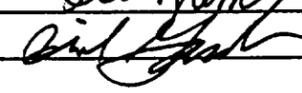


**APPENDIX A-3**

**TIP ACTION PLANS**

**OPERATIONAL EXCELLENCE PILLAR**

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Operationally Focused and Aligned Organization  
**ACTION PLAN TITLE:** Operational Department Excellence  
**ACTION PLAN NUMBER:** 5.2.1.1  
**COMPLETION DATE:** 1Q/06  
**ACTION PLAN OWNER:** David Bremer  
**FOCUS AREA OWNER:** Rick L. Gardner

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Cooper Nuclear Station (CNS) Operations leadership has exhibited a tolerance for operational challenges as indicated by the number of unacceptable levels of deficient conditions (Maintenance backlog, long-term (> 3 months) clearance order and caution tags, Operator Work-Arounds, excessive numbers of temporary modifications and Control Room Deficiencies, etc) and has not demonstrated high standards in conduct of operations.

**CAUSAL FACTORS:**

1. Ineffective Operations ownership of the facility. (Actions 1a, 1b, 1c, 1d, 1e, 1f, 2, 3a, 3b, 4, 5)
2. Lack of operational focus throughout the organization. (Actions 1a, 1b, 1c, 1d, 1e, 1f, 2, 3a, 3b, 4, 5)
3. Inadequate response to emergent issues due to ineffectiveness of the Fix It Now (FIN) team. (Actions 6, 7, 8, 9, 10, 11)
4. Operations leadership failed to continually establish and reinforce high standards regarding intolerance for operational challenges. (Actions 12, 13, 14a, 14b, 14c, 15a, 15b, 16, 17)
5. Operating crews inconsistently demonstrating adherence to standards of conduct during challenges. (Actions 18a, 18b, 18c, 18d, 18e, 18f, 18g, 18h, 19a, 19b, 19c, 19d, 19e, 20a, 20b, 20c, 20d, 20e, 20f, 21)

**OBJECTIVES:**

1. Operations Department intolerant of operational challenges.
2. Reduced operational challenges and an improved response to emergent plant issues that challenge on-line work schedule.
3. Operations Department consistently demonstrates high standards for conduct of operations.

**Timeline Plan**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>IMPROVE OPERATIONS DEPARTMENT OWNERSHIP OF THE FACILITY AND SUPPORT ORGANIZATIONS.</b>					
1a	Revise conduct of operations procedures to improve interdepartmental interactions, performance indicators, goals, and accountability for equipment challenges.	Rick Gardner	2Q/02	2Q/03	Revised conduct of operations procedures to introduce Processes for Interdepartmental interactions, where needed, and performance indicators, goals, and accountability for equipment challenges.
1b	Place all currently known Operator Work Arouns (OWAs) and Control Room Deficiencies into the Corrective Action Program (CAP) to allow for Operational oversight and tracking.	Rick Gardner		In Closure	All currently identified OWAs and Control Room Deficiencies are entered into CAP. In addition, process changes were made to strengthen administrative tracking of them.
1c	Operations management to monitor performance and employ revisions to Operator Performance Assessments (OPAs) to improve ownership of the facility and leadership of support organizations.	Rick Gardner	3Q/02	1Q/03	Management performs specific observations of operations performance. (Results assist in forming basis for Operational Focus Action Plan per Action Plan 5.1.7.1.)
1d	Operations Management to establish mentor program for Shift Managers.	Rick Gardner	3Q/02	1Q/03	Shift Manager mentoring established. Each of the shift managers is assigned either a manager or senior manager to assist with their personal development and recognition of their roles in plant performance. (Results assist in forming basis for Operational Focus Action Plan per Action Plan 5.1.7.1.)
1e	Ensure all existing long-standing plant challenges are entered into Corrective Action Program to allow for Operational oversight and track to resolution.	Rick Gardner	3Q/02	2Q/03	Completed verification that all Long-term (> 3 months) Caution Orders and Clearance Orders, Operator Work Arouns, and Control Room Deficiencies are entered into CAP or Corrective Maintenance (CM) Program with the appropriate priority, and scheduled for resolution.

The Action Plan

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1f	Improve operational oversight processes for tracking and closure of long-standing equipment issues.	Rick Gardner	2Q/02	2Q/03	Conduct of Operations procedures are revised to streamline, consolidate, and add administrative controls of Long-term (> 3 months) Caution Orders and Clearance Orders, which are included in Control Room Deficiencies, to better track closure of equipment-related issues associated with them.
2	Formalize management observation of crews and tours of facility with specific feedback provided to Shift Managers.	Rick Gardner		Completed	Implementation of Enhanced OPAs that will add expectations for crew leadership and behaviors (intolerance for degraded equipment, low quality responses, and lack of support to address operational challenges) per Procedure 2.0.8, and formalized management observations of operating crews and facility tours that require observers to provide specific feedback regarding results to Shift Managers.
3a	Develop and formalize internal/external communication process between the Operations Department and Chemistry and Engineering Departments.	Rick Gardner	3Q/02	4Q/02	A formalized internal and external communication process with Chemistry Department regarding chemistry issues and Engineering Department regarding operability issues, are implemented in applicable station process procedures.
3b	Improve means of communication by which Shift Managers can communicate changing plant conditions.	Rick Gardner	4Q/02	2Q/03	Shift Managers will be provided the means which to gain access to the computer system from home to improve awareness of plant status.
4	Develop and implement an Operations Staff Integration Plan that integrates selected Operations staff personnel into other departments.	Rick Gardner	3Q/02	1Q/06	Operations Staff Integration Plan completed with objectives met regarding integration of select operational leaders into key leadership positions within the organization.

TIH Action Plan

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
5	Perform a Self-Assessment to determine effectiveness of actions at improving operations ownership and leadership.	Rick Gardner	1Q/04	2Q/04	Completed Self-assessment per Procedure 0-CNS-25, Self-Assessment, to include assessments on: progress toward identifying and reducing OWAs, quality of OPAs to effective improvements, communication of standards within the department, and progress on the Operations Staff Integration Plan.
IMPROVE THE TIMELINESS AND EFFECTIVENESS OF REPAIRS BY THE FIX IT NOW (FIN) TEAM.					
6	Establish roles, responsibilities, organizational composition, and schedule.	Neal Wetherell		Complete	Formalized roles and Responsibilities, Organization established.
7	Implement process and procedure changes as required.	Neal Wetherell		Complete	Implement new Fix-It-Now (FIN) process and communicate to site.
8	Re-evaluate the FIN team composition for effectiveness and associated processes that govern their work scope, e.g. do not schedule FIN resources, they validate and repair.	Neal Wetherell	3Q/02	2Q/03	Revised charter and roles and responsibilities including work control processes to support FIN team mission of responding to emergent plant equipment issues to protect the online work schedule from breakage.
9	Augment FIN team staff with appropriate disciplines as necessary to improve self-sufficiency to expedite repairs on emergent basis.	Neal Wetherell	3Q/03	4Q/03	FIN team is augmented as necessary based on results of Action 8.
10	Revise modification process to better accommodate FIN team procurement of like-for-like replacement parts.	Stan Domikaitis	3Q/02	1Q/04	Revision to modification process procedures and Systems Applications and Products in Data Processing, as necessary that allows FIN team to expedite repairs safely, but without being impeded by process barriers.

Th Action Plan

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	Measure effectiveness of FIN team following implementation of above actions, implement continuous improvement actions.	Douglas Billesbach	1Q/04	1Q/04	Complete Self-Assessment per Procedure 0-CNS-25, Self-Assessment, and submit report on FIN Team effectiveness including timeliness of repairs, effectiveness of repairs, appropriateness of performance indicator, and customer feedback and initiate follow-on actions as determined.
IMPLEMENT AN EFFECTIVE OPERATIONAL CHALLENGES REDUCTION PLAN.					
12	Develop and implement a Deficiency Tag Program.	Bill Macecevic		Complete	Deficiency Tag process fully implemented using change management with appropriate training.
13	Reduce numbers of equipment backlog items through increased effectiveness of work management process. (This action is tied to Action Plan 5.2.5.1.)	Bill Macecevic	2Q/02	3Q/03	Charter and schedule for Work Management Strategic Review Committee implemented. Charter to include committee responsibilities for providing oversight and resource prioritization of on-line CM backlog issues. Results are indicated by on-line CM equipment backlog performance indicator trending positive and achieving GREEN status due to increased effectiveness of work management process.
14a	Identify imbedded OWAs in existing plant procedures/processes. (This action is tied to Action Plan 5.3.1.1.)	Rick Gardner	3Q/02	1Q/04	All operations groups' complete review of assigned operations owned procedures for imbedded OWAs with identified OWA/procedure's entered into CAP.
14b	Evaluate and reduce imbedded OWAs in existing plant procedures/processes. (This action is tied to Action Plan 5.3.1.1.)	Rick Gardner	3Q/02	3Q/04	To the extent feasible, reduce imbedded OWAs in existing plant procedures and processes to achieve GREEN status in the OWA performance indicator. Deliverable are closure packages of CAP items from Action 14a above.

**Timeline Plan**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
14c	Utilize System Health Teams as a means to minimize and reduce OWAs in existing plant procedures/processes.  (This action is tied to Action Plan 5.3.1.1.)	Rick Gardner	3Q/02	3Q/04	Revised System Health Team process is implemented to include review of operating procedures/processes for imbedded OWAs. Review completed with OWAs identified with actions to evaluate and resolve OWAs entered in CAP.
15a	Generate for periodic review a performance measure that is an aggregate of all operational challenges to track progress of an accelerated effort to reduce operational challenges.	Rick Gardner	4Q/02	4Q/02	Develop Performance Indicator that combines long-term (> 3 months) caution and clearance orders, Temporary Plant Configuration Changes, OWAs, and Control Room Deficiencies into a single performance indicator called Operational Challenges.
15b	Use Operational Challenges Performance Indicator (PI) to focus resources to reduce the overall amount of operational challenges by 50% within a six-month period.	Rick Gardner	4Q/02	2Q/03	Operational Challenge PI is reduced by 50% within a six-month period per the goal of this action.
16	Assess effectiveness of efforts to improve work control process to reduce operational challenges.	Bill Macecevic	3Q/03	3Q/03	Complete Self-Assessment per Procedure 0-CNS-25 and submit report with corrective action identified and entered into CAP; includes trend analysis of associated with performances identified in Action Plan 5.2.5.1.
17	Assess effectiveness of process and procedure improvements to reduce OWAs, Control Room Deficiencies, Long-term (> 3 months) clearance order and caution tags, and temporary modifications.	Rick Gardner	3Q/03	4Q/03	Complete Self-Assessment per Procedure 0-CNS-25 and submit report with corrective action identified and entered into CAP; includes trend analysis of associated with performances identified in Action Plan 5.3.1.1.
<b>IMPROVE OPERATIONAL READINESS FOR POTENTIAL PLANT CHALLENGES</b>					

Timeline Plan

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
18a	Improve operator attention to key parameters and improve control board walk-down practices during normal plant conditions.	Rick Gardner		In Closure	Revised conduct of operation procedure to clarify responsibilities for monitoring control panels by At-the-Controls Operator (ATCO) during normal and off-normal conditions.
18b	Benchmark industry standards for operator attention to key parameters, control board walk-down practices, and reactivity management during normal plant conditions.	Rick Gardner		In Closure	<ul style="list-style-type: none"> <li>An aggressive plan for operating crewmember's to perform benchmarking at industry peer plants is implemented.</li> <li>Completed benchmark trips with trip reports submitted including follow-on actions entered into CAP to pursue improvements in the area of ATCO and reactivity management.</li> </ul>
18c	Revise operations procedures to incorporate insights gained from benchmarking industry for operator attention to key parameters and control board walk-down practices.	Rick Gardner		In Closure	Conduct of operations procedure revised to better identify accountability and performance of panel monitoring by the ATCO specific to plant operating Mode.
18d	Improve operator attention to key parameters and improve control board walk-down practices during normal plant conditions.	Rick Gardner		In Closure	Operations Manager emphasized observation and coaching will be focused on specific areas of interest as determined necessary or when requirements or expectations change that warrant observation to ensure standards are being met at all times.
18e	Upgrade the control room watch standing performance assessment tool for enforcing new standards.	Rick Gardner		In Closure	Control Room Watch standing OPA revised to reflect current management expectations and conduct of operations procedure requirements separated by watch position.
18f	Upgrade the performance assessment tools for enforcing new standards regarding <u>all</u> watch standing positions.	Rick Gardner	2Q/02	1Q/03	All remaining OPAs revised as necessary to reflect current management expectations and procedure requirements for conduct of operations.

