that contributed to past improvement efforts being undermined. Vulnerabilities and threats are *external* conditions.

- Identify the most critical elements (three to four) of performance shortfalls that are the drivers of many other issues and are the most at risk to improving performance; for example:

  — **Leadership engagement** is inhibiting timely issue resolution and successful schedule execution.

  — The **leadership team is not aligned** on defined and repeatable behaviors, as defined in the leadership model, necessary to improve the effectiveness of the organization.

  — **Adherence to defined organizational values** and standards in day-to-day interactions is not continually and positively reinforced.

  — **Ownership and accountability** are not consistently enforced. Station employees do not hold themselves or others accountable, both at the peer level and at the leadership level, thereby missing opportunities to coach and change behaviors.

  — **Continuous improvement** is constrained because of a limited **sense of urgency.** Issues linger that should be resolved quickly.

  — Station **communication** is not consistently formal, lacks specificity, and misses opportunities to ensure a consistent and effective message to maintain **employee trust.**

  — Station leaders are not using all opportunities to drive **safety** improvements across the site.

- Identify immediate targets of opportunity and priorities. Implement compensatory measures to address those issues important to plant safety.

- Perform an independent review and challenge of the assessment results to identify the true underlying causes. Industry mentors who have recovery experience should be used early in the recovery effort and assessment phase, to share operating experience and to provide candid feedback.

- Communicate results of corporate and station performance assessments and leadership effectiveness reviews to the chief executive officer, the board of directors, the Nuclear Regulatory Commission (NRC) regional administrator, and INPO to achieve alignment and support.

- Once the corporate and station performance gaps and causes have been approved, conduct meetings between senior leaders and various groups at all levels of the organization to establish the need for change. The corporate and station leadership teams must present the facts. (Refer to Attachment E, *Template for Significantly Improving Nuclear Plant Performance*.)

- Provide communication support and oversight to ensure a plan is established to repetitively communicate, both at corporate and at the station, the need for change; for example, through daily meetings, corporate and station communication papers, and group meetings.

- Do not underestimate the importance of communication with the corporate and station workforces. It needs to be tied to values, be repetitive, and be multi-media. Communication must come from the leadership team and be owned by lower-tier leaders.

1.1.3 Leadership Alignment to the Recovery

Leadership alignment on vision and values is critical to recovery. Managers, supervisors, and other leaders who are not aligned to the new vision and values and who cannot effectively communicate actions being taken and their ties to improvements will impede the rate of recovery.

To gain alignment takes dedicated forums on a routine basis at which leaders talk about their performance and how it aligns with the values being discussed in the organization. This is especially true for the first-line supervisors.

- Align senior leaders to the new vision, values, and expectations—chief executive officer, chief nuclear officer, corporate vice presidents, and site vice presidents down through department managers.

- Alignment efforts must continue down through as well as across successive levels of the organization. The leadership team should first conduct a series of meetings off site to obtain alignment between the department managers and senior management. Activities should include the following:

  — Discuss the purpose and expected outcomes and changes in key behaviors for a recovery action plan.

  — Conduct an exercise based on the plant states of decline to ensure the current state of the organization and its future direction are understood.

  — Discuss the communication strategy to cascade the action plan to the extended leadership team.

- Avoid inconsistent messages from corporate and plant leaders. Ensure corporate direction does not bypass site leadership. Corporate and site leaders should avoid mixing internal communications to convince the workforce on the continuing need for change (sense of urgency), with external corporate communications that may be designed to convey a more balanced message to external stakeholders.

- Ensure a communication plan is developed for each phase of change. Corporate leaders and the site management team routinely use the communication plan as a tool.

1.2 Key Deliverables and Outcomes

The following are the key deliverables and outcomes expected in the assessment phase:

- Corporate and station performance assessments are completed.
- Key drivers of performance decline have been identified.
- Issues that need immediate attention are identified.
- Immediate compensatory measures are in place.
- Independent reviews and challenges of assessment results are completed.
- An initial communication plan is completed.
- Communication meetings at corporate and at the site are completed, with future plans defined.
- An independent review of leadership assessments and assignments is completed, and critical feedback is provided to corporate and station senior leaders.
- The leadership team—from the board of directors, the chief executive officer, the chief nuclear officer, corporate vice presidents, and site vice presidents down through department managers—is aligned with the same corporate vision and values.
- Stakeholders, the NRC, INPO, and others are provided an update of assessments and next steps.

2.0 SCOPING PHASE

2.1 Define the Scope of Recovery and Boundaries

Once the underlying causes for the decline are accurately identified and agreed on, it is imperative that during recovery the station, corporate, and internal and external oversight organizations remain focused on those issues. Additionally, what "recovered" looks like needs to be defined, with clear roles and responsibilities stated for the corporation and the station.

- Ensure the scope reflects the most critical elements (underlying issues) of performance shortfalls identified during corporate and station assessments.

- Identify what specific improvement actions will be considered recovery and those that will be normal business plan activities.

- Define "recovered" metrics and the required changes in behaviors and results needed to change performance.

  — Define and communicate the desired leadership team and workforce behaviors that need to be prevalent and need to change.

  — Define the scope of changes needed to increase interactions and improve the engagement of the workforce to help build trust. For example, ensure the workforce is engaged in multidiscipline teams and participates on improvement teams for initiatives, including benchmarking and self-assessment activities.

  — Define the expected time frame for results on key performance metrics and key fundamental behaviors such as accountability. Then define a longer-term set of metrics for transition and sustainability.

  — Revise station goals. Ensure revised goals stretch the organization and establish a clear movement toward improvement. Striving for excellence in one step may not be reasonable. Ensure developed plans build in a phased approach, with specific key milestones used as targets. (Refer to Attachment C.)

  — Review or revise corporate functional area goals and objectives to ensure that they remain challenging.

  — Develop a road map to success (achieving the vision) with recovery key milestones. The key milestones need to be incorporated within any improvement plans. (Refer to Attachment C.)

— Create a compelling scoreboard (metrics) that is simple and visible to leaders and the workforce and that displays leading and lagging measures (influencing and making a difference). (Refer to Attachment C.)

- Clearly identify the role of the station and the role of corporate governance, oversight, and support, to focus recovery actions and reviews at the right level.

- Define what will not be done (it is equally as important as what *will* be done), such as specific modifications or power uprates, to eliminate distractions or competing demands for resources and management attention.

- Identify the additional human and financial resources needed, to ensure sufficient resources are available for the scope of work ahead.

  — Identify the extent to which staffing limitations and the organizational structure inhibit correction of underlying issues, shortfalls, and backlogs caused by poor standards and inefficiencies.

  — Evaluate organizational capability. Describe the challenges the organization will face over the next two years, based on the number of outages, the size and scope of the outages, potential or actual increased involvement or inspections by the regulator and INPO, and internal corporate initiatives. Also delineate the scope of work ahead to recover performance.

  — Adjust capital and operations and maintenance budgets as needed, recognizing the scope of the work ahead.

  — Perform benchmarking, and provide comparisons to other successful recovery plant organization structures and budgets to help identify what might be required.

- Establish a recovery organization led by a senior manager or executive to eliminate competing demands for station resources. The approach to establishing a recovery team must be carefully considered based on the scope and nature of the performance shortfalls that led to the decline.

  — While a recovery team may be used to develop and implement process changes and training needs to resolve issues and allow station leaders to focus on plant operations, station leaders must own the behavior side of improvements.

  — A recovery team may be used to support the station leadership team efforts for specific equipment and technical issues. For example, if poor equipment performance—because of a lack of investment—played a primary role in station decline, then assign a recovery team around project planning and

implementation to allow the station leadership team to focus on correcting behavior-related issues.

- Clearly define the scope of the recovery team functions and responsibilities, as well as that of the station leadership team.

- Develop a change management plan that identifies the most significant challenges to key stakeholders.

2.2 Key Deliverables and Outcomes

The following are the key deliverables and outcomes for the scoping phase:

- The scope reflects the most critical elements of performance shortfalls.