**The Action Plan**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
18g	Establish process for evaluating OPA performance trends associated with conduct of operations to raise management focus on problem areas.	Rick Gardner	1Q/03	1Q/03	Process established whereby the results of evaluation by Operations supervision of OPA trend data of Control Room watch standing activities, such as ATCO and power adjustment to target problematic areas for increased observations.
18h	Revise operations procedures to incorporate insights gained from benchmarking industry for reactivity management during normal plant conditions.	Rick Gardner	4Q/02	3Q/03	Conduct of operations and weekly surveillance testing procedure are revised to reflect insights learned from benchmarking effort regarding reactivity management.
19a	Improve operator adherence to procedures during transients.	Rick Gardner		In Closure	Revised conduct of operations procedure to provide strict guidance regarding skipping or omitting performance of procedure steps.
19b	Operations Management to communicate expectations for operator adherence to procedures during transients.	Rick Gardner		In Closure	Operations management communicated expectations regarding standards of procedure usage and adherence to Operations staff.
19c	Streamline procedure change process to improve operator sense of ownership of procedure quality.	Rick Gardner		In Closure	Independent Qualified Reviewer (IQR) process implemented at CNS.
19d	Monitor OPA performance, CAP, and cyclic training reports for trends that reflect effectiveness of actions taken to improve conduct of operations in regards to procedure usage and ownership of quality.	Rick Gardner	4Q/02	4Q/03	<ul style="list-style-type: none"> <li>Performance indicator related to Procedure Change Requests (PCRs) processing time is revised, and positive trends the PI associated with the number of PCRs in process and PCR processing time, as well as CAP items related to procedure quality are observed over a 12 month period following IQR process implementation.</li> <li>Operations Training cyclic training reports document positive trend in procedure usage and adherence over 3 consecutive training cycles.</li> </ul>

Title Action Plan

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
19e	Improve procedure content by identifying and initiating action to reduce unnecessary procedure branching.	Rick Gardner	4Q/02	3Q/04	Operations defined standard for procedure branching, completed statistical sampling of normal operating procedures to determine extent of condition, and made recommendation to Operations management after results are analyzed. Corrective actions based on the management decision are entered into CAP.
20a	Operations Management to communicate expectations standards for ensuring configuration of plant controls in the control room.	Rick Gardner		In Closure	Presentations to Operations Department by Operations Management were conducted that focused on expectations including being proactive to identify and correct shortfalls.
20b	Establish a code governing the consequences for failing to comply with management expectations for configuration control.	Rick Gardner		In Closure	A code governing the consequences that personnel can expect if they fail to comply with management expectations is implemented and communicated to operations department.
20c	Monitor OPA performance and CAP trends to evaluate effectiveness of near-term actions taken for human performance in configuration control.	Rick Gardner	2Q/02	1Q/03	Effectiveness review for human performance improvement conducted at 1 month and again at 6 months from completion of this evaluation completed with notifications generated if significant improvement is not evident in human performance in configuration control.
20d	Establish schedule for the conduct of round-table meetings between Operations Management and operating crews to present and discuss focus areas.	Rick Gardner	2Q/02	1Q/03	At regular, periodic point in the shift cycle, roundtable meetings are scheduled to be conducted between the crew/team and an Operations Management representative to discuss the focus area for that cycle.

Table Action Plan

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
20e	Perform evaluation of current performance against Institute of Nuclear Power Operations (INPO) warning flags, areas for improvement, and industry strengths.	Rick Gardner	2Q/02	1Q/03	An evaluation of industry identified warning flags and INPO identified strengths and areas for improvement is completed with actions to resolve identified improvements entered in CAP.
20f	Evaluate mis-positioning events and conduct a trend analysis and establish corrective actions as necessary.	Rick Gardner	1Q/03	3Q/03	Completed trend analysis regarding increasing trend in mis-positioning events at CNS with corrective actions identified and entered into CAP.
21	Conduct a INPO assisted Self Assessment on the effectiveness of actions to raise operational readiness of operating crews.	Rick Gardner	1Q/03	4Q/03	Complete INPO assisted comprehensive Self-Assessment per Procedure 0-CNS-25 and submit report of procedure usage during transients, Control Room watch standing, and configuration control of panels against industry standards.
22	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Rick Gardner	2Q/03	3Q/04	A written Change Management Plan approved by the Assistant to the Site Vice-President.

**TI. Action Plan**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
23	<u>Monitoring – Self-Assessments</u> Perform Interim Self-Assessments as directed in Actions 5, 11, 16, 17, and to determine the effectiveness of the individual actions taken to improve Operations ownership and leadership, reduce Operational Challenges, and improve Operation response to challenges. Revise Action Plan based upon Interim Assessment, as required. Self-Assessments to be performed in accordance with Procedure 0-CNS-25, Self Assessment.	Rick Gardner	2Q/04	2Q/04	Interim Assessments are performed to determine effectiveness of actions taken to improve the Work Control Process. Action Plan would be revised, as required, based upon results of the Interim Assessments.
24	<u>Verification – Final Assessment</u> Perform Final Effectiveness Self-Assessment to determine if the required actions have improved operational ownership and leadership, reduce Operational Challenges, and improve Operation response to challenges and the end state is consistent with the stated objective.	Rick Gardner	1Q/06	1Q/06	Final Effectiveness Assessment report is submitted per Procedure 0-CNS-25, Self-Assessment, with actions entered into CAP.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Operationally Focused & Aligned Organization  
**ACTION PLAN TITLE:** Operability Determinations  
**ACTION PLAN NUMBER:** 5.2.1.2  
**COMPLETION DATE:** 4Q/04  
**ACTION PLAN OWNER:** Ole Olson  
**FOCUS AREA OWNER:** Rick Gardner

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Resolution of degraded and nonconforming conditions requires improvement in the areas of recognition of degraded and nonconforming systems, structures and components (SSCs), completeness of the evaluation of technical bases for impact on operability and timely completion of corrective actions.

**CAUSAL FACTORS:**

1. Standards and expectations are not always applied to provide satisfactory assurance that operability determinations are well documented, timely and in compliance with station procedures. (Actions 1, 2, 4, 6, 7, 9, 10, 11)
2. Performance of key steps in the operability process do not always apply the attention to detail required to ensure that procedural requirements are followed in the areas of timeliness of evaluations, assessment of safety functions and operability determination closeout. (Actions 1, 2, 4, 6, 7, 9, 10, 11)
3. Station personnel do not always recognize the need to require the Operations Department's evaluation of the impact that degraded or nonconforming conditions may have on operability of system, structures and components (SSCs). (Actions 1, 2, 3, 4, 7, 11)
4. The processes and procedures that assess and resolve degraded or nonconforming conditions do not always properly prioritize corrective actions required to return SSCs to a qualified status. (Action 9)
5. Operability determinations do not always apply the required rigor, depth, and questioning attitude to provide greater assurance that adequate basis for operability is provided. (Actions 1, 2, 4, 6, 7, 9, 10, 11)
6. Execution of the assessment and resolution of degraded or nonconforming conditions is not always effective because of a lack of knowledge in processes and procedures. (Action 11)
7. Resource allocation of the organizations involved in the assessment of degraded or nonconforming conditions is not always aligned to provide further assurance that operability determinations achieve the desired level of industry excellence. (Action 10)
8. There is a lack of specific guidance for Engineering's performance of the Information-gathering phase; particularly in the area of documenting the design and licensing basis of the SSC that is degraded or nonconforming. (Actions 6, 8, 9, 11)

**TIP ACTION PLAN**

9. The level of review and intrusiveness by the engineering and operations leadership does not always assure that all technical issues are adequately and completely covered when addressing operability. (Actions 1, 2, 4, 6, 7, 9, 10, 11)

**OBJECTIVES:**

1. Degraded or nonconforming conditions are recognized and evaluated in a timely manner for impact on operability of systems, structures, and components (SSCs).
2. SSC's safety functions described in the Licensing Basis are adequately addressed in Operability Determinations.
3. Degraded or nonconforming conditions adequately resolved in a timely manner commensurate with the safety significance of the issue.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Revise existing procedures to require that all notifications impacting SSCs and associated programs are evaluated by the Operations Department for impact to operability of SSCs and that conclusions are accepted and documented by the Operations Shift Supervisor	Mike Tackett	4Q/02	4Q/02	Procedure Revisions of the applicable Cooper Nuclear Station (CNS) 0.5 series procedures, applicable Operations Desk Guides, and applicable Operations Instructions are approved and implemented.
2	Revise existing procedures to require that End of Shift Turnovers include a review for operability impact of all notifications initiated during the previous shift. Include a mechanism to document that both the off going and on coming Control Room Shift Supervisor collectively performed this review.	Mike Tackett	4Q/02	1Q/03	Procedure Revisions of applicable CNS 2.0 procedures and applicable Operations Instructions are approved and implemented.
3	Provide an additional barrier for the review of degraded and non-conforming conditions to determine the impact on operability of SSCs by requiring the Work Control Center (WCC) Senior Reactor Operator (SRO) to review all notifications for operability and work priority. Issue Notifications when unreviewed notifications are found by the WCC SRO.	Robin Jacobs	4Q/02	1Q/03	Procedure Revisions of the applicable CNS 0.5 series procedures, CNS 0.40 series procedures approved and implemented.

**TIF ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
4	Provide additional reviews for Operability Determinations that require Engineering support. Reviews shall include the Operations Shift Supervisor, Operations Management, the next on coming Operations Shift Supervisor and the applicable System Engineering Management.	Mike Tackett	4Q/02	1Q/03	Procedure Revisions of the applicable CNS 0.5 series procedures, applicable Operations Desk Guides, and applicable Operations Instructions are approved and implemented.
5	Issue talking paper(s) to appropriate staff to detail the need to <ul style="list-style-type: none"> <li>• Expeditiously communicate degraded or nonconforming conditions with their supervisor and the Control Room and</li> <li>• Understand the need for performance of Operability Determinations and the roles and responsibilities of Control Room personnel.</li> </ul>	Rick Gardner	4Q/02	1Q/03	Issue communications to appropriate distribution.
6	Provide additional technical guidance within the Operability Determination procedures, guides, and instructions to improve the ability to document design and licensing basis that supports evaluation of degraded or nonconforming SSCs.	John Myers	2Q/03	2Q/03	Procedure Revisions of the applicable CNS 0.5 series procedures, applicable Operations Desk Guides, and applicable Operations Instructions are approved and implemented.
7	Provide an interim Operability Determination Oversight Group that provides a backend quality check for completed operability determinations and operations screening. Conduct lessons learned training or other appropriate actions based on the conclusions of the group's findings.	Vince Roppel	4Q/02	1Q/04	Issue a final report, summarizing the group's conclusions, to the Operations Manager and Engineering Senior Manager.
8	Review all open actions tied to notifications written against the Operability Process (Corrective Action Program (CAP) program code P104) and issue appropriate procedure changes to improve the Operability Process.	John Myers	2Q/03	2Q/03	Procedure Revisions of the applicable CNS 0.5 series procedures, applicable Operations Desk Guides, and applicable Operations Instructions are approved and implemented.

**TIF ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
9	Issue an Overview Procedure to more effectively direct the entire Generic Letter (GL) 91-18 process. Include a direct tie to the CNS 0.40 and 0.5.NAITS procedure to ensure that GL 91-18 issues are corrected in a manner that is commensurate with safety.	John Myers	4Q/02	1Q/03	Overview procedure created or incorporated into the of the applicable CNS 0.5 series procedures, applicable Operations Desk Guides, and applicable Operations Instructions are approved and implemented.
10	Improve consistency and quality of Operability Determinations by forming a core group of Operations and Engineering personnel that would perform operability determinations for 6 months and provide a quality review of Operability Determinations for the following 6 months.	Vince Roppel	2Q/03	3Q/04	Issue a final report summarizing the group's conclusions to the Operations Manager and Engineering Senior Manager.
11	The Systematic Approach to Training (SAT) will be used to identify training requirements and actions required to provide appropriate revision to and implementation of position specific training on the Operability Determination Process and the documentation of design and licensing basis.	John Christensen	2Q/03	3Q/03	Station personnel impacted by the procedural revisions are identified and trained in accordance with the SAT.
12	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Rick Gardner	1Q/03	1Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.

**III ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
13	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform an interim Self-Assessment to determine the effectiveness of the individual actions taken to improve the Operability Determination Process. Ensure the plan includes evaluation of the adequacy or resource allocation and the ability to document Design and Licensing Basis (reference Action Plan 5.3.3.1). Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness. Self-Assessments to be performed in accordance with 0-CNS-25, Self Assessment.</p>	Rick Gardner	3Q/03	4Q/03	Interim Assessments are performed to determine effectiveness of actions taken to improve the Operability Determination Process. Action Plan would be revised, as required, based upon results of the Interim Assessments.
14	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved the Operability Determination Process and the end state is consistent with the stated Objective.</p>	Rick Gardner	3Q/04	4Q/04	Final Effectiveness Assessment is performed to establish that the required actions have improved the Operability Determination Process, and the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Operationally Focused & Aligned Organization  
**ACTION PLAN TITLE:** Industrial Safety  
**ACTION PLAN NUMBER:** 5.2.1.3  
**COMPLETION DATE:** 3Q/04  
**ACTION PLAN OWNER:** Miles Stauffer  
**FOCUS AREA OWNER:** Tim Chard

**APPROVAL:** *David L. Smith for M. Stauffer*  
**APPROVAL:** *Tim Chard*

**PROBLEM STATEMENT:**

Unsafe behaviors have resulted in minor injuries, near misses, and unsafe working conditions. Many chemicals were stored in an improper manner and some secondary containers were improperly labeled.

**CAUSAL FACTORS:**

1. Some members of the Cooper Nuclear Station (CNS) work force are not accountable for meeting high standards of industrial safety performance. (Actions 2, 3, 5, 6, 10 Action Plans 5.1.1.5, 5.1.4.1, 5.2.6.1, 5.2.4.4, 5.2.6.2)
2. Managers/supervisors are not spending sufficient time in the field observing and coaching or correcting inappropriate worker behavior and safety practices. (Actions 3, 4, 6, 10, Action Plans 5.1.1.5, 5.2.4.4, 5.2.6.1, 5.2.6.2)
3. Managers/supervisors have not taken a proactive lead in being involved in the Safety Committee. (Actions 1, 10)
4. Not all chemicals were required to be labeled. (Actions 7, 8, 9)

**OBJECTIVES:**

1. Incidents and injuries eliminated by setting high standards and modifying at risk behaviors.
2. Managers/supervisors correct at-risk behaviors in the field.
3. Increased management involvement within the Safety Committee.
4. Properly stored, labeled and controlled chemicals.

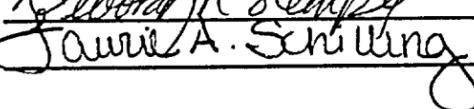
**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Revise the Safety Committee Charter using an industry successful model that increases management involvement and ownership.	Miles Stauffer	4Q/02	2Q/03	Revised Safety Committee Charter approved in Administrative Procedure 0.36.
2	Communicate to the site the competencies and positive behaviors expected when working at CNS.	Doug Jones	3Q/02	1Q/03	Safety meeting minutes reports show delivery of the Safety Culture Talking Paper.
3	Incorporate the Industrial Safety "Critical Behavior Checklist" and "Personal Protective Equipment" Checklist into the Management Observation Program.	Andy Jacobs	3Q/02	4Q/03	Managers/supervisors use these checklists during field observations.
4	Develop an outage safety observation schedule for managers/supervisors to provide field observations for the duration of RFO-21.	Tim Chard	1Q/03	1Q/03	Schedule established and expectations communicated to the participants.
5	Implement a procedure for managing employees who have had multiple injuries or at-risk behaviors.	Miles Stauffer	3Q/02	1Q/03	Approved procedure.
6	Revise the Industrial Safety Event Precursor Rate Performance Indicator to use First Aid Reports, Near Misses, and At-Risk Behaviors.	Doug Jones	4Q/02	1Q/03	Performance Indicator in use.
7	Develop an administrative procedure that establishes criteria for storage of chemical material.	Fred Zacarola	4Q/02	1Q/03	Approval of Administrative Procedure 0.7.3 Chemical Material Storage.
8	Implement an industry recognized program to label all chemicals at CNS.	Fred Zacarola	2Q/03	2Q/04	Approval of programmatic changes that implements a program that labels all chemicals at CNS.
9	Perform a cross-discipline self-assessment of the Chemical Control program at CNS.	Fred Zacarola	2Q/04	3Q/04	A report showing strengths, weakness, and recommendations for the chemical control at CNS.
10	Perform a self-assessment of the Industrial Safety Program. Self-Assessment to be performed in accordance with 0-CNS-25, Self Assessment.	Miles Stauffer	3Q/03	4Q/03	A final report showing strengths, weaknesses, and recommendations.

TIP ACTION PLAN

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Miles Stauffer	4Q/02	2Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
12	<u>Verification – Final Assessment</u> Perform Self Assessment in accordance with O-CNS-25, Self-Assessment, to establish that the required actions have improved the Industrial Safety program, and Chemical Control program, and the end state is consistent with the stated Objective.	Miles Stauffer	3Q/04	3Q/04	Final effective assessment performed to establish that the required actions have improved the Industrial Safety and Chemical Control program and the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Organizational Excellence  
**FOCUS AREA:** Operationally Focused & Aligned Organization  
**ACTION PLAN TITLE:** Procedure Management  
**ACTION PLAN NUMBER:** 5.2.1.4  
**COMPLETION DATE:** 4Q/05  
**ACTION PLAN OWNER:** Deborah Stemple  
**FOCUS AREA OWNER:** Laurie Schilling

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The procedure management system currently in place is inadequate to ensure timely prioritization and approval of procedure revisions. Current performance indicators only measure the revision process after changes are submitted to the Technical Support Group, which provides an incomplete understanding of the procedure revision work inventory and backlog.

**CAUSAL FACTORS:**

1. The current procedure management process was not designed to capture procedure revisions from inception to completion. (Actions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13)

**OBJECTIVES:**

1. All procedure revisions are included in a procedure revision tracking and prioritization system.
2. Performance Indicators provide meaningful data for this procedure revision tracking system.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Benchmark the following with other nuclear facilities: <ul style="list-style-type: none"> <li>• How the procedure revision process is managed.</li> <li>• What performance indicators are used to measure revision process (including Performance Indicator (PI) thresholds).</li> </ul> Evaluate for use as Cooper Nuclear Station (CNS) solution.  Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements established by 0-CNS-06.	Rich Brown	3Q/02	4Q/02	White paper documenting results of benchmarking with other facilities, including – if applicable – evaluation of process for use at CNS.
2	Define scope of Procedure Management process by utilizing input and buy-in process during communication of detailed information to procedure writers and key stakeholders.	Carl Holm	4Q/02	4Q/02	White paper defining scope of Procedure Management process.
3	Develop Procedure Management process to establish single method for tracking and prioritizing procedure revisions based on newly defined procedure management scope.	Carl Holm	1Q/03	1Q/03	White paper defining Procedure Management process to be implemented at CNS, including change impact analysis.
4	Determine whether or not existing tool (e.g. Intranet Document Control System (IDOCS)) can be modified to accommodate new procedure management scope and process changes.	Jay Scheuerman	4Q/02	1Q/03	White paper defining required modifications to IDOCS and ability of Nuclear Information Systems to support modifications.
5	Obtain approval of CNS Senior Management Team for Procedure Management process.	Laurie Schilling	1Q/03	1Q/03	Approval by CNS Senior Management Team of the Procedure Management Process.

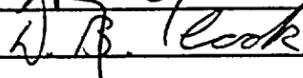
**IMPLEMENTATION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
6	Modify IDOCS tool to meet requirements of new procedure management process or, if not possible, procure and implement new tracking tool.	Jay Scheuerman	1Q/03	2Q/03	IDOCS modifications complete and tested, or new tracking tool procured, received and tested.
7	Identify and develop procedure/process revisions necessary to implement new Procedure Management process.	Jay Scheuerman	2Q/03	3Q/03	Status paper identifying process revisions implemented and listing procedure revisions completed.
8	Per Administrative Procedure O-PI-01, revise as necessary and finalize Performance Indicators to measure procedure revision tracking/prioritization process, including but not limited to the following: • Procedures in revision.	Jay Scheuerman	2Q/03	3Q/03	Completed Performance Indicators.
9	Identify target training audience and schedule training sessions.	Deborah Stemple	2Q/03	2Q/03	Training classes on schedule and target audience notified to enroll.
10	Utilize Systematic Approach to Training process and NTP 1.12 to develop training plan.	Deborah Stemple	2Q/03	3Q/03	Training objectives and lesson plan.
11	Deliver training to target audience.	Tim Donovan	3Q/03	3Q/03	Attendance sheets.
12	Identify all "in progress" procedure revisions (as defined by Procedure Management process) and roll into new tracking/prioritization tool, giving highest priority to procedure revisions in Operations, Maintenance, and Engineering.	Lonnie Swanson	4Q/03	4Q/03	List of "in progress" procedure revisions entered in new tracking tool.
13	Populate Performance Indicators to identify initial condition for implementation of Procedure Management process.	Jay Scheuerman	4Q/03	4Q/03	Performance Indicators updated after tracking tool is populated.
14	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Deb Stemple	1Q/03	1Q/03	A written Change Management Plan approved by the Assistant to the Vice-President.

**IMPLEMENTATION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
15	<p><u>Monitoring – Self-Assessments</u></p> <p>Conduct three assessments of Procedure Management process to determine impact of new tracking/prioritization process and any need for additional improvements. At a minimum, the following data will be evaluated during this assessment:</p> <ul style="list-style-type: none"> <li>• Evaluation of Performance Indicators.</li> <li>• Surveys of tracking tool users and key stakeholders.</li> <li>• Review of related Corrective Action Program (CAP) items generated after implementation of new process.</li> </ul> <p>Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Laurie Schilling	2Q/04	2Q/05	Self-Assessments are used to monitor the effectiveness of the implementation of the Action Plan and initiate additional corrective actions, as necessary, to achieve desired improvement.
16	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to review to establish that the completed actions have improved the Procedure Management process and met the stated objectives.</p>	Laurie Schilling	4Q/05	4Q/05	Final Closeout Effectiveness Review report and action items entered in CAP as appropriate.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Emergency Preparedness  
**ACTION PLAN TITLE:** Improve/Maintain Emergency Preparedness  
**ACTION PLAN NUMBER:** 5.2.2.1  
**COMPLETION DATE:** 4Q/05  
**ACTION PLAN OWNER:** Greg Casto  
**FOCUS AREA OWNER:** Dave Cook

**APPROVAL:**   
**APPROVAL:**  11-18-02

**PROBLEM STATEMENT:**

The Cooper Nuclear Station (CNS) Emergency Preparedness (EP) program exhibited declining performance over an extended period of time. CNS management failed to take effective corrective action to arrest the declining performance before events caused CNS to enter the degraded area of the Reactor Oversight Program (ROP) action matrix.

**CAUSAL FACTORS:**

1. Site management ownership of EP program was not sufficient to enforce high standards and maintain proper oversight of program implementation. (Actions 43, 44, Action Plans 5.1.1.1, 5.1.1.2, 5.1.1.6)
2. The corrective action program was not effectively used to identify and solve problems in the EP department nor periodically monitored through programmatic means. (Actions 33, 34, 36, Action Plan 5.2.7.3)
3. Processes used to perform critical Emergency Plan actions were not effective in consistently assuring high levels of performance. (Actions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 29, 30, 31, 32, 35, 36, 38, 39, 40, 41, 42)
4. Training of ERO and control room staff was not effective to consistently assure high levels of performance. (Actions 20, 21, 22, 23, 24, 25, 26, 27, 28, 37)

**OBJECTIVES:**

1. Effective management ownership and oversight of the EP program.
2. Effective use of the corrective action program.
3. Programmatic methods to measure the performance of the Emergency Response Organization (ERO) and general health of the program.
4. Clear and effectively used procedures and processes to promote high performance and consistent response.
5. Training program which delivers effective and applicable instruction to the ERO.
6. Reliable alerting mechanisms for plant personnel and the general public.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>CLASSIFICATION PROCEDURES</b>					
1	Revise Procedure 5.7.1 to clarify subjective wording in classification tables and information guides.	Bob Fischer	2Q/02	3Q/03	Procedure change package completed.
2	Review changes to Procedure 5.7.1 with States.	Jim Kelsay	3Q/03	3Q/03	Documentation of meeting with States Missouri/Nebraska (MO/NE) reviewing Emergency Action Levels (EALs).
3	Provide Training on changes to Procedure 5.7.1.	Jon Christensen	3Q/03	4Q/03	Completion of training documents with SROs and emergency directors.
4	Implement Procedure 5.7.1.	Kristina Haynes	3Q/03	4Q/03	Implement procedure.
5	Evaluate changing existing NUREG 0654 EAL classification methodology to Nuclear Utilities Management Resource Council (NUMARC) EALs.	Bob Fischer	2Q/03	3Q/03	Justification document on change recommendation with change management evaluation.
6	If evaluation determines EAL change to NUMARC, then change 5.7.1 to NUMARC EAL format.	Bob Fischer	3Q/03	4Q/04	Action plan developed and completed for EAL change.
7	Perform training on EAL changes.	John Christensen	4Q/04	2Q/05	Completion of training for NUMARC EALs
<b>EVACUATION PROCEDURES</b>					
8	Revise Procedure 5.7.10/11 to address changes in dismissal/evacuation actions.	Bob Hayden	2Q/02	1Q/03	Procedure change package completed.
9	Change site General Orientation Training (GOT) training to address changes in dismissal/evacuation actions.	Tami Wellman	2Q/02	3Q/03	Change lesson plans for GOT.
10	Provide site training on changes to 5.7.10/11.	Tim Donovan	3Q/03	1Q/04	Inform site of changes to evacuation process.
11	Implement Procedure 5.7.10/11.	Kristina Haynes	3Q/03	1Q/04	Implement procedure.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>EP COMMITMENT REVIEW</b>					
12	Review and baseline EP commitments in Licensing database.	Ed McCutchen		In Closure	Commitments in Licensing database reviewed for current applicability.
13	Evaluate baselined commitments for relevancy based on current industry standards.	Greg Casto	3Q/02	3Q/03	Provide changes to Licensing for commitments that do not appear to match industry standards.
14	Process commitment changes to remove from Licensing database.	Ed McCutchen	3Q/03	4Q/03	Document changes per commitment management process.
15	Review and revise Emergency Plan and Emergency Plan Implementing Procedures (EPIPs) to address remaining commitments.	Greg Casto	4Q/03	1Q/04	Procedure changes to denote commitments.
<b>ERO ORGANIZATION AND TRAINING</b>					
16	Evaluate and reorganize ERO positions to reflect procedure changes. (Actions 17, 18, 19)	Joe Bednar	2Q/03	3Q/04	ERO positions by facility evaluated and changed to reflect positions in upgraded facility procedures.
17	Revise Procedure 5.7.7 to better align action steps into an easier to understand format.	Bob Hayden	2Q/03	1Q/04	Procedure Change package completed.
18	Revise Procedure 5.7.8 to better align action steps into an easier to understand format.	Bob Hayden	2Q/03	1Q/04	Procedure change package completed.
19	Revise Procedure 5.7.9 to better align action steps into an easier to understand format.	Bob Hayden	3Q/02	3Q/03	Procedure change package completed.
20	Revise ERO training program using appropriate systematic approach to training (SAT) based tools and benchmarked EP training programs	Tim Donovan	3Q/03	4Q/04	Develop materials to Incorporate ERO training into existing SAT training programs (e.g. Operations, Radiation Protection/Chemistry) and develop materials for stand alone training for rest of ERO
21	Identify specific individuals to fill revised ERO positions.	Greg Casto	4Q/02	2Q/04	List of individuals for revised ERO positions.
22	Train ERO to revised EPIPs using upgraded training materials.	Tim Donovan	3Q/04	2Q/05	ERO trained to upgraded program.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
23	Revise training procedures and E Plan to address training program changes	Joe Bednar	3Q/03	2Q/05	Procedure change package completed, Operating License Change Request (OLCR) change package completed for E Plan.
24	Develop high intensity training drills for control room crews and ERO to address loss of EP equipment, delays in ERO responders, and human performance errors.	Bob Fischer	2Q/03	4Q/03	2 drill scenario timelines completed that test losses of EP equipment, response facility, ERO member delays.
25	As part of revising the ERO training program, evaluate training for shift communicators with respect to frequency of requalification and content for completing notifications within time limits.	Joe Bednar	3Q/03	4Q/03	Documented review of lesson materials and job performance measures used to train shift communicators.
26	As part of revising the ERO training program, evaluate training for License Operator Requalification (LOR) in regard to extent of play during simulator requal sessions.	Bob Fischer	3Q/03	4Q/03	Documented review of extent of play practices for LOR simulator training.
27	Complete training and qualifications for CNS managers to identified ERO positions.	Joe Bednar	3Q/02	1Q/03	Documentation of ERO training for managers in identified ERO positions.
28	Provide training to ERO teams on the significance of meeting EP planning standards and planning standards relationship to Nuclear Regulatory Commission (NRC) ROP.	Joe Bednar	2Q/03	3Q/03	Documentation of lesson materials provided to ERO on significance of planning standards and relationship to ROP.
29	Implement Upgraded Procedures 5.7.7/5.7.8/5.7.9 following training.	Greg Casto	1Q/04	2Q/05	Implement procedures and qualified ERO members.
<b>ALERT AND NOTIFICATION SYSTEM (ANS)</b>					
30	Obtain Federal Emergency Management Agency (FEMA) approval of ANS design report.	Jim Kelsay	3Q/02	3Q/03	FEMA approval of submitted report.
31	Install new ANS radios through delivery to public in the area around the plant.	Jim Kelsay	4Q/03	1Q/04	New ANS radios operable and available to NE and MO for distribution.