- Station goals and milestones for recovery have been established.

- A road map to success and a scoreboard have been developed.

- Clear roles and responsibilities have been defined for station and corporate leaders.

- Clear roles and responsibilities have been defined for recovery teams and station leaders.

- A recovery organization has been established.

- The full scope of recovery efforts and normal business plan efforts has been identified.

- Benchmarking has been completed.

3.0 PLANNING PHASE

3.1 Recovery Plans and Performance Monitoring Strategies

3.1.1 Develop Recovery Plans

Ensure corporate and station recovery plans contain sufficient detail to clearly define owners, assignments, closure criteria, and expected outcomes. The station and corporate recovery plans may be integrated into one comprehensive plan or kept separate based on the scope and nature of the performance shortfalls that led to the decline.

- Develop a detailed, comprehensive change management plan to promote employee engagement and build trust.

- Promote employee engagement by having multidiscipline groups develop proposed changes. Include employees as members of improvement teams for initiatives, including benchmarking and self-assessment activities. Ask for feedback. At subsequent meetings, report on progress.

- Develop a site recovery plan. Ensure the plan reflects the most critical elements of performance shortfalls and establishes goals for each area. (Refer to attachments B and C.)

- Develop a corporate recovery plan that addresses corporate contributions to station decline. Ensure the plan reflects the key elements identified during the corporate assessment. (Refer to attachments B and C.)

- Reevaluate organizational capability after the recovery plans have been developed that identify needed human and financial resources. Adjust capital and operations and maintenance budgets to ensure achievability.

- Hold corporate challenge boards to review and challenge recovery plans. These challenges are intended to ensure that plans, if executed properly, will provide a high level of certainty that the desired results will be achieved.

- Include multiple stakeholders in the independent review of the recovery plan. Potential reviewers include nuclear safety review boards, INPO, and other industry chief nuclear officers.

- Revise station business plans to incorporate recovery plan key actions and goals.

- Revise corporate and station personnel performance management goals as another element in communicating the need for change.

- Ensure cross-functional area improvement plans (such as those for work management) include integrated owners and actions. For example, corporate,

Maintenance, Operations, and Engineering all have specific actions, owners, and due dates within the plan, with an overall sponsor being the work control manager or the plant general manager.

- Follow-up surveys or interviews are planned and scheduled at key milestones to determine if desired changes in attitude, behaviors, understanding, and buy-in are occurring.

3.1.2 Develop a Performance Monitoring Strategy

Create a performance monitoring strategy to provide intrusive oversight of corporate and station progress toward accomplishing revised goals and improved performance. Consider the following:

- Establish internal and external independent oversight groups that monitor performance through a variety of activities and that report regularly on corporate and station progress. For example, they observe work in the field, interact with workers, attend corporate and site performance review meetings, participate in peer group activities, and conduct first-hand assessments of corporate and site performance improvement efforts through frequent visits.

- Consider using functional peer group members within the corporation or industry peers to provide oversight, mentoring, and coaching of station counterparts.

- Establish on-site review meetings in addition to the regular management review meetings. The on-site review meetings are led by corporate executives who challenge the owners of sections of the recovery plan. Owners must demonstrate that plan actions are complete and that expected outcomes are achieved. Discuss the metrics being used to measure effectiveness.

- Conduct follow-up employee surveys or interviews to determine if desired changes in attitude, behaviors, understanding, and buy-in are occurring.

- When actions are not completed or are assessed as not being effective, critically question and identify why the actions did not deliver the expected results. Take immediate actions to identify and resolve shortfalls. Determine answers to the following questions:

  — Was the initial problem not stated correct?
  — Were the corrective actions not appropriate?
  — Were actions not timely?
  — Were actions not implemented effectively?

- Corporate senior leaders encourage the escalation of performance gaps that are not resolved within the corporate and line organizations. Issues that are escalated

by corporate are captured in the corrective action process and reviewed on a frequent basis with the station senior leadership team.

- Ensure management review meetings focus on corporate and station leadership team behaviors, values, and teamwork.

- Establish a template for chief nuclear officer oversight by implementing frequent meetings between that individual, the recovery manager, and the site vice president to review and discuss the statuses of recovery plan actions.

- Perform independent corporate effectiveness reviews to verify that desired changes have occurred at the corporate organization and within the station.

3.2 Key Deliverables and Outcomes

The following are the key deliverables and outcomes for the planning phase:

- A detailed corporate and station recovery plan is developed.

- An intrusive oversight strategy and plan are developed.

- Corporate senior leaders obtain information on performance through diverse means.

- Corporate and station senior leaders encourage the escalation of performance gaps that are not resolved within the line organization.

- Follow-up surveys or interviews are planned and scheduled at key milestones.

- Independent effectiveness reviews are planned and scheduled.

4.0 EXECUTION PHASE

4.1 Engage the Workforce for Broad-Based Action

Gaining employee trust in the management team is the most important aspect of engaging employees during recovery. The organization may be faced with new leaders, terminations, new standards, and additional process changes. A strong change management plan may be required to build employee trust.

- Increase interactions with the workforce, such as holding additional all-hands and department meetings to ensure employees are informed about the new vision, goals, and action plans and that they understand their individual roles in achieving them. (Refer to Attachment E, *Template for Significantly Improving Nuclear Plant Performance*.)

- Evaluate and strengthen employee feedback loops. Constant employee feedback to management is encouraged and is used to identify employee issues and plant problems.

- Focus on "What are the one to three things I can do this week to influence the scoreboard?" Report on last week's commitments—"Did I do what I said I would do?" Review and update the scoreboard to indicate if the leading measures are moving and the lagging measures are responding. Make commitments for the next week.

- Do not underestimate the importance of communication with the corporate and station workforces. It needs to be tied to values, be repetitive, and be multi-media. Communication must come from the leadership team and be owned by lower-tier leaders.

- Continue to communicate the desired workforce behaviors that need to be prevalent and need to change. Observe changes in behaviors, with a focus on deviations from station values and fundamentals.

- Present the results and progress of recovery plan activities at communication meetings. Ask for feedback. At subsequent meetings, report on progress made from employee feedback.

- Implement an employee recognition process that is applied uniformly across the organization. Recognition can be oral, written, communicated in site publications or meetings, or by gifts of nominal value. Recognition is applied to individuals and groups.

- Implement a program for the development of first-line supervisor talent; or, if one exists, renew communication and reinforcement of expectations for ownership of the current program, if needed. The program should address management

expectations, standards, roles and responsibilities, coaching and confrontation skills, disciplinary processes, and bargaining unit contract elements.

- Conduct follow-up employee surveys or interviews to determine if desired changes in attitude, behaviors, understanding, and buy-in are occurring.

4.1.1 Create Short-Term Wins and Consolidate Gains

Corporate and station leaders ensure, as plans are completed and results are achieved, that improvements are recognized and that new plans with appropriately elevated goals are developed and implemented. The new vision, goals, and short-term wins provide a basis for course adjustment and additional changes throughout the organization.

- Leadership must not focus on recovering quickly. Plant performance must improve expeditiously to avoid ongoing risk; however, the team must focus on recovery key performance metrics and key fundamental behavior changes before success can be declared.

- Performance can change for reasons other than a change in behaviors, and plateaus can result from complacency and too much focus on metrics without ensuring behaviors are truly corrected and anchored in the organization.

- Station leaders focus on ensuring all recovery efforts are delivering results, not just that actions are completed on time or on closure document quality.

- A follow-up round of individual and team leadership assessments is performed to determine if additional changes in key managers are necessary for alignment and buy-in to the new vision and goals.

- Once the right leaders are on the team, behaviors are changing, and results are being achieved, the leadership team must be stabilized or a critical mass of change agents must be maintained. If changes are necessary, then new leaders who can and will support the new vision and values are placed in key roles.

- When problems repeat or results are not effective, significant effort is placed on understanding why previous efforts failed, from a behavioral standpoint, to correct the underlying weak behaviors; and additional actions are added to the plan.

- Independent effectiveness reviews are performed often as part of the performance monitoring strategy to verify that desired behavioral changes have occurred.

- When behaviors have changed and interim goals have been achieved, the leadership team celebrates success and then immediately revises the goals and continues to focus on the problems.

4.1.2 Transition to Normal Business Planning

Transitioning from a recovery plan to more routine business planning should not occur until improvement is visible. For the changes and performance improvements to be sustainable, the shared values and assumptions of the majority of the workforce must change.

- Once recovery, as defined in the scoping phase, has been achieved in which key leadership and workforce behaviors have changed notably and key performance metrics have been reached, then additional detailed planning is necessary to set new objectives and achieve additional sustainable results.

- Implement normal business plans near the end of the transition process, when the effectiveness of the new leadership team and of the vision and goals is clearer to the workforce. The same strategy as defined in the scoping and planning phases can be used to help develop longer-term plans.

- Define the new set of managerial skills (situational leadership) needed to transition from recovery, and continue to drive for sustained performance. Managerial skills different from those needed for recovery will be necessary.

- Perform a follow-up round of individual and team leadership assessments to determine if additional changes in key managers are needed. Assess the leadership team on its capability to transition to a new set of performance skills.

- Implement changes to succession planning and selection processes to ensure leaders who can and will support the new vision are placed in key roles. Reemergence of the old culture must be proactively avoided.

- Conduct follow-on employee surveys to determine if desired changes in attitude, understanding, and buy-in are occurring.

4.2 Key Deliverables and Outcomes

The following are the key deliverables and outcomes for the executive phase:

- Corporate and station action plans are executed.

- Short-term successes and results are targeted and planned.

- As plans are completed and results are achieved, action plans are refined and expanded to raise the bar.

- First-line supervisors and the workforce are engaged in solutions.

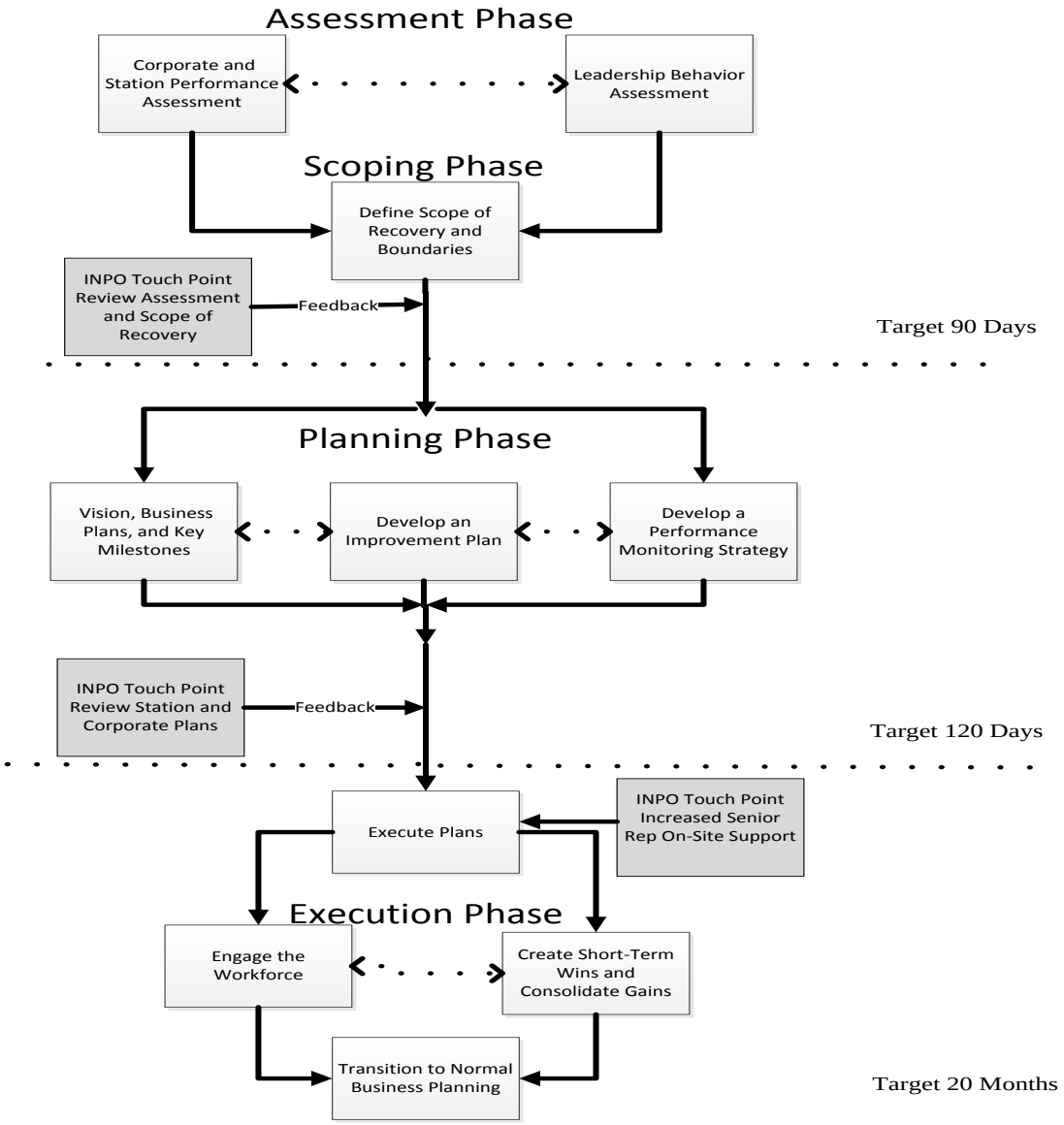
- The succession planning and selection process is designed and implemented to maintain a critical mass of leaders who can and will support the new vision and goals.

- Employee surveys or interviews are scheduled and performed.

- A plan to transition from recovery to normal business planning is developed, with clear criteria, objectives, and goals.

Attachment A

Recovery Flowchart



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Attachment B

Key Success Factors for Significantly Improving Nuclear Plant Performance

A Collection of Experiences From Successful and Less Successful Improvement Efforts

Introduction

This document provides development and implementation insights on how stations have achieved improved performance.

Efforts to significantly improve station performance are ongoing at a number of stations. In addition to this document, INPO efforts in this area have included the following:

- A document entitled *Template for Significantly Improving Nuclear Plant Performance* (see Attachment E) was issued. The template was developed to provide a means to move plants toward excellence. It is designed to enable plants to conduct self-assessments of current improvement plans against the template elements and the sequence of steps.

- A document entitled *Leadership Fundamentals to Achieve and Sustain Excellent Station Performance* was issued. This document suggests leadership behaviors and actions to improve performance and contains a set of potential self-assessment questions.

- In August 2005, a group of industry leaders who had recently improved performance at their stations participated in a working meeting at INPO to identify important lessons learned.

- Several brainstorming sessions were conducted between INPO senior representatives and senior industry loaned employees to identify several key success factors for developing and implementing a change in performance.

The body of this report is written for senior station managers and is meant to assist management teams in developing and implementing successful plans for significant performance improvement.

Executive Summary

This document summarizes common success factors observed at U.S. and international nuclear plants that accomplish a successful turnaround in performance. Key characteristics of each success factor are described.

The five common success factors and their characteristics are as follows.

Success Factor 1

Absolute candor is key in the approach to performance improvement.

Characteristics:

- Candor helps establish personal credibility. The leadership team needs to be open, honest, and factual in its communications with employees, the regulator, INPO, and the board of directors.

- Staying focused on addressing the issues and not sugar-coating the problem help prevent the station from rationalizing the past.

- Candor helps gain the respect of the workers and enlists their support and buy-in.

- Without candor, the management team cannot create a" burning platform" and a sense of urgency.

- Success is celebrated, but the leadership team moves on quickly so as not to dwell on where the station was but rather on where it is going.