**TI...TION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
<b>GAITRONICS</b>					
32	Implement CED to upgrade Gaitronics system.	Neal Wetherell	4Q/02	4Q/03	Install added Gaitronics and add to outage schedule upgrades for Reactor Building, etc.
<b>GENERAL PROGRAM IMPROVEMENTS</b>					
33	Conduct self-assessment of corrective actions in SCR 2001-0577. (Actions 18, 22, 23, 24)	Dave Cook	1Q/04	2Q/04	Self-assessment report of corrective action effectiveness.
34	Conduct self-assessment of corrective actions in SCR 2002-0572. (Actions 25, 26)	Dave Cook	4Q/04	4Q/04	Self-assessment report of corrective action effectiveness.
35	Review and improve on-shift staffing description in Emergency Plan.	Greg Casto	4Q/02	2Q/03	Change package (OLCR) documentation complete for recommended change to Emergency Plan.
36	Develop performance indicator department instruction for EP PIs.	Steve Rezab	2Q/03	3Q/03	EP department guide for EP PIs.
37	Provide expectations for ERO drill participation frequency.	Greg Casto	1Q/03	2Q/03	Document expectations for ERO member drill participation frequency in department guidance.
<b>EMERGENCY OPERATIONS FACILITY/JOINT INFORMATION CENTER (EOF/JIC) RELOCATION</b>					
38	Evaluate Relocation of EOF and JIC, including reconsideration of activation time for emergency response facilities.	Jim Kelsay	4Q/02	2Q/03	Report discussing the positive/negative effects on relocation of EOF/JIC with change management evaluation. Include cost benefit analysis in report.
39	If evaluation determines that relocation of EOF/JIC is appropriate, then develop plan for construction and relocation of EOF/JIC.	Jim Kelsay	2Q/03	4Q/05	Action plan completed for EOF/JIC construction and relocation, including procedure changes and training.
<b>METEOROLOGICAL TOWER</b>					
40	Generate conceptual design for Meteorological Tower modification.	Kevin Jones	2Q/03	3Q/03	Conceptual design report.
41	Generate Change Evaluation Document (CED) for Meteorological Tower modification.	Kevin Jones	3Q/03	1Q/04	CED document approved for implementation.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
42	Implement Meteorological Tower modification.	Neal Wetherell	1Q/04	3Q/04	Satisfactory post modification testing.
43	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Greg Casto	2Q/02	3Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
44	<u>Verification – Final Assessment</u> Perform Final Effective Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved the EP program and the end state is consistent with the objective.	Greg Casto	4Q/04	4Q/05	Conduct self-assessment of EP program.
<b>COMPLETED TIP ACTION ITEMS</b>					
45	Revise EIPs 5.7.2, 5.7.6, 5.7.17, and 5.7.20 to provide newly and clearly defined interfaces with the Control Room component of the ERO.	Greg Casto		Complete	Revised EIPs 5.7.2, 5.7.6, 5.7.17, and 5.7.20 including E-Plan changes.
46	Implement revised EIPs 5.7.2, 5.7.6, 5.7.17, and 5.7.20 following training.	Greg Casto		Complete	Implemented procedures.
47	Perform assessment of CNS Emergency Plan against NRC planning standard (gap analysis).	Greg Casto		Complete	Assessment Report and Notifications generated as needed for deficiencies identified.
48	Clearly define and communicate the ERO performance standards and expectations (Accountabilities).	Greg Casto		Complete	Revision to Procedure 0-EP-01.
49	Coordinate with government agencies on selection of Emergency Alert System (EAS) radios.	Jim Kelsay		Complete	EAS radio specification.
50	Develop charter and upgrade plan for Gaitronics.	Greg Casto		Complete	Approved Gaitronics Upgrade Plan.
51	Write CED for new Gaitronics equipment.	Dan Buman		Complete	Approved CED for upgraded Gaitronics.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
52	Complete upgrades to the ERO Notification (pagers) system.	Steve Rezab		Complete	Fully functional and acceptable pager system.
53	Implement fax technology to notify state and local authorities.	Greg Casto		Complete	Fully functional fax notification system.
54	Complete Ingestion pathway drill preparations.	Bob Fischer		Complete	Acceptable ingestion pathway drill performance.
55	Validate ingestion pathway exercise scenario with industry peers.	Bob Fischer		Complete	Validated scenario for ingestion pathway exercise.
56	Identify control organization for ingestion pathway exercise.	Bob Fischer		Complete	Roster of controller for ingestion pathway exercise.
57	Submit objectives and scenario ingestion pathway exercise to NRC/FEMA.	Bob Fischer		Complete	NRC/FEMA submittal approved and mailed for ingestion pathway exercise.
58	Initiate media contact for ingestion pathway exercise.	Beth Boesch		Complete	Announcements of ingestion pathway exercise plans in local media.
59	Coordinate NRC outreach training for off-site agencies in support of the ingestion pathway exercise.	Jim Kelsay		Complete	NRC meeting with off-site agencies for ingestion pathway exercise.
60	Develop matrix of EP issues and their respective corrective actions to facilitate inspection activities.	Greg Casto		Complete	EP issues matrix.
61	Re-open SCR 2001-0577 and have it focus strictly on what caused the two white findings from the June 25 Alert. (Other programmatic issues with EP will be covered by the common cause analysis mentioned in Action 38.)	Dave Cook		Complete	Completed root cause analysis and corrective actions to prevent recurrence for the two white findings from June 25.
62	Conduct common cause analysis of EP issues over the past two years and include any additional corrective actions to prevent recurrence in the next revision of the Strategic Improvement Plan (TIP). (SCR 2002-0572)	Dave Cook		Complete	Corrective actions to prevent recurrence of EP problems from common cause analysis.

**PREVIOUSLY COMPLETED EP ACTIVITIES:**

- Improved ERO notification capabilities by incorporating an auto dialer speed dial function to ensure that ERO activation is prompt and efficient. Staff augmentation performance is consistently more timely than the emergency plan time requirement.
- Enhanced offsite agency notification form transmittal using fax technology to prevent errors during emergency information transmittal. Notifications to state and county governmental agencies (in drills) are more efficient and errors in data have been reduced.
- Re-wrote emergency plan implementing procedures in the control room to provide clear, efficient, and effective instructions during plant emergencies. Control room performance in training was improved markedly and has influenced the improvement in the NRC PI.
- Performed high intensity training for CNS ERO members. Performance has improved markedly and has influenced the improvement in the NRC PI.
- Added additional back-up power capability to the EOF. The addition of the back-up power further improves reliability of the facility.
- Successfully prepared for and completed an Ingestion Pathway Exercise in 2002. EP also successfully supported NRC 95002 and 95003 inspections with significant focus on EP related issues.
- Completed SCR 2002-0572 and re-evaluated and wrote SCR 2001-0577. SCR 2002-0572 analyzed the root and common causes to explain the long-term decline in the EP program at CNS. SCR 2002-0577 was re-written to address the causes for late notification to states and counties and the late staff augmentation of the ERO during an Alert emergency on June 25, 2001. Corrective actions were included in the Corrective Action Program and unfinished actions appear in TIP revision 2.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Outage Plan Development  
**ACTION PLAN TITLE:** Outage Management and Monitoring  
**ACTION PLAN NUMBER:** 5.2.3.1  
**COMPLETION DATE:** 3Q/03  
**ACTION PLAN OWNER:** Joe Ruth  
**FOCUS AREA OWNER:** Jeff Fox

**APPROVAL:**  11/15/02  
**APPROVAL:**  11/18/02

**PROBLEM STATEMENT:**

Management of outage preparation and implementation has not resulted in established performance objectives being met.

**CAUSAL FACTORS:**

1. Station attention not adequately focused for preparation of the refueling outage. (Actions 1, 2, 3, 10)
2. Site Personnel roles and responsibilities not adequately developed to clearly communicate outage expectations and performance requirements. (Actions 1, 2, 3, 7, 8)
3. Established process not in place to effectively capture lessons-learned from previous outages. (Action 9)
4. Staffing of personnel in key outage positions not adequate and assignments made to the Plant Organization for outage related duties and responsibilities not timely or did not exist. (Actions 4, 5, 6, 7, 8, 11, Action Plan 5.3.2.1)
5. Expectations for monitoring during outage execution not clearly established and implemented to achieve desired performance. (Actions 12, 13)
6. Problems with control of outage scope, planning, job duration estimates contributed to performance shortfalls during the last refueling outage. (Actions 1, 2, 4, 6, 7, 9, 10, 14, 15, Action Plans 5.2.5.2, 5.2.3.2, 5.2.3.3)
7. Human performance errors and an unacceptably large amount of rework in past outages contributed to outage performance problems. (Action Plans 5.1.4.1, 5.2.5.2, 5.2.6.1)

**OBJECTIVES:**

1. Roles, responsibilities, and expectations understood and communicated for outage planning, scheduling, and implementation.
2. Sufficient oversight and resources provided to ensure that preparation for refueling outages continues despite day-to-day cycle operational challenges.
3. Refueling pre-outage milestones established with accountability and commitment by the organization.
4. Outage organizational structure established, resourced, and responsibilities defined to ensure established performance expectations.
5. Managers, supervisors, leads, and personnel accountable to meet established refueling pre-outage milestones.
6. Lessons learned identified and used to improve outage performance.
7. Management expectations and requirements for monitoring implementation of outages defined and communicated.
8. Monitoring tools clearly identified; managers and supervisors knowledgeable in their use.
9. Management and supervisors provide effective oversight of outage implementation.
10. Unknown/restraints immediately resolved at the required level.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Establish Refueling Outage 21 (RFO-21) pre-outage milestone schedule. (RCR2002-0051 Action 2)	Jeff Fox		Complete	RFO-21 outage milestone schedule. Note: (RFO-22 milestones issue is identified as an individual milestone in the RFO-21 schedule as action #67 due 1/30/03). Pre-outage milestones process and template is also now described in Administrative Procedure 0.50.
2	Establish methodology to monitor performance against RFO-21 pre-outage milestone schedule. (RCR2002-0051 Action 2)	Jeff Fox		Complete	Methodology established to monitor performance against RFO-21 outage milestones. Reviewed weekly in the Leadership Meeting (see below).
3	Initiate the monitoring of the station's performance in achieving the RFO-21 pre-outage milestones and report performance each week in the Leadership Meeting for escalated management attention as required.	Jeff Fox		Complete	Pre-outage milestone performance indicator(s) will be updated weekly. Late and upcoming milestones will be provided to look ahead.

**IMPLEMENTATION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
4	Establish the outage organizational structure for outage preparations and identify personnel filling those positions. (This determines the outage management organization structure.) (RCR2002-0051 Action 4)	Jeff Fox		Complete	Organizational structure established for outage preparations.
5	Ensure Outage Management Organization is adequately resourced to perform its intended function.	Jeff Fox		Complete	Outage Management Organization staffed in accordance organization chart and communicated to site.
6	Establish the organizational structure for outage implementation and identify personnel filling those positions. (RCR2002-0051 Action 4)	Jeff Fox		Complete	Organizational structure established for outage implementation and communicated to site.
7	Revise Cooper Nuclear Station (CNS) Procedure 0.50, Outage Management Process, and the Outage Management Desk Guide, as appropriate, to incorporate: <ul style="list-style-type: none"> <li>• Roles and responsibilities for each position necessary to prepare for or support implementation of the outage.</li> <li>• Process, timeline, standards, and expectations for outage preparation activities. (RCR2002-051 Action 4)</li> </ul>	Joe Ruth		Complete	Revised CNS Procedure 0.50, Outage Management Process Roles, and the Outage Management Desk Guide.
8	Establish and communicate outage personnel assignments. (This communicates assignments identified in Action 7 of this plan.)	Jeff Fox		Complete	Outage Implementation Team, plant personnel, assignments documented and communicated.
9	Establish a process that effectively captures and internalizes outage preparation and implementation lessons learned from station performance in key activities. (RCR 2002-0051 Action 9)	Tom Cook	1Q/02	4Q/02	Station process and appropriate procedures developed and implemented to address lessons learned.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
10	Monitor management effectiveness of the outage process for pre-outage readiness and outage execution. (RCR2002-051 Actions 2 & 3)	Joe Ruth	2Q/02	2Q/03	Effectiveness of execution of RFO-21 will be documented in the RFO-21 Outage Report. Specific areas to address are: <ul style="list-style-type: none"> <li>• Adherence to milestone schedule.</li> <li>• Recovery plan(s) &amp; subsequent adherence.</li> <li>• Management Readiness Review Meeting &amp; Implementation Review Meetings effectiveness to support outage readiness.</li> <li>• Review The Strategic Improvement Plan (TIP) actions for pre-outage.</li> <li>• Schedule adherence for refueling, divisional systems, projects / modifications and turbine work.</li> <li>• P-3 / R-3 schedule interface.</li> <li>• Review TIP actions for implementation.</li> </ul>
11	Identify specific areas for improvement and assign team(s) to benchmark, evaluate and implement process improvements for Outage Control Center staffing & function, outage implementation staffing and scope identification. (RCR2002-051 Action 4)	Jeff Fox	2Q/02	3Q/03	Appropriate procedure(s) revised and/or change communicated as necessary to ensure completion.