Success Factor 2

The improvement plan itself is a key instrument for alignment of the leadership team and workers.

Characteristics:

- A thorough, rapid assessment of plant performance is needed to identify the key focus areas for the recovery plan.

- The station leadership team needs to own both the development and the implementation of the recovery/improvement plan. Corporate support personnel and others can aid in developing and implementing the plan.

- It is best to focus the recovery plan on a few (three to five) key areas, with clear achievement milestones. It is equally important to identify what is *not* part of recovery.

- A long-range schedule needs to be prepared that shows major activities, including regulatory inspections. This needs to be considered when resource-loading the detailed action plan to support the recovery plan.

- A strategy for maintaining oversight of the recovery plan is an important element. A high degree of rigor is needed to verify that actions in the plan are completed appropriately and have the desired effect.

- If station performance decline has resulted in significant regulatory interventions, the actions to restore regulatory margin need to be in the overall integrated improvement plan.

- Periodic check/adjust steps need to be incorporated into the plan.

- A clear line of sight needs to be established between the plan and the workers' daily jobs.

- The plan needs to include clear transitional goals and milestones for declaring successes.

- The station recovery plan needs to be complementary to any corporate-level recovery plan.

Success Factor 3

Leadership team alignment is critical to begin the recovery.

Characteristics:

- A rigorous systematic process is used to quickly assess individuals and the management team as a whole.

- Situations in which leadership personnel cannot achieve alignment with the new direction or are in the wrong positions for their talents are quickly addressed to determine corrective actions. The stability of the leadership team is important to achieving and maintaining alignment.

- Trust depends significantly on the first-line supervisors. These influential leaders must be aligned and engaged with senior managers; therefore, an assessment to determine alignment of the supervisors is necessary.

- A critical mass of leaders as change agents is necessary to sustain improvement over time.

- Roll up assessments at the department level to identify department strengths and weaknesses.

- All leaders and the leadership team are developed by partnering with human resources and organizational development experts to improve selection, succession, and training practices.

- Individual improvement plans are tracked for progress and effectiveness at all levels.

Success Factor 4

Workforce engagement is necessary to begin to make real progress in recovery and to sustain that progress.

Characteristics:

- A well-executed, thoughtful communication strategy is an important element of improvement plans.

- The importance of communicating with the workforce must not be underestimated. These communications need to be innovative, repetitive, and multi-media. Communications need to be from the leadership team.

- The message needs to address how each individual's behavior must change to achieve improvement. Workers may believe they are behaving the same as when the plant was performing well; therefore, the problem must be with others (usually managers).

- Communications need to be aligned with the revised (or new) vision, values, behaviors, and expectations. They also need to be tailored to each audience and address what is important to that audience.

- Topic-based communication meetings (such as those for work management) at which workers discuss barriers and potential solutions can be beneficial.

- Internal communications to convince the workforce of the continuing need for change (sense of urgency) and external communications that may be designed to convey a more balanced message to external stakeholders are not mixed.

- The communication strategy includes vehicles for upward communication to the leadership team.

Success Factor 5

An easily communicated, easily understood management model is important to define behaviors, roles, and responsibilities.

Characteristics:

- An organizational model is needed that describes leader behaviors and roles.

- Performance measures are established to measure both results (lagging) and behaviors (leading).

- As part of the management model, the skill sets needed for the management team to demonstrate the appropriate behaviors are identified.

- The roles and responsibilities for each level of the management team are clearly defined at each of the routine meetings.

- The management model and the associated behaviors are reviewed periodically for needed adjustment based on progress. Accountability is evident in the behavior expectations.

- Corporate senior leaders (the chief executive officer down) demonstrate the behaviors described in the management model in all interactions at the station.

- Leadership team behaviors will need to change during the various phases of plant recovery. The team understands this, and it is factored into the recovery plans.

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Attachment C

Suggested Interim Goals and Milestones for Recovery

This attachment provides a list of suggested interim goals and milestones for which striving for excellence in one step may not be reasonable. Recovery goals need to stretch the organization and establish a clear movement toward improvement.

The intent is to choose several goals and milestones, based on the plant's most critical performance gaps, and create a recovery plan and compelling scoreboard to drive organizational improvement. Additionally, as plans are completed and results are achieved, action plans and scoreboards are refined and expanded to raise the bar.

People	Equipment	Process	Leadership
Few senior management personnel changes have occurred or are planned to ensure a critical mass of change agents are present. • Individual development plans and performance improvement plans have been developed and implemented for key management positions. • Staffing is at or slightly under complement, with impact reviews of staff vacancies performed and efforts to fill these vacancies demonstrating success. • Several employee surveys or interviews identify an improving trend in	• MSPI is green for all safety systems. • Performance is sustained (>1 year) in NRC reactor oversight process Column 1. • Days between equipment clock resets are > 90, or the trend in days between failures is increasing. • The overall health of red and yellow systems is improving, with no red systems more than a cycle old; or plans are in place to correct within the next cycle. • Maintenance Rule (a) (1) systems are reduced, with none more than one cycle old.	• Average scope stability over six months is ≥ 85%. • Average schedule adherence over six months is ≥ 90%. • Average safety system work execution (limiting condition of operation management) over a six-month period is +/- 10% planned versus actual. • Maintenance corrective critical and deficient critical backlogs are decreasing and on an improving trend. • Critical PMs performed late in grace are reduced substantially; there are zero late or missed critical PMs and fewer critical PM deferrals (1-2 per month).	• INPO Training and Accreditation visit and board successful, if applicable. • Operations initial license classes have resulted in a >90% pass rate on exams, and throughput is more than 70%. • The plant general manager and/or senior management fully support the T+1 critique meeting and other T-week meetings. • During outages, there were no challenges to defense-in-depth; no site clock resets; with improving performance in collective radiation exposure, personnel contaminations,

People	Equipment	Process	Leadership
workforce attitudes, understanding, and buy-in. • Days between site human performance clock resets > 120 days. • Department clock resets are on an improving trend and are meeting station goals. • Crew-level clock resets are at a low threshold and are being used to trend performance weaknesses. • Improved system engineering performance is monitored by an increasing number of condition reports that notify Operations of negative system and component trends. • Station managers implement operational decision-making practices successfully during several high-risk activities. • The workforce writes an increasing number of condition reports to identify plant issues and equipment deficiencies.	• Overall maintenance rework is reduced, and there are no critical component failures caused by maintenance quality errors. • Long-term asset management plans are developed, risk-assessed, prioritized, and funded. • Safety systems and components with low operating margin are reduced, long-term issues are identified, and plans are in place to correct within one cycle. • Degraded nonconforming conditions with long-term issues are identified, and plans are in place to correct within one cycle. • Consequential reactivity events caused by equipment failure are reduced, with an improving reactivity health index (>90%). • The projects group is fully functional, with definitive plans for equipment upgrades (for example, service water piping, digital	• Operator workarounds and burdens, control room deficiencies, lit annunciators ("black board"), and auxiliary operator issues are reduced and on an improving trend. • Chemistry equipment backlogs are reduced, with issues appropriately prioritized and captured in the work control process. • No challenges to plant risk; no unplanned changes in risk. • No unplanned plant transients and challenges to operations from incorrect plant impact reviews and assessments. • All Operations-requested functional evaluations are performed within one half of the appropriate limiting condition of operation. • On average, $\geq$ 80% of outage milestones are achieved, with full recovery plans for those not met. • Corrective action performance metrics for	and industrial safety accidents. • NRC inspections—such as problem, identification, and resolution inspection and triannual fire protection inspection—are successful. • Closure of NRC substantive cross-cutting issues is successful. • The maximum predicted INPO PI index is achieved. • An improving equipment reliability index is on trend to achieve top quartile within a year. • Root cause teams are formed easily and are fully supported by station personnel, with site managers as sponsors. • No late root cause corrective actions or root cause analysis. • Corrective Action Review Board meetings are not rescheduled for lack of attendees. • Midcycle assessments identify progress in

People	Equipment	Process	Leadership
• Personnel in key positions and assignments throughout the organization exhibit increasing operations experience. • No challenges to physical and visual barriers limit the probability of inadvertent operation of plant components. • The observation program is fully functional, with weekly or monthly updates of observed trends. • The observation program is identifying behavior trends, and actions are taken to address trends. • Worker attendance for required training is improving in more than one discipline. • There are fewer missed or rescheduled training review committee meetings.	controls) planned and scheduled. • Strategies to address electronic component aging and obsolescence in important systems have been fully developed. • Improved heat exchanger and component performance is due to chemistry controls that reduce safety system unavailability. • Hydrogen injection unavailability is improving, with plans in place to improve reliability. • Radiation monitor reliability is improved for those monitoring radioactivity on gaseous effluent pathways and primary-to-secondary system leakage.	timeliness and quality are improving. • The number of corrective action extensions is reduced. • Greater than 85% score on root causes and selected apparent causes graded by the review board. • Corrective action backlogs are trending down.	addressing INPO executive summary issues, and the potential for related areas for improvement is low. • A self-assessment plan is developed and implemented on time, with few extensions. • Several precursor-level problems have been identified for resolution before they become larger organizational issues. • Oversight organization reviews have improved in identifying important organizational behaviors. • The oversight organization is providing insightful assessment of functional area performance.

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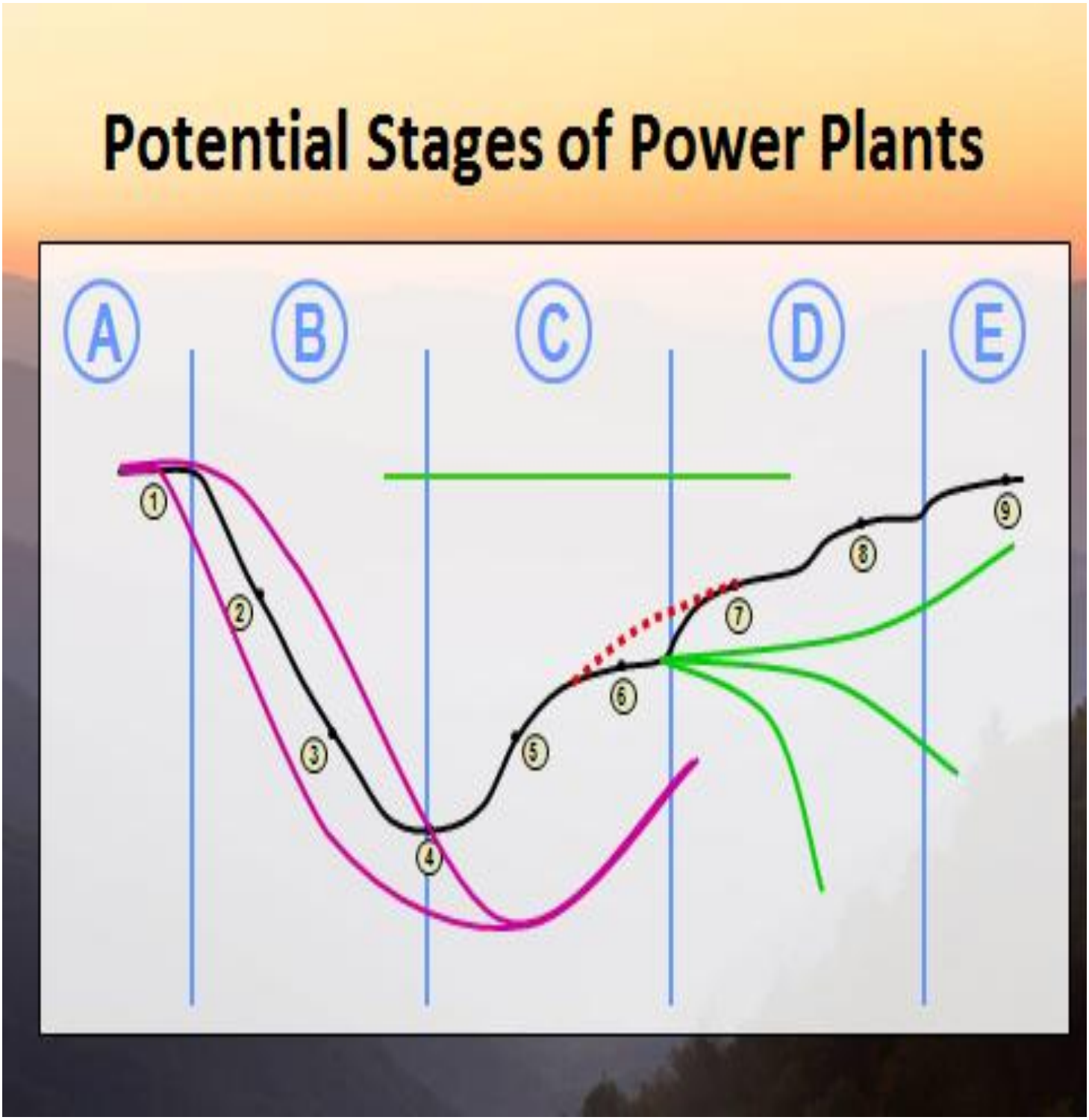
Attachment D

Cycle of Plant Performance



1. Coming Off a Long Period of Strong Performance

- Personnel are overconfident. The numbers are good, and the staff is living off past successes.
- The organization is isolated from the industry. Benchmarking is minimal or is limited to tourism, without actions.
- Managers are not reinforcing behaviors to set high standards.
- Managers are distracted (by external changes, regulatory, major projects).
- Investment in the plant is reduced (preventive maintenance, modifications). The focus is on production.

2. Problems Become Evident

- Operational focus is overshadowed by other issues, initiatives, or special projects.
- Procedure use and error reduction practices weaken and are not recognized or corrected.
- Event significance is not recognized or is underplayed.
- Signs of performance decline are rationalized (“bad luck").
- An urgency to address issues is lacking.
- Corporate governance and oversight are weak.
- Teamwork declines. Informal work processes are in place (relationship based).
- Engineering is working to its own priorities and is isolated from Operations.
- Corrective actions overly focus on individuals, procedure fixes, and training.
- Training is not focused on performance. Line managers do not own training.
- Nuclear safety is assumed but is not emphasized in staff interactions.

3. Performance Issues Are Evident Outside the Station

- Accountability for performance is low among workers and managers.
- Managers are defensive, lack team skills, or are weak communicators.
- Operations “hunkers down”; runs the plant, has worked around processes that do not work, or only depends on fix-it-now teams to resolve equipment performance issues.
- Shift managers are not recognized as leaders and are not well known in the organization.
- Operations standards, formality, and discipline are lacking.
- An operator pipeline is not maintained; and operators leave.

- Management-worker relations are problematic.
- Constructive engagement with INPO and the NRC is lacking. Interactions are minimized (low bank account).
- Work management and equipment health processes are not supported and, consequently, unravel.
- Leaders are not able to turn performance around.
- The need for leadership and organizational changes is recognized outside the station.

4. First Steps to Turn Performance

- Senior leaders with strong managerial and technical skills are in place.
- Management is directive to set daily priorities.
- Leaders focus on improving control room performance.
- The staff reacts to emergent equipment issues and relies on a large fix-it-now team.
- There is a focus is on compliance to resolve safety issues.
- There is a focus on corrective action—discovery/extent of condition and cause analysis.
- Managers reinforce the use of the corrective action program to identify and correct issues.
- Managers define basic behavior expectations for procedure use, error reduction practices, and industrial safety.
- Managers begin improvement plan development.
- Leaders establish or strengthen external oversight.

5. Driving Improvement Across the Organization

- Leaders clearly communicate the current state and the visions of what is achievable and create urgency to achieve the vision.
- Personnel who have the right expertise are enlisted— experienced managers are recruited as needed.
- Talent is assessed, and a strong leadership team is formed.
- Leaders align around a tactical improvement strategy. The shift manager is a key member of the team.
- Leaders align around operational focus, supporting the shift manager with operability determinations, functional evaluations, and teaming to resolve equipment issues.