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
12	Identify and provide tools to monitor the outage process with emphasis on monitoring implementation performance.	Joe Ruth	4Q/02	4Q/02	Tools identified and established to monitor outage process with emphasis on monitoring implementation performance. Performance Indicators should address parameters outlined in the outage goals and be "forward looking" to allow management decision making opportunities.
13	Meet regularly with station management to share individual monitoring assessments of performance/execution of the outage.	Jeff Fox	1Q/03	2Q/03	Provide daily analysis and recommendations to the management team based on indicators established in Action 12.
14	Initiate approval process for Alternate Source Term analysis for the relaxation of secondary containment for RFO-22.	Joe Ruth	4Q/02	4Q/02	Review the following action and recommend addition to long term plan to support RFO-22.
15	Implement process to replace refueling bridge for RFO-22.	Jeff Fox	4Q/02	4Q/02	Review the following action and recommend addition to long term plan to support RFO-22.
16	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Jeff Fox	2Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
17	<u>Monitoring – Self-Assessments</u> Perform Interim Self Assessments and detailed assessments of the outage preparation and implementation process. Self-Assessments to be performed in accordance with O-CNS-25, Self-Assessment.	Jeff Fox	2Q/02	2Q/03	Interim Assessments are Performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
18	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effective Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved the problem: Outage management has not been in place to ensure that the necessary outage preparations have been completed and outage performance objectives are met, and the end state is consistent with the stated Objective.</p>	Jeff Fox	2Q/02	3Q/03	Final Effective Assessment is performed via pre/post outage report.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Outage Plan Development  
**ACTION PLAN TITLE:** Planning/Timeliness  
**ACTION PLAN NUMBER:** 5.2.3.2  
**COMPLETION DATE:** 4Q/03  
**ACTION PLAN OWNER:** David Kuser  
**FOCUS AREA OWNER:** Jeff Fox

**APPROVAL:** DKuser 11/14/2002  
**APPROVAL:** JF 11/10/02

**PROBLEM STATEMENT:**

Outage planning activities have not been completed to the degree required to support the development of a comprehensive outage schedule.

**CAUSAL FACTORS:**

1. Specific standards and expectations for the development of work packages were not well defined. (Actions 2, 6, 11, 13, 14, 15, Action Plan 5.2.5.2)
2. The outage scope control process was not effectively implemented and managed; thereby, impacting the planning process and execution of the refueling outage 20 (RE20). (Actions 1, 3, 4, 7, 8, 9, 10)
3. Requirements for the inclusion of contingency planning were not adequately incorporated into the planning process. (Action 5)
4. Problems with control of outage scope, planning, job duration estimates were contributors to performance shortfalls during the last refueling outage. (Actions 1, 2, 3, 4, 6, 7, 9, 10, 11, 12 Action Plans 5.2.5.2, 5.2.3.1, 5.2.3.3)

**OBJECTIVES:**

1. Roles, responsibilities, and expectations, understood and communicated for outage planning, scheduling, and implementation.
2. Sufficient oversight and resources provided for work package development, planning, and scheduling.
3. Specific requirements for outage work packages contents identified and incorporated into supporting procedures.
4. Work packages scoped and adequately planned in accordance with the established milestones.
5. Critical activities identified and required contingency planning performed.
6. Scope frozen in accordance with the established milestones.
7. A process in place to manage and control scope growth.

**TIP ACTION PLAN**

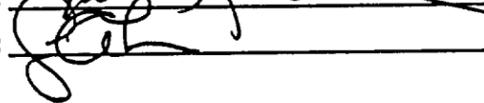
<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
NOTE: Human performance error is addressed in Action Plan 5.1.4.1, and rework is addressed in Action Plan 5.2.6.1.					
1	Freeze outage scope in accordance with preoutage milestone.	Jeff Fox		Complete	Scope identified and frozen.
2	Track development and completion of discipline outage work packages (corrective and Preventative Maintenance (PMs)).	Ken Talbott	2Q/02	4Q/02	Completed corrective and PM work packages.
3	Enhance the outage scope change process (OSCR) to address scope control regarding resources to ensure safety issues and commitments are preserved and not delayed.	Joe Ruth		Complete	Revised OSCR process.
4	Develop a prioritization and decision making tool to improve the consistency of prioritization and screening of work orders inclusive to determine if they should be performed in outage or forced outage. Work in conjunction with TIP Action Plan 5.2.5.1.	Bill Macecevic		Complete	Process improvements implemented to close this Action Item are per TIP closure documentation.
5	Establish requirements to address compensatory measures and contingency plans have been identified, prioritized, and prepared.	Joe Ruth		Complete	Requirements to address compensatory measures and contingency plans incorporated into Cooper Nuclear Station (CNS) Procedure 0.50, Outage Management Process.
6	Perform a sample review of outages work packages before the start of the outage to verify compliance with established expectations.	Joe Ruth		Complete	Assessment of outage work packages completed and results documented and communicated to planning department.
7	Initiate Outage Scope Challenge Meetings to identify system/program scope to be incorporated into the outage.	Jeff Fox		Complete	System/program scope identified.
8	Formalize process for Outage Scope Challenge Meetings by incorporation into CNS Procedure 0.50, Outage Management Process.	Joe Ruth		Complete	Outage Scope Challenge Meeting process incorporated into CNS Procedure 0.50, Outage Management Process.

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
9	Create performance indicator to trend outage scope post-freeze date.	David Kuser		Complete	Establishment of outage scope growth Performance Indicator (PI).
10	Trend approved Refueling Outage 21 (RE21) scope additions (OSCRS) in order to categorize and address cause for future outages.	Joe Ruth	3Q/02	2Q/03	Categorization of RE21 scope addition OSCRs processes and summarized in post outage report.
11	Assess outage package planning effectiveness.	Jeff Fox	1Q/03	2Q/03	Effectiveness of execution of RE21 will be documented in the RE21 Post-Outage Report.
12	Incorporate immediate and long range guidelines for milestone development into outage desk guide.	David Kuser		In Closure	Template for improving site ownership of pre outage milestones. Reference SA02047, RE21 Preparations, Notifications 10181962 and 10181963.
13	<u>Change Management</u> Establish a change management plan in accordance with CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, and roles and responsibilities.	Jeff Fox	3Q/02	1Q/03	A written change management plan approved by the Assistant to the Site Vice-President.
14	<u>Monitoring – Self-Assessments</u> Perform Interim Self-Assessment (10 months after issuance of revision of Action Plan, per station procedure 0.50 thereafter) to determine the effectiveness of the individual actions taken to improve the Outage Management Process. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of the Outage Management Process. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Joe Dixon	2Q/03	3Q/03	Interim Assessments are performed to determine effectiveness of actions taken to improve the Outage Management Process. Action Plan would be revised, as required, based upon results of the Interim Assessments.

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
15	Verification – Final Assessment Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment with assistance of Quality Assurance, to establish that the required actions have improved the Outage Plan Development – Planning/Timeliness and the end state is consistent with the stated Objective.	Jeff Fox	3Q/03	4Q/03	Final Effective Assessment is performed to establish that the required actions have improved the Outage Management Process, and the end state is consistent with the stated Objective

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Outage Plan Development  
**ACTION PLAN TITLE:** Scheduling/Monitoring  
**ACTION PLAN NUMBER:** 5.2.3.3  
**COMPLETION DATE:** 4Q/03  
**ACTION PLAN OWNER:** Mark R. Ward  
**FOCUS AREA OWNER:** Jeff Fox

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Scheduling activities have not been completed to the degree required to develop a comprehensive and credible outage schedule.

**CAUSAL FACTORS:**

1. Managers and supervisors have not aggressively established and reinforced expectations for the work management process during normal operation (i.e., development and implementation of the 12-week work schedule). (Action Plans 5.1.1.1, 5.2.5.1)
2. Difficulties in using Systems Applications and Products in Data Processing (SAP) and Primavera Project Planner (P3) as an integrated planning/scheduling tool. (Actions 1, 2, 13)
3. Planning activities are not detailed to the degree required to support the development of a comprehensive outage schedule. (Action 3)
4. Responsibilities and expectations for monitoring schedule development and outage preparation have not been clearly defined and executed. (Actions 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, Action Plan 5.2.3.1)
5. Problems with control of outage scope, planning, job duration estimates were contributors to performance shortfalls during the last refueling outage. (Actions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14, Action Plan 5.2.3.1, 5.2.3.2, 5.2.5.2)

**OBJECTIVES:**

1. A Cooper Nuclear Station (CNS) Long Range Outage Plan developed and issued to facilitate planning and funding of required modifications and major refurbishments.
2. Information required to support development of a comprehensive and accurate schedule provided through work packages and scope development meetings.
3. Critical activities identified and scheduled.
4. Required planning and scheduling tools implemented and personnel knowledgeable in their execution.
5. Comprehensive reviews and safety assessments performed on the developed schedule.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
NOTE: HUMAN PERFORMANCE ERRORS AND REWORK ARE ADDRESSED IN ACTION PLAN 5.1.4.1					
1	Establish the scheduling tool to be used for development of the Refueling Outage 21 (RFO-21) outage schedule. (RCR2002-0051 Corrective Action 3)	Jeff Fox		Complete	Scheduling tool established.
2	Implement the selected tool for scheduling. (RCR2002-0051 Corrective Action 3)	Mark Gillian		Complete	Implementation of scheduling tool including documented test results and desk instruction.
3	Establish the level of activity detail to be incorporated into the outage schedule. Developed in conjunction with Action Plan 5.2.5.2.	Joe Ruth		Complete	Level of activity to be incorporated into schedule defined and documented in appropriate procedures.
4	Establish meetings with the appropriate outage implementation team members to review schedule development and identify/resolve restraints. These meetings will be ongoing during development of the outage schedule. The date identifies establishment of the meetings.	Joe Ruth		Complete	Meetings are scheduled on station calendar to review development and identify/resolve restraints.
5	Monitor schedule development performance against RFO-21 schedule development milestones.	Mark Ward	2Q/02	2Q/03	RFO-21 schedule development milestones are tracked for completion.
6	Perform review of draft outage schedule (including peers) to validate the completeness of the schedule including: <ul style="list-style-type: none"> <li>• Safety,</li> <li>• Level of detail,</li> <li>• Durations,</li> <li>• Sequencing of activities,</li> <li>• Logic,</li> <li>• Contingency planning,</li> <li>• Identification of critical activities, and</li> <li>• Resource loading of the schedule versus scoped work, and Support requirements.</li> </ul>	Joe Ruth	4Q/02	1Q/03	Validation of RFO-21 outage schedule and document exceptions and open issues. Document completion of applicable milestone.

**IMPLEMENTATION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
7	Establish CNS long range refueling outage plan and integrate it with the station's Strategic Business Plan.	Joe Ruth	3Q/02	3Q/03	Integrated long range refueling outage plan issued, and modify applicable procedures to document process.
8	Establish periodic meetings with management with defined addenda to appraise on outage readiness, decisions, and emergent restraints.	Jeff Fox		Complete	Meeting occurs periodically with frequency increasing as outage implementation date approaches.
9	Verify that the schedule provides sufficient margin to maintain key shutdown safety functions in accordance with Shutdown Risk Review.	Mark Ward	4Q/02	1Q/03	Completed outage risk assessment with recommendations. Document completion of applicable milestone.
10	Issue Revision 0 of the RFO-21 outage schedule in accordance with preoutage milestone.	Joe Ruth	1Q/03	1Q/03	Revision 0 of the RFO-21 outage schedule issued per pre-outage milestone. Document completion of applicable milestone.
11	Develop a summary outage schedule to assist in managing outage risks showing the relationship among significant work activities.	Mark Ward	4Q/02	1Q/03	Summary outage schedule developed, issued, and site personnel provided overview.
12	Monitor outage scheduling effectiveness.	Jeff Fox	2Q/02	2Q/03	Effectiveness of execution of RFO-21 will be documented in the RFO-21 Post-Outage Report.
13	Develop instructions to prepare Outage Schedules utilizing the SAP, P3, and Impress Engine Software.	Mark Ward	2Q/03	3Q/03	Issue a revised Outage Schedulers Desk Guide.
14	Identify specific area for improvement and assign team(s) to benchmark, evaluate, and implement process improvements for scheduling techniques.	Jeff Fox	2Q/03	3Q/03	Appropriate procedure(s) revised and/or change communicated as necessary.

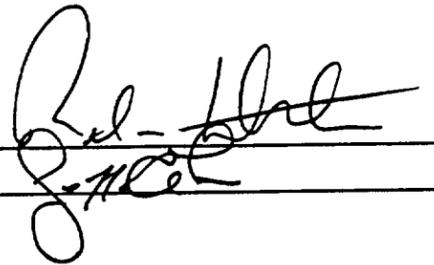
**TRANSITION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
15	<p><u>Change Management</u></p> <p>Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.</p>	Jeff Fox	3Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
16	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform Interim Self-Assessments (10 months after issuance of revision of Action Plan, per station procedure 0.50 thereafter) to determine the effectiveness of the individual actions taken to improve the Outage Scheduling Process. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of the Outage Scheduling Process. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Joe Dixon	3Q/03	3Q/03	Interim Assessments are performed to determine effectiveness of actions taken to improve the Outage Scheduling Process, Action Plan would be revised as required, based upon results of the Interim Assessments.
17	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effective Assessment to establish that the required actions have improved the Outage Scheduling Process and the end state is consistent with the stated Objective. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessments.</p>	Jeff Fox	3Q/03	4Q/03	Final Effective Assessment is performed to establish that the required actions have improved the Outage Scheduling Process, and the state is consistent with the stated objective.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Outage Implementation  
**ACTION PLAN TITLE:** Contract Management  
**ACTION PLAN NUMBER:** 5.2.4.4  
**COMPLETION DATE:** 2Q/05  
**ACTION PLAN OWNER:** Richard M. Dewhirst  
**FOCUS AREA OWNER:** Jeff Fox

APPROVAL: \_\_\_\_\_

APPROVAL: \_\_\_\_\_



**PROBLEM STATEMENT:**

Contractor performance has not been efficient, cost effective, or to high standards.