- Leaders continue to reinforce expected behaviors with the workforce.
- Leaders are directing in the plant (working down a level).
- Short-term development plans are used to improve personnel performance.
- Leaders start to involve Training in performance improvement (including leadership training).
- Leaders create metrics to set performance goals and monitor progress.
- Senior leaders communicate, communicate, communicate at all levels.
- Nuclear safety is a part of the daily discussion.

6. & 7. Capitalize Gains and Drive to the Next Level

- Leaders hold each other accountable to meet commitments and model behaviors.
- Leaders focus on process improvement—plant/system health, preventive maintenance, work management, outage management, management review meetings/performance metrics.
- Leaders engage supervisors in improving performance through leadership training and coaching.
- Leaders focus on improving organizational accountability through individual performance, T-meetings, the corrective action program, and system health.
- Leaders create opportunities to raise urgency to improve performance. Events and near misses are used as springboards to improve behavior.
- Workers recognize improvement taking hold. Reactor operators apply for senior reactor operator positions; technicians/craftworkers apply for supervisor positions.
- Engineering, Operations, and Maintenance coordinate in setting operational priorities.
- All levels are involved in creating innovative training to improve leadership, operational knowledge and skill, and craftsmanship.
- Benchmarking and self-assessment are used to improve performance.
- Leaders begin to develop a longer-range improvement strategy.

8. Creating a Learning Organization

- Managers and workers demonstrate high accountability.
- Personnel performance issues are resolved constructively.
- Supervisors are in the field coaching, reinforcing expectations, and resolving problems.
- Sophisticated use of metrics is in place to monitor and detect early signs of decline.

- Equipment failures are considered organizational failures.
- Personnel take ownership for outage work.
- Leaders focus on long-term strategies: personnel development, pipelines for all areas, and long-term reliability.
- Personnel development is highly valued. Succession planning is robust.

- Maintenance workers value craftsmanship.

9. Continuing the Journey to Excellence

- Senior leaders are routinely engaged with plant personnel. Managers are visible and accessible to the workforce and reinforce expectations for high standards.
- Accountability is high. Issues are identified and resolved quickly.
- Corporate governance and oversight are intrusive.
- Metrics are closely monitored to detect signs of decline. Intervention and correction strategies are deployed as needed.
- Supervisors take the initiative to operate and maintain the plant.
- The organization is focused on behaviors. Peer coaching is prevalent.
- A questioning attitude is evident, and contingency planning is continuous.
- Continuous learning is valued. Performance improvement tools are used effectively.

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Attachment E

Template for Significantly Improving Nuclear Plant Performance

December 2005

A Framework of Steps and a Sequence of Implementation Based on Industry Experience

Recovery Guidance for Corporate and Station Leaders

Revision 1

INTRODUCTION

This document contains a basic template recommended to establish comprehensive, sustainable improvement in nuclear plant performance, when required to address consistently low ratings by industry oversight organizations or a significant decline in performance. Other action steps may enhance this template; however, organizations have found complete implementation of this set of steps to be essential in successfully achieving performance improvement. While individual situations may affect the exact timing or degree of overlap of the steps, changing the sequence, attempting to perform too many steps in parallel, or choosing to skip over a step altogether is discouraged.

The elements contained herein were compiled by reviewing the successful performance turnarounds accomplished by several major United States nuclear utilities over the past decade. Input from executives involved in developing the turnaround strategies, preparing the plans, and executing the initiatives is included in the steps presented in this document. The framework for the steps and the sequence of implementation was derived from industry experience. The steps and the sequence have been reviewed in their final form by several of these executives and other leaders in the industry. The template general structure (process for change) is described by John P. Kotter of the Harvard Business School in his book *Leading Change*.

If rigorously implemented, this template can provide the means to move plants toward excellence. The template is designed to enable plants to conduct a self-assessment of current improvement plans against each template element and the sequence of individual steps. Elements that have recently been thoroughly self-assessed need not be reassessed. Action plans should be developed, or missing steps added to existing action plans, based on this assessment. The template can also be used to guide initial development of an improvement plan, if one does not exist. For plants already achieving high levels of performance, a similar self-assessment may be useful in identifying missing elements that might affect the sustainability of that performance.

Revision 1 of this document contains a list of attributes of a high-performing nuclear plant organization. These attributes were derived from INPO's experience in its four cornerstone programs. Utilities are encouraged to use this list as they create the vision for the organization. This revision also includes lessons learned from plants that have recently implemented actions to improve performance. These lessons were derived from discussions at an industry meeting at INPO in August 2005, and have been embedded in the applicable sections of the document.

Once significant improvement has been accomplished, and sustained satisfactory performance achieved, ongoing plant processes and activities, such as those described in INPO 05-005, *Guidelines for Performance Improvement at Nuclear Power Stations*, are normally sufficient to ensure continuing improvement.

CONTENTS

Attributes of a High-Performing Nuclear Plant Organization

- Strong leadership

  — Direction is simple and clear
  — Priorities are well understood
  — Supervisors are part of the management team, and have clear roles and responsibilities that make coaching workers a priority
  — Workers are engaged and regularly offer input to solve problems and make improvements
  — Accountability is clear; effective oversight ensures that desired performance levels are being achieved
  — Communications apprise workers of expectations, successes, and problem areas

- Self-critical

  — Self-assessments, performance indicators, corrective action programs, and benchmarking are used to define performance gaps and implement best practices
  — Complacency is never tolerated

- Operationally focused

  — Operations leadership is observed in the control room and evident in day-to-day decision-making
  — High operational standards exist throughout the organization, including in maintenance, work control, and engineering

- Exceptional equipment performance

  — Operations are event-free due to excellent material condition and a proactive focus on equipment performance
  — Intolerance is demonstrated for equipment problems that can affect safety system performance, unit reliability, or operator performance

- Training to improve performance

  — The focus is on more than accredited programs
  — Innovative uses of training prepare workers for tasks
  — Error prevention techniques are reinforced
  — Line managers and workers are involved

The Eight Steps for Improving Nuclear Plant Performance

1. ESTABLISH A SENSE OF URGENCY

Note: It is recommended that steps 1 and 2 be performed in parallel. Strong communication, planning, and execution must occur at the utility for these steps to be successful.

It is critical to perform a thorough, but rapid (60 days) diagnosis of the current situation and plant condition. Recognize that leadership and management is normally the root cause of prevailing conditions. The results of this diagnosis should be used to determine what issues need immediate attention, and to establish the sense of urgency, as described below.

A. PERFORMANCE SHORTFALLS

- Identify the most critical elements of performance shortfalls, e.g., leadership and management, plant performance (WANO performance indicators), equipment performance, human performance, maintenance / engineering / corrective action backlogs, outage performance.

- Develop convincing arguments for why current performance is unacceptable. The workforce needs to understand what current performance is (how bad), and what must be done.

- Starting with senior managers, meet with successively lower groups in the organization to explain the need for change. The leadership team must be credible as they present the "brutal" facts. Use the results of external reviews to help provide this credibility.

- Use many other methods for repetitively communicating the shortfalls and need for change, e.g., daily meetings, management review meetings, plant communication papers, group meetings.

B. CRISIS

- Take advantage of a crisis as the basis for needed performance improvement e.g., financial, natural disaster, evolution/aging, forced outage, major equipment problem.

2. ALIGN THE LEADERSHIP TEAM

Note: It is very important to quickly address workers and managers who are in denial of the situation, or who attempt to justify the status quo.

Align senior leaders to the new vision and expectations; CEO, CNO, Site VP down through department managers. Alignment efforts must continue down through as well as across successive levels of the organization.

Possible elements include:

A. LEADERSHIP ALIGNMENT AND EFFECTIVENESS REVIEW

- Use a systematic (rigorous) process to quickly assess people. Address those who cannot achieve alignment with the new direction and those in the wrong position for their talents.
- Review capabilities and effectiveness of corporate and site managers, down to department managers
- Determine alignment of on-site leaders and managers (Site VP, PM, DMs), and their alignment with executive leaders (CEO, CNO, Senior VP)
- Assess site and corporate roles and role clarity
- Assess leadership effectiveness
- Use external experts to assist

B. LEADERSHIP REALIGNMENT

- Focus on the team to create a leadership "critical mass" that can communicate and reinforce the vision for change, i.e., ensure it has the right people, with the same vision, who act with a unified approach
- Use results of leadership alignment and effectiveness review to develop a plan.
- Use independent personnel or organizations to review the results of the leadership assessment and planned changes.
- Initiate necessary changes in leadership down through department manager level.
- Provide strong communication regarding realignment with focus on new vision. Verify that the messages are penetrating the organization.
- Initially, a highly engaged and directive style of leadership is most likely required to achieve alignment and begin the improvement. Once the organizational performance improves, a transition to a more facilitative (situational) leadership style can be implemented, with increasing delegation of responsibilities.

C. FIRST-LINE SUPERVISOR & SUPERINTENDENT LEVEL REALIGNMENT

- Use experience from top leadership realignment and workforce input
- Use external experts to assist
- Perform effectiveness review for incumbent first-line supervisors (FLSs)
- Re-select FLSs and superintendents, as appropriate
- Remove poor performers from positions
- Establish roles and responsibilities for first-line supervisors (FLS), including alignment with the new vision
- Recognize that trust depends heavily on FLSs. These influential leaders must be aligned as well as engaged with senior management. What they perceive as important will be reinforced to the workforce.
- Activities to better align and engage supervisors include frequent forums with leaders and managers, to increase contact with supervisors, to share information and discuss challenges among the entire management team, and to collaborate on the messages to be delivered to the workforce.

3. DEVELOP OR REVISE VISION, GOALS AND PLANS, MANAGEMENT CONTROLS AND PERFORMANCE MONITORING

A. VISION STATEMENT: Develop a clear picture of why performance is unacceptable. Use benchmarking to help create the vision and expose people to what can be achieved by a high-performing organization. Create or revise the vision statement for the utility nuclear organization. In some cases, the current vision may need renewed communication and reinforcement of expectations for ownership. It is often useful to develop a roadmap to success (achieving the vision) with key milestones.

B. CORE VALUES: Create or revise a set of core values for the utility organization. These reflect leadership, organizational beliefs, and behaviors necessary for achieving excellence.

C. BUSINESS PLAN: Create or revise the nuclear organization business plan. Decide quickly whether the plan requires "execution, evolution, or revolution" to achieve the desired results. Use benchmarking to identify the levels of performance (goals) being achieved by excellent plants. Identify first targets of opportunity, e.g., address issues important to plant operation (safety & reliability). This plan should reflect strategic areas

of focus and establish goals for each area. Consider revising current goals as another element in communicating the need for change. Focus areas recommended are:

- Operational focus (safe and reliable operational performance)
- Manager & supervisor performance
- Human performance (error prevention)
- Corrective action program
- Equipment performance
- Work management
- Workforce engagement
- Training
- Communication
- Financials
- Long-term asset management of the plant

Revised goals should "stretch" the organization and establish a clear movement toward excellence. However, in some cases, striving for excellence in one step may not be reasonable. As appropriate, develop plans that build in a phased approach or establish an intermediate "base camp" as a target.

D. GAP ANALYSIS: Perform an analysis of current plant performance against newly established goals for each business plan focus area. Include personnel from outside the utility in this effort. Identify the gaps between current performance levels and the revised goals. These gaps should be well defined, detailed, and actionable.

E. ACTION PLANS: Create an action plan to address each identified performance gap. Action plans should contain sufficient detail to clearly define assignments and outcomes. Improvement and action plans should be integrated and resource loaded to ensure achievability. It is equally important to define what will not be done, e.g., specific modifications or power up-rates, to eliminate distractions or competing demands for resources and management attention. Actions must have assigned owners and well-defined due dates. These action plans should receive a high level of scrutiny from, and be well understood by, all levels of management. Close alignment must be achieved between the plans and the problem areas to keep the focus on the most important actions tied to improvement. As a minimum, action plans should address deviations from industry best performance, improvements to human performance and material condition, and long-term issues (e.g., major equipment overhauls or replacements) facing the station. Avoid frequent changes to improvement plans, which can undermine the sense of urgency.

F. CORPORATE SUPPORT

Establish or ensure the corporate organization provides support for key attributes essential in implementing the business plan and creating performance improvement. These attributes include the following programs and processes:

- **Human resources** - Implement an effective performance management system and a succession planning process

- **Financial support** – Implement processes for ensuring adequate human and financial resources, recognizing the scope of work ahead, and for developing and approving a capital and operations & maintenance budget, on an annual and long-term basis.

- **Performance incentives** – Develop an incentive program that is aligned with the business plan.

- **Training** – Provide corporate personnel with knowledge of the economics and risks of nuclear plant operations

- **Industrial relations** – Ensure effective contract negotiations that support safe and reliable operations, and train the staff on the elements and implementation of the contracts.

- **Oversight** – Review, approve, and monitor improvement plans, and ensure independent oversight groups verify progress on key improvement focus areas using a performance-based approach.

G. PERFORMANCE MONITORING: Create a performance monitoring strategy. Include a well-defined system of management review meetings with prescribed agendas. Create plant tools and a meeting regimen to provide oversight of progress toward accomplishment of revised goals and achievement of excellence. The management monitoring strategy should include:

- Continuously monitor progress and make adjustments to ensure the problems are being resolved. Reassess internal indicators (metrics) to achieve alignment with the performance issues identified by the external reviews.

- Conduct standard daily plan-of-the-day meetings, according to an agenda, with daily and day-of-the-week topics, focusing on what is affecting operations and equipment reliability.

- Regular management or performance review meetings are conducted, with prescribed plant and corporate attendees. Focus should be on reviewing and assessing current performance against desired performance, the revised business plan, and plant goals.

- Establish internal and external independent oversight groups that report out regularly. Plant and corporate attendees at briefings should be prescribed, and responses to identified gaps should be required, in writing, to the CNO. These groups provide oversight of both regulatory and performance activities. The

nuclear oversight group must have the qualification, expertise and level of experience to assess all important plant activities. Nuclear safety review committees should have an appropriate balance between currently active utility executives, who are familiar with current issues, and non-active industry experts.

- Standard meeting frequencies are established for the senior nuclear leadership team and subordinates, such as, site VP and site engineering director meeting regularly one-on-one, or CNO meeting one-on-one with the plant manager. Key managers should meet with a wide range of subordinates, peers, and superiors on a prescribed frequency.

- Perform observations and obtain feedback using internal and external resources. Include observations of management in meetings, in-field work, operations standards, training, and engineering product quality.

- Metrics and plant performance indicators are established and scheduled for regular review at these and other meetings.

- Performance information, including metrics, is reported to the workforce. Information specific to the performance of each group is also provided.

H. **MANAGEMENT CONTROLS**: Review and establish performance standards and management controls for personnel, functions, and processes critical to improving performance and achieving excellence. These controls should reflect industry best practices and be formalized in the utility's document hierarchy. The following areas should be included, at a minimum:

- **Operational focus & conduct of operations** - include upgrading the Operations Department leadership role and engagement of the site in achieving overall excellent plant operations. It is especially important to include outside personnel in reviewing this area.

- **Plant-specific equipment performance** - ensure equipment that is not performing to standards, or is in need of repair, is identified, and processes established to identify legacy issues that may not have been resolved correctly or completely in the past.

- **Work management process** - ensure use of best industry practices in developing an integrated plant-wide process that involves planning, scheduling, operations, maintenance, and engineering. Roles and responsibilities for work management are clearly defined and understood in each department. Often, training is required. Process implementation is continually critiqued and deficiencies identified and corrected. Work management should be effective at prioritizing activities, controlling risk, and reducing and sustaining low backlogs of corrective and elective maintenance, preventive maintenance tasks, and modifications.