**CAUSAL FACTORS:**

1. Management has not been effective in providing oversight of contractor performance. (Actions 2, 3, 4, 13, 16, 17, Action Plans 5.1.1.1, 5.1.4.1)
2. Roles and responsibilities have not been clarified to Cooper Nuclear Station (CNS) and Contract Management to ensure effective contract administration. (Actions 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15, 18, 20, 21, 22)
3. Contract requirements have not been specific with respect to contract performance measures and quality standard for work at CNS. (Actions 1, 5, 6, 14, 17, 19)

**OBJECTIVES:**

1. Expectations regarding contractor performance established.
2. Organizations using contractor resources knowledgeable of requirements.
3. Contractors held accountable to perform against established measures.

**III ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1	<p>Benchmark stations having strong contractor control to obtain best practices, such as:</p> <ul style="list-style-type: none"> <li>• Nuclear Management Corporation Fleet, and</li> <li>• Institute Nuclear Power Operations high performers.</li> </ul> <p>Benchmarking is to be performed in accordance with O-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements established by O-CNS-06.</p>	Tim Chard	3Q/02	4Q/02	Utilizing information gathered on benchmarking, generate a report of the findings that includes recommendations for improved contractor control.
2	Establish CNS expectations and responsibilities for organizations utilizing contractors based upon benchmarking results. Establish a process that identifies applicable CNS supervision who will be responsible for their respective contractor performance.	Tim Chard	4Q/02	4Q/02	Revise Procedure 0.23, Contractor Control, or other procedure(s) as necessary.
3	Identify applicable CNS supervision who will be responsible for their respective contractor performance for Refueling Outage 21 (RE21) and communicate to outage manager.	Richard Dewhirst	4Q/02	4Q/02	A letter to the Outage Manager identifying CNS personnel by name responsible for respective contractor performance.
4	Ensure that the outage implementation team is aware of their responsibilities and accountability to ensure appropriate contractor control, specifically crew leads, project managers, system window owners, and area coordinators.	Jeff Fox	4Q/02	1Q/03	A tailgate will be given to convey responsibilities regarding contractor control to the Outage Implementation team.
5	Determine Quality Assurance (QA) Program responsibilities for contract oversight.	David Kunsemiller	4Q/02	4Q/02	QA Program requirements established for inclusion in the contract boiler plate.

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
6	Revise contract boiler plate language to include contract performance requirements and measures, including consequences of full compliance as well as any non-compliance. Ensure contract details training and qualification requirements, safety requirements, cost control measures, administrative requirements, etc.	Hrach Minassian	2Q/03	3Q/03	New contracts awarded have the revised boiler plate language that ensures that performance standards are established and written such that there is confidence that contract administrators and contractors understand them.
7	Perform Training Needs Analysis and determine the appropriate target audience on contract control procedures, roles, and responsibilities. Target audience, as a minimum, includes employees who oversee contract personnel or develop contracts, project managers, and temporary outage positions that deal with contractor oversight.	John Christensen	4Q/02	4Q/02	Needs analysis and training scheduled.
8	Develop lesson plans for contractor control based on needs analysis results.	John Christensen	4Q/02	4Q/02	Approved lesson plan.
9	Establish a contract oversight team for RE21.	Hrach Minassian	4Q/02	4Q/02	Team identified, roles and responsibilities defined and communicated to the contract owners
10	Provide training for personnel who oversee contracts for RE21 as determined in needs analysis.	John Christensen	1Q/03	1Q/03	Training complete for all personnel with contract oversight responsibilities in RE21.
11	Provide training for remaining personnel who oversee contracts as determined in needs analysis.	John Christensen	3Q/03	4Q/03	Training complete for all personnel with non RE21 contract oversight responsibilities.
12	Communicate contractor control expectations to the site prior to RE21.	Tim Chard	1Q/03	1Q/03	Talking paper provided to managers and supervisors that describe expectations for contractor oversight during RE21.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
13	CNS Management to communicate CNS standards and expectations to all contractors prior to arrival to site.	Jeff Fox	1Q/03	1Q/03	A member of CNS Management will communicate CNS standards and expectations to contractors as part of their in-processing.
14	Communicate contractor responsibilities to RE21 contract management.	Richard Dewhirst	1Q/03	2Q/03	Just prior to the outage, a meeting will be held with the site contract representatives to reinforce expectations, which will include: safety, defined responsibilities, contractual requirements, procedure adherence and STAR, among other topics. The expectation is that this information is then cascaded through their chain of command to their employees.
15	Enhance outage guide book to include standards and expectations of the individual contractors.	Richard Dewhirst	4Q/02	4Q/02	Published outage handbook.
16	Revise contract boiler plate to include requirements for continuous field supervision (RCR 2001-1319 Corrective Action 2).	Hrach Minassian		In Closure	Added requirements to Contract Boiler Plate requiring all major contracts include 24 hour field coverage. The individual's responsibility is to specifically monitor for house keeping, safety and work practices. Include this requirement in CNS procedure 1.4, Procurement Procedure, as required.

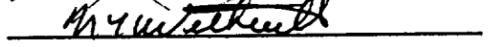
**TIF ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
17	Develop process to ensure Contractor Control Checklist is completed with the contractor (RCR2001-1319 Corrective Action 3).	Hrach Minassian		In Closure	In 0-CNS-23, Contractor Control, added a signoff on Attachment 1, Contractor Control Checklist, to state that the expectations contained in the checklist have been discussed with both the Contractor and the assigned CNS supervisor (Area Coordinator).
18	Identify roles and responsibilities for field supervision (RCR2001-1319 Corrective Action 4).	Jeff Fox		In Closure	Defined roles and responsibilities of the field supervisor (Area Coordinator) in the CNS Administrative Procedure 0.50, Outage Management Program.
19	Identify individuals responsible for contractor oversight during RE21 (RCR2001-1319 Corrective Action 5).	Bill Macecevic		In Closure	Included in the pre-outage milestones, a milestone to assign dedicated individuals to major contracts as field supervisors (Area Coordinators) to specifically monitor for housekeeping, safety, and work practices. Ensure adequate time is given to the individual to prepare for the assignment.
20	<u>Change Management</u> Establish a Change Management Plan in accordance with CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Richard Dewhirst	1Q/03	2Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.

**TITRATION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
21	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform Self-Assessment one month after RE21 to determine the effectiveness of the individual actions taken to improve contractor control. Revise Action Plan based upon the assessment, as required, to improve effectiveness of contractor control. Self-Assessment to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Richard Dewhirst	2Q/03	3Q/03	Self-Assessment performed to determine effectiveness of actions taken. The action plan is then revised as required based upon results of the assessment.
22	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment with assistance of Quality Assurance, to establish that the required actions have improved contractor control, and the end state is consistent with the stated objective.</p>	Richard Dewhirst	1Q/05	2Q/05	Final Effectiveness Assessment performed to establish that the required actions have improved contractor control and the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Work Package Development  
**ACTION PLAN TITLE:** Work Control Process Improvements (T-12 Process)  
**ACTION PLAN NUMBER:** 5.2.5.1  
**COMPLETION DATE:** 2Q/05  
**ACTION PLAN OWNER:** Bill Macecevic  
**FOCUS AREA OWNER:** Neal Wetherell

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The Work Control Process has not been effectively implemented in order to identify, select, plan, schedule, and execute work in a manner that supports safe and reliable plant operation.

**CAUSAL FACTORS:**

1. The Work Control Process is not effectively implemented due to a lack of organizational ownership, commitment, planning and support. In addition, oversight has not reinforced these requirements. (Actions 3, 4, 6, 7, 9, 13, 14, 15)
2. The required infrastructure necessary for effective implementation of the Work Control Process has not been adequately developed. Roles, responsibilities, standards, and expectations are not clearly defined and impact the ability to effectively identify, select, plan, schedule, and execute the Work Control Process. (Actions 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, Action Plans 5.1.1.1, 5.1.1.3)
3. Inconsistent alignment and teamwork from supporting organizations adversely impacts implementation of the Work Control Process. The misalignment in work prioritization, planning, and support of the Work Control Process by stakeholders has impacted work schedule development and implementation. (Actions 1, 2, 6, 16, Action Plans 5.1.1.1, 5.1.1.3, 5.1.4.3, 5.2.5.2)
4. Restraints identified in the work schedule development process are not effectively communicated or resolved in a timely manner by the supporting organizations. (Actions 9, 15, Action Plan 5.2.8.4)

**OBJECTIVE:**

1. Accountability for overall performance of the Work Control Process clearly defined.
2. Organizational and individual roles and responsibilities, expectations and accountabilities for the timely identification, selection, planning and execution of work activities established and internalized.

**TITLE ACTION PLAN**

3. On-line maintenance activities prioritized based upon their contribution to safety and reliability; duration of the scheduled work reviewed against technical specifications and probabilistic risk assessments.
4. Work scheduled to optimize safety system availability and to ensure maintenance performed within allowed regulatory or administrative time limits.
5. Preventive and predictive maintenance completed on time and effectively minimizes unplanned corrective maintenance.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Develop a prioritization and decision making tool to improve the consistency of prioritization and screening of work orders.	Jim McMahan		Complete	A prioritization and decision-making tool developed.
2	Define single point of accountability for an individual work package. Revise the desktop guide and communicate new expectations and requirements to staff.  (This action is also tied to Action Plan 5.2.3.2)	Ken Talbott		Complete	Appropriate desktop guide revised to reflect this accountability.
3	Develop Cooper Nuclear Station (CNS) White Paper establishing Work Control Process Improvements and obtain station endorsement. The Work Control Process Improvements address: <ul style="list-style-type: none"> <li>• Work Planning and Preparation,</li> <li>• Work Week Implementation, and</li> <li>• Roles, responsibilities, and expectations.</li> </ul>	Bill Macecevic	4Q/02	4Q/02	White Paper establishes Work Control Process Improvement and identifies immediate Interim Actions to be taken with implementation schedule.
4	Incorporate CNS White Paper requirements into CNS 0.40, Work Control Process. Revision will also address enhanced reviews to: <ul style="list-style-type: none"> <li>• Optimizing safety system availability,</li> <li>• Risk assessment of work activities, and</li> <li>• Review against Technical Specifications to ensure maintenance can be performed within allowed regulatory or administrative time limits.</li> </ul>	Bill Macecevic	4Q/02	1Q/03	Incorporates requirements developed from CNS White Paper establishing Work Control Process Improvements.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
5	Perform Needs Analysis in accordance with Systematic Approach to Training to assess whether or not personnel are required to be trained on the revised requirements in CNS 0.40. If training need is identified, develop training schedule for identified work groups or individuals.	John Christensen	4Q/02	1Q/03	Analysis performed to identify if personnel are required to be trained on revised CNS 0.40. If training need is identified ensure a training schedule is developed for appropriate groups/individuals.
WORK PLANNING AND PREPARATION					
6	Incorporate the prioritization and decision-making tool into CNS 0.40, Work Control Process to ensure work activities are prioritized based upon their contribution to safety and reliability.  (This action is also tied to Action Plan 5.2.3.1.)	Ken Talbott	3Q/02	4Q/02	Prioritization and decision-making tool incorporated into CNS 0.40, Work Control Process and the process change communicated to applicable station personnel.
7	Revise requirements for the Fix-It-Now Team/minor maintenance (using best industry practices as guidance) in order to reduce work package development.  Revise CNS 0.40 to incorporate revised requirements.  (This action is also tied to Action Plan 5.2.1.1.)	Ken Talbott	2Q/03	2Q/03	Appropriate procedures revised and change management completed.
8	Implement revised T-14 Review identifying by system a list of all corrective maintenance and Preventive Maintenance activities that will be worked in that cycle as part of the 12 Week Matrix. Listing to be reviewed by System/Program engineers prior to T-12.	Bill Macecevic	2Q/03	2Q/03	Increased input from Engineering organization with regards to most appropriate work week scope to support station equipment reliability needs.
9	Implement revised T-12 Scope Review Meetings to address engineering reviews performed. Meeting will define scope for the implementation week.	Bill Macecevic	2Q/03	2Q/03	T-12 meeting being utilized to make effective work week scoping decisions.

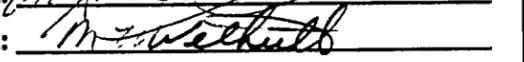
**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
10	Implement revised Work Order Status Meetings to identify and resolve schedule restraints.	Bill Macecevic	2Q/03	2Q/03	Work Order Status Meeting being used to identify and resolve restraints to successful completion of planning preparation in support of the T-12 process.
11	Implement revised T-9 Scope Review to evaluate ability of shops and operations to support planned scope.	Bill Macecevic	2Q/03	2Q/03	Input being received from the shops with regard to appropriate level of craft utilization.
12	Implement revised T-5 Schedule Review Meetings to address and resolve scheduling issues and conflicts in work order status.	Bill Macecevic	2Q/03	2Q/03	T-5 meeting focused on scheduling, with scheduling conflicts being resolved at or before this meeting.
13	Implement revised T-2 Freeze Meeting to "finalize" and lock T-12 schedule. Approval of schedule provided by Work Week Director, Operations and Maintenance Shops.	Bill Macecevic	2Q/03	2Q/03	Schedule fully developed and "frozen" at T-2 meeting.
<b>WORK WEEK IMPLEMENTATION</b>					
14	Modify Work Control Organization to provide (4) Operations/Work Control Integrated Work Week Implementations Teams to increase operational focus in implementing 12 Week Work Schedule.	Bill Macecevic	4Q/02	2Q/03	Increased operational focus provided by revised Operations/Work Control Integrated Work Week Implementations Teams.
15	Establish monthly meeting with supporting Department Managers to resolve organizational or departmental level barriers associated with supporting the 12 Week Work Schedule.  (This item is also tied to Action Plan 5.2.5.2.)	Bill Macecevic	1Q/03	2Q/03	Departmental Level Meeting to resolve department or organizational levels barriers impacting the 12 Week Work Schedule.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
16	Revise CNS 0.40, to require monthly assessment of supporting Departmental Indicators and require remedial action to be taken when the departmental indicators are "red" or the Department Manager determines that performance is steadily declining over a period of time. The recovery plan will be assigned to the department having primary responsibility for the "red" or declining departmental indicator.	Ken Talbott	4Q/02	2Q/03	Requirements established for monitoring of Departmental Indicators and initiating required recovery plan when indicators are "red" or the Department Manager determines that performance is steadily declining over a period of time.
17	Perform benchmarking of other nuclear power plant Work Control Processes to identify potential areas of improvement, which could be utilized by CNS. Benchmarking will include stations from: <ul style="list-style-type: none"> <li>• Nuclear Management Corporation Fleet</li> <li>• Utilities Services Alliances and</li> <li>• Institute of Nuclear Power Operations High Performers.</li> </ul> Benchmarking would be performed in accordance with O-CNS-06, Guideline for Benchmarking.	Bill Macecevic	4Q/02	4Q/03	Review Work Control Processes at other nuclear stations to benchmark CNS processes and identify Work Control Process improvement areas.
18	Based upon the results of benchmarking, identify Work Control Process improvement areas. Incorporate revised requirements in CNS 0.40 and 0.40.1, as applicable.	Bill Macecevic	3Q/03	4Q/03	Work Control Process improvements from benchmarking are identified and incorporated into CNS 0.40 and 0.40.1.
19	Engage services of an independent expert on Work Control processes and Work Control Implementation to perform an assessment of proposed changes in the Work Control Process as described in this plan. Based on the results of this assessment make adjustments as necessary.	Bill Macecevic	4Q/02	4Q/02	Independent assessment of work control performed, appropriate adjustments to this plan documented.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
20	<p><u>Change Management</u></p> <p>Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.</p>	Bill Macecevic	4Q/02	4Q/02	A written Change Management Plan approved by the Assistant to the Site Vice-President.
21	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform Interim Self-Assessments to determine the effectiveness of the individual actions taken to improve the Work Control Process. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of the Work Control Process. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Dave Robinson	2Q/04	2Q/04	Performance of Interim Assessments to determine effectiveness of actions taken to improve the Work Control Process. Action Plan would be revised to as required based upon results of the Interim Assessments.
22	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment to establish that the required actions have improved the work package process. The Final Effective Assessment establishes that the causal factors have been adequately addressed and that the end state resulting from the completion of Action Steps is consistent with the stated Objective. Self-Assessment to be performed in accordance with 0-CNS-25.</p>	Bill Macecevic	2Q/05	2Q/05	Final Effectiveness Assessment performed to establish that the required actions have improved the Work Control Process and addresses the identified causal factors. The end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Work Package Development  
**ACTION PLAN TITLE:** Work Package Planning Improvements  
**ACTION PLAN NUMBER:** 5.2.5.2  
**COMPLETION DATE:** 2Q/04  
**ACTION PLAN OWNER:** Bill Macecevic  
**FOCUS AREA OWNER:** Neal Wetherell

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The Work Control Process has been ineffective in producing consistent, accurate and comprehensive work packages in timeframes required to support the 12 Week Work Schedule/Outage Planning Processes and ensure recipients become familiar with the work prior to work performance.

**CAUSAL FACTORS:**

1. Standards and expectations for the development of quality work packages (both 12 Week work Schedule and Outage) have not been clearly established or effectively reinforced. The lack of clear standards and expectations has resulted, at times, in the issuance of work packages that lack sufficient detail or contain required contingency planning. (Actions 1, 2, 3, 4, 5, 6, 7, 8, Action Plan 5.2.5.1)
2. Prioritization and alignment of work activities is inconsistent between the organizations supporting implementation of the Work Control Process. This is evidenced by the lack of consistency by supporting organizations in providing timely and accurate inputs to support work planning and timely development of accurate and comprehensive work packages. (Action 2, Action Plans 5.1.1.3, 5.2.5.1)
3. Late development of the work packages adversely impacts schedule development and reduces the time available for the implementing organizations to become familiar with requirements prior to initiation of work. (Actions 2, Action Plans 5.2.5.1, 5.2.3.1, 5.2.8.1, 5.2.8.4)
4. Human performance considerations have not been effectively incorporated in the development of work packages in order to reduce the potential for human errors during work package implementation. (Action 3, Action Plans 5.1.4.1, 5.2.3.2, 5.2.3.3)

**T A C T I O N P L A N**

**OBJECTIVE:**

1. Standards and expectations regarding the development of work packages clearly defined and internalized.
2. Restraints to the development of work packages readily identified and resolved by supporting organizations.
3. Work packages detailed enough for qualified personnel to consistently and properly execute the work plan as specified.
4. Work packages include contingency plans, as necessary.
5. Restraints such as rigging evaluations, pending procedure changes, scaffolding requests, component location, insulation removal and supporting department requirements known and resolved prior to the package being defined as shop ready.
6. Operating experience systematically, rigorously, and consistently incorporated into work planning and scheduling activities.
7. Human error prevention techniques applicable in all aspects of work planning.

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1	Revise appropriate procedures to allow support more effective use of spot maintenance.	Jim McMahan		Complete	All appropriate procedures revised and change management performed.
2	Establish criteria, organizations involved and expectations for the performance of work planning walkdowns. Incorporate requirements into Cooper Nuclear Station (CNS) 0.40, and 0.40.1, 12 Week Work Control Process. (This item is also tied to Action Plan 5.2.5.1)	Ken Talbott	4Q/02	1Q/03	Appropriate procedures revised and change management completed.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
3	<p>Establish standards and expectations for the development of accurate and comprehensive work packages through the development of model "Quality Work Packages". The content of the Model "Quality Work Packages" also addresses:</p> <ul style="list-style-type: none"> <li>• Required level of detail,</li> <li>• Interfaces,</li> <li>• Human error considerations,</li> <li>• Support or restraint requirements (rigging, scaffolding, insulation removal, etc.),</li> <li>• Requirements for incorporation of contingency planning,</li> <li>• Operating Experience,</li> <li>• Lessons Learned, and</li> <li>• Bill of Materials (BOM) and parts requirements.</li> </ul> <p>Requirements will be incorporated into CNS 0.40 and 0.40.1 and "Work Control Desktop Guide". (These actions are also tied to Action Plans 5.2.5.1, 5.2.3.2, 5.2.3.3, 5.2.6.1, 5.2.6.3, 5.2.8.4.)</p>	Ken Talbott	4Q/02	1Q/03	Establishment of standards and expectations for the development of accurate and comprehensive work packages through the development of model "Quality Work Packages".
4	<p>Implement as a pilot, a quality "checklist" to assess work packages against revised CNS 0.40 and 0.40.1 and "Work Control Desktop Guide" requirements.</p>	Ken Talbott	4Q/02	1Q/03	Develop a supporting quality "checklist" to assess each work package.
5	<p>Incorporate quality "checklist" into CNS 0.40 and 0.40.1 and "Work Control Desktop Guide", as applicable.</p>	Ken Talbott	4Q/02	1Q/03	Checklist proceduralized.

**TIF ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
6	Implement as a pilot, a "Work Package Feedback Process" to obtain user's assessment of the work package's quality.	Ken Talbott	4Q/02	1Q/03	Work packages evaluated by planners and customers as meeting or exceeding defined quality standards. Feedback form developed and incorporated into applicable procedures.
7	Incorporate "Work Package Feedback Process" requirements into CNS 0.40 and 0.40.1 and "Work Control Desktop Guide".	Ken Talbott	4Q/02	1Q/03	Feedback form developed and incorporated into applicable procedures.
8	Establish Quarterly Meetings with Maintenance First Line Supervisors and Planners to provide feedback on work package improvements initiated from the "Work Package Feedback Process".	Ken Talbott	4Q/02	1Q/03	Provide feedback and build Teamwork resulting from the "Work Package Feedback Process".
	<u>Change Management</u>				
9	Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Bill Macecevic	4Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
	<u>Monitoring – Self-Assessments</u>				
10	Perform Interim Self-Assessments to determine the effectiveness of the individual actions taken to improve the work package process. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of the Work Control Process. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Dave Robinson	2Q/03	4Q/03	Performance of Interim Assessments to determine effectiveness of actions taken to improve the work package process. Action Plan would be revised to as required based upon results of the Interim Assessments.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved the work package process. The Final Effective Assessment establishes that the causal factors have been adequately addressed and that the end state resulting from the completion of Action Steps is consistent with the stated Objective.</p>	Bill Macecevic	2Q/04	2Q/04	<p>Final Effectiveness Assessment performed to establish that the required actions have improved the work package process and addresses the identified causal factors. The end state is consistent with the stated Objective.</p>

**NOTE:**

This Action Plan is supported by the following plans which when completed will enhance the ability to produce "quality" work packages in support of the 12 Week Work or Outage Schedule. These include:

- Updated/Stated Vendor Manuals (Action Plan 5.2.8.1, Vendor Manual Upgrade Program),
- BOM based upon Updated/Stated Vendor Manuals (Action Plan 5.2.8.4, Materials Management),
- Establishment of improved PM Technical Basis (Action Plan 5.2.3.1, System/Equipment Performance),
- PM Optimization (Action Plan 5.3.1.1, System/Equipment Performance),
- System/Equipment Reliability (Action Plan 5.3.1.1, System/Equipment Performance), and
- Design Modification Process improvements (Action Plan 5.3.3.4, Design Modification Process).

**PILLAR OF EXCELLENCE:** Operational Excellence

**FOCUS AREA:** Work Implementation

**ACTION PLAN TITLE:** Work Practices

**ACTION PLAN NUMBER:** 5.2.6.1

**COMPLETION DATE:** 1Q/07

**ACTION PLAN OWNER:** Carl Markert

**FOCUS AREA OWNER:** Neal Wetherell

**APPROVAL:** Carl A. Markert  
**APPROVAL:** Neal Wetherell

**PROBLEM STATEMENT:**

Inappropriate maintenance work practices and lack of feedback of lessons learned have resulted in damage to equipment, rework, inadvertent operation of equipment, and untimely completion of work.

**CAUSAL FACTORS:**

1. Management oversight has not been effective in addressing improper work practices including poor workmanship, industrial safety issues, low housekeeping standards, lack of procedural compliance, lack of a questioning attitude and lack of human error prevention techniques; and in communicating roles and responsibilities. (Actions 1, 2, 3, 4, 5, 7, 8, 9, 13, 14, 15, 16, 17, 18, Action Plans 5.1.4.1, 5.2.5.2, 5.2.6.2)
2. Inappropriate reliance on "skill-of-the-craft" for performing maintenance work that has periodically resulted in rework. (Actions 11, 12, 13, 14, 15, 16)
3. Pre-job briefs are not consistently preventing human performance errors or poor maintenance practices. (Action 6)
4. Lessons learned from internal and external sources are not consistently captured and translated into appropriate documents to improve future job performance and contingency planning. (Action 10, Action Plan 5.2.7.3)
5. Standards and expectations for the development of quality work packages have not been clearly established or effectively reinforced. The lack of clear standards and expectations has resulted, at times, in the issuance of work packages that lack sufficient detail. (Action Plan 5.2.5.2)

**OBJECTIVES:**

1. Maintenance principles and standards established and reinforced by management (manager/supervisor/crew leader).
2. Human error prevention techniques applied in all aspects of work planning and execution.
3. Line managers actively evaluate and report on observation quality, problems identified, and actions taken to improve performance.
4. Lessons learned from activities captured and translated into appropriate documents to improve future performance.
5. Work packages detailed enough for qualified personnel to consistently and properly execute the work plan as specified. (Action Plan 5.2.5.2)

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Review Principles and Standards Manual and revise as necessary to more clearly define management expectations for maintenance practices. Examples of areas to be considered are workmanship standards, procedural use and compliance, questioning attitude, lines of responsibility, human error prevention, and pre-job briefing expectations.  (This action is supported by Action Plan 5.1.4.1, Human Performance)	Carl Markert		Complete	Principles and Standards Manual reviewed, revised as necessary, and approved for use. Revision will address workmanship standards, procedural use and compliance, questioning attitude, lines of responsibility, human error prevention, and pre-job briefing expectations.
2	Shop supervisors review key performance standards each week from one principle in the Maintenance Department Principles and Standards Manual. (Interim step until formal training completed.) Periodic long-term reinforcement will be established in the development of the Change Management Plan in Action 19.	Carl Markert	3Q/02	1Q/03	Tailgate sheets documenting presentation of material from the Maintenance Department Principles and Standards Manual to the shops.
3	Conduct Needs Analysis and develop training as appropriate, based on Maintenance Department's Principles and Standards Manual.	John Christensen	2Q/03	3Q/03	Training lesson plans developed and approved.

**TIMELINE PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
4	Provide training as appropriate to the maintenance work force on the performance standards included in the Maintenance Department's Principles and Standards Manual.	John Christensen	4Q/03	2Q/04	Training conducted for existing maintenance personnel, as appropriate, and initial maintenance training revised to address newly hired personnel.
5	Walkdown all systems and housekeeping areas per Maintenance Work Practice (MWP) 5.0.8. Manager and/or assistant manager will tour with each area owner to impart management expectations.	Carl Markert	2Q/03	4Q/03	Walkdown database established and all walkdowns completed by due date.
6	Establish controls, for supervisors/crew leaders, to improve the effectiveness of pre-job briefs. The goal is to reinforce issues such as good workmanship, safety considerations, procedural adherence, housekeeping, and human error precursors.	Joel Smith		Complete	Revised MWP 5.0.7 to more clearly define pre-job briefing principles. Maintenance supervisors and crew leaders jointly developed a "Maintenance Pre-Job Brief" guidance form. The form addresses good workmanship, safety considerations, procedure compliance, housekeeping, human error precursor(s), communication protocol, etc.
7	Evaluate where in the T-12 process to assign craft ownership of the work activity.	Joel Smith	2Q/03	3Q/03	Recommendation to Work Control on the appropriate place in the T-12 schedule to provide maintenance craft ownership of the work activity.