- **Engineering technical programs** - ensure they meet current industry best practices. Program reviews are prioritized based on the most important equipment issues at the plant. System health reviews must be aligned to operational issues and closely linked to the work management process. Pending plant modifications are reviewed for current applicability, necessity, and priority.

- **All training courses** - review for merit and to ensure that important plant activities and staffing needs are addressed. Unnecessary training is eliminated and controls are established to ensure training is focused on station performance.

- **Corrective action program (CAP)** - ensure use of industry best practices, and include detailed assignment of individual roles in the conduct of CAP activities, e.g., senior manager chairs CARB. Verify that trending of deficiency reports is performed effectively so that the effort applied to apparent and root cause evaluations is not excessive. (Also see INPO-05-005)

- **Human Performance** – ensure that personnel understand and routinely use human performance error-prevention tools.

- **Plant or utility self-assessment process** - establish or revise to meet industry best practices. Self-assessment quality is enhanced by using outside industry experienced personnel. (Also see INPO-05-005)

- **Operating experience program** - review and revise to reflect industry best practices. Ensure applicable industry and plant OE is used in job preparation (all technical disciplines)

- **Communication strategy and implementation** - review and revise to ensure constant reinforcement of standards, and progress toward the revised vision and business plan goals. Create a communication forum for alignment of the entire management team. New emphasis is placed on face-to-face, one-on-one communication, and establishing effective communication tools.

- **Regulatory compliance processes** - strengthen to increase clarity regarding the role and authority of the site licensing group in interfacing with the NRC and other industry groups.

- **Management and leadership development program -** established for all corporate and station managers. Succession plans are created to identify and notify candidates for leadership positions at the department manager level and above.

- **Safety culture** - critically assess using survey instruments and interviews. Scope should go beyond safety conscious work environment, and include areas addressed in recent INPO or IAEA (INSAG) safety culture documents.

- **Projects** - review and revise to support realigned business plan goals. Project management controls are established with a high degree of senior management involvement and follow-up.

- **Change Management Process** - review and revise to meet industry best practices, and to establish and promote the new management controls. Establish clear expectations for use.

4. COMMUNICATE THE NEW VISION AND GOALS

A. Do not underestimate the importance of communication with the workforce. It needs to be innovative, repetitive, and multi-media. Communication must come from the leadership team.

B. Develop a communication plan for each phase of change. Ensure single point ownership of this plan. Management team routinely uses the communication plan as a tool.

C. Communication reinforces the sense of urgency and need for change.

D. Communication reinforces the vision and revised goals. Include examples that demonstrate the leadership commitment to change. Communications need to align with the vision, values, behaviors, and expectations (goals). They need to be tailored to each audience, address what is important to those people, and show that managers care. Consider the acronym KISSARAT, meaning keep it short, simple, and repetitive and truthful.

E. Select key topics for communication meetings, e.g., work management. Have supervisors or workers discuss barriers and potential solutions.

F. Following communication meetings, verify that key messages are received and understood by the workforce.

G. A constant feedback loop is established for plan revisions.

H. Communication should include:

- Simplicity
- A verbal picture
- Constant repetition
- Multiple forums
- New emphasis on face-to-face, one-on-one communication

- Reinforced by leadership team behaviors that are consistent with the new vision

I. Avoid inconsistent messages from corporate and plant leaders. Ensure corporate direction does not bypass site leadership.

J. Leaders should avoid mixing internal communications to convince the workforce on the continuing need for change (sense of urgency), with external communications that may be designed to convey a more balanced message to external stakeholders.

5. ENGAGE THE WORKFORCE FOR BROAD-BASED ACTION

A. Ensure the workforce understands what needs to be done and engage them in solutions. Provide feedback on accomplishments.

B. Evaluate organizational accountabilities and revise, as necessary. Ensure single-point accountability is established for important activities and a process for monitoring is established. The organization is reviewed for process deficiencies, values, or behaviors that may impede implementation of the new vision or goals.

C. Employees are informed about the new vision, goals, and action plans, and understand their individual roles in achieving them in their area.

D. Demonstrate commitment for improvement by the corporate organization. Arrange for executive expression of support to gain employee trust. As appropriate, invest in the plant, e.g., material condition, facility, and work environment improvements.

E. Employees are members of improvement teams for initiatives, including benchmarking and self-assessment activities. Promote engagement by having multi-discipline groups develop proposed changes. Present the proposals at communication meetings, ask for feedback, and report on progress at the next meeting.

F. Training necessary for achieving the revised vision and goals is identified, scheduled, and conducted.

G. Implement a program for the development of first-line supervisor talent. The program should address management expectations, standards, roles and responsibilities, coaching and confrontation skills, disciplinary processes, and bargaining unit contact elements.

H. Employee feedback loops are evaluated and strengthened. Constant employee feedback to management is encouraged and used to identify employee issues and plant problems.

I. Implement an employee recognition process that is applied uniformly across the organization. Recognition can be oral, written, communicated in site publications or meetings, or by gifts of nominal value. Recognition is applied to individuals and groups.

6. CREATE SHORT-TERM WINS

Short-Term Wins are needed to reinforce the purpose and value of the new vision and goals, and should be:

- recognizing the right results and right behaviors
- visible to a large segment of the workforce
- unambiguous
- clearly related to the ongoing changes

Define what will be celebrated, e.g., develop criteria for celebrations and select specific accomplishments within the improvement plans. Short-term wins must be targeted and planned as an integral part of one or more action plans. Validation of action plan schedules and an opportunity for celebration result from these short-term wins. Verify progress and use various forums to communicate achievements.

7. CONSOLIDATE GAINS AND PRODUCE MORE CHANGE

The new vision, goals, and short-term wins provide a basis for course adjustment and additional changes throughout the organization. As plans are completed, results are achieved, or performance plateaus, declare victory and develop new plans or raise goals. Employees will notice progress toward excellence beginning to occur and will more easily buy into additional changes to processes and infrastructure to support the new organization and its vision and goals.

A. Perform effectiveness reviews to verify that desired changes have occurred.

B. Recognize when "recovery" (base camp) is achieved and reset sights on striving for excellence, i.e., re-chart the course.

C. Refine and expand action plans to "raise the bar."

D. Hire (internal and external) and develop individuals who can implement the new vision and goals.

E. Maintain constant vigilance to avoid plateaus in performance improvement. Plateaus can result from complacency and too much focus on results already achieved. Plateaus can be managed effectively, if anticipated.

F. Carefully avoid management "declaring victory" prematurely.

8. INGRAIN NEW APPROACHES IN THE CULTURE

In order for the changes and performance improvements to be lasting, changes in the shared values and assumptions of the majority of the workforce must occur. Detailed planning is

necessary to set objectives and achieve results, and implementation of such plans is best performed near the end of the transition process when the effectiveness of the new leadership team, and vision and goals is clearer to the workforce. Tools include:

A. Create a learning and self-improving culture through routine use of self-assessments and benchmarking.

B. Make a "big deal" out of relatively minor mishaps.

C. Maximize time spent on prevention and detection to minimize corrective activities.

D. Develop a respect for diverse thinking.

E. Create clear expectations for worker alignment to on-going performance improvement (basics, fundamentals, nuclear worker attributes, etc.).

F. Provide strong communication, with an increased emphasis on face-to-face, one-on-one reinforcement of the new vision, goals, and expectations.

G. Perform a follow-up round of leadership assessments to determine if additional changes in key managers are required for alignment and buy-in to the vision and goals.

H. Implement changes to succession planning and selection processes to ensure leaders who can and will support the new vision are placed in key roles. Reemergence of the old culture must be proactively avoided.

I. Conduct follow-on employee surveys to determine if desired changes in attitude, understanding, and buy-in are occurring.

J. Teach the organization to replace the leader.

Note: INPO can provide industry experience, examples, assistance, and contacts for benchmarking in each of the above areas.

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