**TI...ION PLAN**

NO.	ACTION	ACTION/OWNER	START DATE	END DATE	DELIVERABLE
8	Revise Work Control process as necessary from input from Action 7 and implement the change(s).  (This action is supported by Action Plan 5.2.5.2, which addresses the development of quality work packages necessary to perform the work activity.)	Bill Macecevic	3Q/03	1Q/04	Procedure 0.40.1 revised as necessary and implemented. The revision is intended to clarify work package ownership for maintenance personnel.
9	Revise Procedure 0.40 or establish other process controls to require crew leaders/job leads walk down job sites for equipment integrity and system cleanliness prior to release of clearance order and work order closeout.	Joel Smith	3Q/03	3Q/04	Review and revise procedure 0.40 or establish other process controls as necessary to clearly define expectations for equipment integrity and cleanliness prior to release of clearance order and work order closeout.
10	Evaluate and revise appropriate maintenance procedures to ensure that lessons learned are captured in specific Maintenance Work Request type work packages. Also, establish a process that provides feedback to the appropriate organizations.	Joel Smith	1Q/04	3Q/04	Evaluate and review appropriate maintenance procedures for post-job critiques and have a feedback mechanism in place. This process will be in addition to feedback currently received from plant weekly work critiques, daily work critiques, and notifications that identified work problems.
11	Develop a procedure improvement plan to address "skill-of-the-craft" concerns. The "skill-of-the-craft" concerns are related to human error and rework.	Carl Markert	4Q/03	3Q/04	Procedure improvement plan per the Nebraska Public Power District Project Management Desk Top Guide. This effort is intended to reduce human performance errors and the need for rework.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
12	Implement procedure improvement plan to address "skill-of-the-craft" concerns. The intent of this plan is to reduce human error rate and rework of jobs due to inappropriate reliance on "skill-of-the-craft."	Carl Markert	3Q/04	1Q/07	Procedures identified in the procedure improvement plan created from Action 11, above, will be revised and approved to resolve the deficiencies identified concerning excessive reliance on "skill-of-the-craft" knowledge.
13	Conduct a Needs Analysis to determine what additional training is required to address the issue of maintenance "rework". This includes requirements contained in Maintenance Procedure 7.03, Maintenance Rework, to: <ul style="list-style-type: none"> <li>• Identify,</li> <li>• Evaluate</li> <li>• Trend/analyze, and</li> <li>• Identify corrective actions.</li> </ul>	John Christensen	3Q/04	4Q/04	A Needs Analysis is performed to determine additional training required to address maintenance "rework".
14	Based upon the results of the Needs Analysis provide required training to maintenance personnel in order to reduce the occurrence of rework.	John Christensen	4Q/04	3Q/05	Maintenance personnel are trained based upon the Needs Analysis performed to address maintenance "rework".
15	Conduct a Needs Analysis to determine what training is required to address weakness in updating notification with appropriate trend codes upon completion of work activities.	John Christensen	4Q/03	4Q/03	A Needs Analysis is performed to determine additional training required to address inputting trend codes upon completion of work activities.
16	Based upon the results of the Needs Analysis provide required training to maintenance personnel in order to address proper use of trend codes upon completion of work activities.	John Christensen	4Q/03	4Q/04	Maintenance personnel are trained based upon the Needs Analysis performed to address regarding inputting trend codes.

**TITRATION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
17	Conduct Needs Analysis and develop required training to increase Industrial safety awareness within maintenance. Specific areas include: <ul style="list-style-type: none"> <li>• Electrical safety,</li> <li>• Confined space entry,</li> <li>• Personnel Protective Gear, and</li> <li>• Scaffold and ladder use.</li> </ul> (This action supports Action Plan 5.2.1.3)	John Christensen	4Q/03	4Q/03	Needs Analysis is performed to increase industrial safety awareness. Required industrial training is developed for maintenance personnel.
18	Provide training as appropriate on industrial safety awareness. (This action supports Action Plan 5.2.1.3)	John Christensen	4Q/03	4Q/04	Industrial safety training is provided to maintenance personnel.
19	<u>Change Management</u> Establish a Change Management Plan in accordance with the Cooper Nuclear Station (CNS) Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Neal Wetherell	4Q/03	1Q/04	A written Change Management Plan approved by the Assistant to the Vice-President.
20	<u>Monitoring – Self-Assessments</u> Perform Interim Self-Assessments (6 months after issuance of revision of Action Plan, 12 Months thereafter) to determine the effectiveness of the individual actions taken to improve the maintenance work practices. Self-Assessments to be performed in accordance with O-CNS-25, Self-Assessment.	Dave Kunsemiller	4Q/03	4Q/04	Interim Assessments are performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
21	Verification – Final Assessment Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment with assistance of Quality Assurance, to establish that the required actions have improved maintenance work practices and the end state is consistent with the stated Objective.	Neal Wetherell	4Q/06	4Q/06	Final Effective Assessment performed to establish that the required actions have improved the maintenance work practices and the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Operational Excellence

**FOCUS AREA:** Work Implementation

**ACTION PLAN TITLE:** First Line Supervision

**ACTION PLAN NUMBER:** 5.2.6.2

**COMPLETION DATE:** 4Q/04

**ACTION PLAN OWNER:** Carl Markert

**FOCUS AREA OWNER:** Neal Wetherell

**APPROVAL:** Carl R. Markert

**APPROVAL:** M. Wetherell

**PROBLEM STATEMENT:**

Maintenance management is providing insufficient oversight of maintenance activities.

**CAUSAL FACTORS:**

1. Roles and responsibilities for Supervisors/Crew Leaders were not clearly defined. (Actions 1, 2, 3, and 4 of Action Plan 5.2.6.1)
2. Management does not effectively reinforce/monitor performance expectations or provide field input during job performance by employees due to competing priorities, which limit the amount of time available for field oversight. (Actions 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, Action Plan 5.2.6.1)
3. Knowledge and skills of Supervisors/Crew Leaders needs improvement in the areas of mentoring and coaching of employees and fostering a questioning attitude in employees. (Actions 3, 4, 7, 8, 9)
4. Weakness in the use of the corrective action program. (Action Plan 5.2.7.1)

**OBJECTIVES:**

1. Effective monitoring and assessment of maintenance activities by maintenance management (manager/supervisor/crew leader).
2. Coaching and mentoring for maintenance personnel provided in areas such as personnel safety, proper work practices, and incorporation of human error reduction techniques.
3. Effective work planning and scheduling process allows more time for first line supervisors to provide adequate oversight of pre-job briefs and field activities.
4. Station personnel systematically, rigorously, and consistently apply and incorporate human error prevention techniques in all aspects of work planning and execution.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Establish a maintenance support group to reduce the administrative burden on the crew leaders and supervisors so they can focus on leading, coaching, mentoring, and correcting behaviors in the field.	Neal Wetherell		In Closure	Establish maintenance support group to help reduce administrative burden on crew leaders and supervisors.
2	Re-assess work assigned to supervisors/crew leaders to identify additional items that can be eliminated/redistributed.	Carl Markert	1Q/03	3Q/03	List of items eliminated/redistributed to reduce unnecessary burden on crew leaders and supervisors.
3	Schedule and conduct follow-up Institute Nuclear Power Operations (INPO) first line supervisor assist visit.	Neal Wetherell	4Q/02	4Q/03	Assist Visit Report with Action Plan.
4	Plan and schedule select crew leaders to attend the INPO first line supervisors working group meetings, Maintenance Behaviors Observation Program (USA program) visits to other sites, and WESTRAIN first line supervisor workshops.	Carl Markert	2Q/02	4Q/04	Personnel scheduled for meetings. Meetings attended include Braidwood (June '02), Fermi (July '02), and San Onofre (Sept. '02). Trip reports include recommendations for improvements.
5	Attend Management Observation Training for maintenance management (manager/supervisor/crew leader).	Neal Wetherell		In Closure	Improved skills of maintenance management in performing field observations.
6	Establish controls and method of validating that training and qualifications are adequately being verified.	Joel Smith		Complete	Controls and method of validation are in place to ensure only qualified personnel are performing assigned work.
7	Conduct Needs Analysis and develop field intervention and coaching training for crew leaders and supervisors as part of the Maintenance Supervisor Training Program.	John Christensen	1Q/03	2Q/03	Approved Lesson Plan for all Maintenance crew leaders and supervisors to address coaching, mentoring, and fostering a questioning attitude.

**TIF ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
8	Provide training as appropriate on field intervention and coaching.	John Christensen	2Q/03	1Q/04	Training conducted for existing maintenance personnel, as appropriate, and on-going training established to address newly hired personnel.
9	Schedule and conduct paired field observations with the Maintenance Manager and supervisors/crew leaders as part of the monthly field observations. This provides an opportunity for mentoring/coaching on management expectations.  (This action is supported by Action Plan 5.2.6.1.)	Joel Smith	4Q/02	3Q/03	Manager Field Observation Reports documenting proper implementation of coaching and mentoring of maintenance supervision.
10	In accordance with the Cooper Nuclear Station (CNS) Management Observation Program establish departmental expectations for management/supervision observation of field activities, including: <ul style="list-style-type: none"> <li>• Reinforcement of standards,</li> <li>• Establishing monthly focus area,</li> <li>• Mentoring and coaching, and</li> <li>• Correcting field practices.</li> </ul> (This action supports Action Plan 5.1.1.5.)	Joel Smith	3Q/02	3Q/03	Department observation process established to improve implementation of maintenance activities and reinforce standards, expectations and practices.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	Perform maintenance observations and monitor implementation to determine effectiveness. The effectiveness determination includes consideration of the following: <ul style="list-style-type: none"> <li>• Number of observations performed in a month,</li> <li>• Number of identified process or activity improvements, and</li> <li>• Number of times used to coach or reinforce standards, expectations, or practices.</li> </ul> (This action supports Action Plan 5.1.1.5.)	Joel Smith	1Q/03	3Q/03	Observations will be performed and reviewed for effectiveness in identification of improvements in maintenance practices or processes. Observations performed are incorporated into the CNS Management Observation Program.
12	Monitor the maintenance observations and provide feedback to allow continuous improvement from this effort.	Joel Smith		In Closure	Procedure 0-CNS-25, Self Assessment, currently requires an ongoing self-assessment that includes a review and summary of management observations. This existing program will be used to provide a feedback mechanism of the maintenance related management observations.
13	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Neal Wetherell	4Q/02	3Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
14	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform Interim Self-Assessments (6 months after issuance of revision of Action Plan, 12 Months thereafter) to determine the effectiveness of the individual actions taken to improve the first line supervision of maintenance personnel. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Dave Kunsemiller	2Q/03	2Q/04	Interim Assessments are performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.
15	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effective Assessment to establish that the required actions have improved maintenance first line supervision and the end state is consistent with the stated Objective. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Neal Wetherell	4Q/04	4Q/04	Final Effective Assessment performed to establish that the required actions have improved the first line supervision and the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Work Implementation  
**ACTION PLAN TITLE:** Radiation Control Practices  
**ACTION PLAN NUMBER:** 5.2.6.4  
**COMPLETION DATE:** 3Q/03  
**ACTION PLAN OWNER:** Tim Francis  
**FOCUS AREA OWNER:** Tim Chard

**APPROVAL:** Tim Francis  
**APPROVAL:** Tim Chard

**PROBLEM STATEMENT:**

Oversight of some radiological protection technical programs is insufficient, and common industry practices are not well implemented at the station. Weaknesses in worker practices and controls for contamination are resulting in an increase in personnel contaminations.

**CAUSAL FACTORS:**

1. Certified Health Physicist resigned in August of 2000 and was not replaced until October 2001. (Action 8)
2. Technical documents supporting the programs were not organized in a manner to allow easy retrieval of information and in some cases the supporting documentation was not available. (Actions 1, 2, 3, 4, 5, 6, 7, Action Plan 5.1.1.9)
3. Recent Self-Assessments have not been effective at identifying and solving programmatic discrepancies. (Action 9, Action Plan 5.1.5.1)
4. Low standards for radiation worker practices. (Actions 10, 11, 12, 15, 16, 17, 19, 20, 23)
5. Lack of steady housekeeping to prevent the buildup of low levels of contamination. (Actions 14, 18, 20, 22, 26, Action Plan 5.2.6.1)
6. Cooper Nuclear Station (CNS) Radiological Department culture that minor contaminations (<5000 ncpm) are of no concern since there is no risk or associated dose. (Actions 15, 19, 21, 24, 25, Action Plan 5.1.1.8)

**OBJECTIVES:**

1. Technical basis document developed and retrievable for all radiological programs.
2. Program owners assigned to each radiological programs.
3. Personnel contaminations significantly reduced.
4. Plant housekeeping to high standards.

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>	
1	Develop Technical Basis Manual for the External Dosimetry Program. Include applicable procedures, white papers, position papers, technical specifications, Updated Safety Analysis Report (USAR) sections, Nuclear Regulatory Commission (NRC) regulations, Nuclear Regulatory Guides (NUREG's), Institute of Nuclear Power Operations (INPO) Guidelines and associated industry events.	Rick Remmers			In Closure	Technical Basis Manual created and kept in Technical Health Physics (HP) office.
2	Develop Technical Basis Manual for the Internal Dosimetry Program. Include applicable procedures, white papers, position papers, technical specifications, USAR sections, NRC regulations, NUREG's, INPO Guidelines and associated industry events.	Steve Robinson			In Closure	Technical Basis Manual created and kept in Technical HP office.
3	Develop Technical Basis Manual for the Radiation Dose Reduction Program. Include applicable procedures, white papers, position papers, technical specifications, USAR sections, NRC regulations, NUREG's, INPO Guidelines and associated industry events.	Rick Remmers			In Closure	Technical Basis Manual created and kept in Technical HP office.
4	Develop Technical Basis Manual for the Contamination Control Program. Include applicable procedures, white papers, position papers, technical specifications, USAR sections, NRC regulations, NUREG's, INPO Guidelines and associated industry events.	Tim Francis			In Closure	Technical Basis Manual created and kept in Technical HP office.
5	Develop Technical Basis Manual for the Solid Radioactive Waste Program. Include applicable procedures, white papers, position papers, technical specifications, USAR sections, NRC regulations, NUREG's, INPO Guidelines and associated industry events.	Joe Kuttler			In Closure	Technical Basis Manual created and kept in Technical HP office.

**TIF ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
6	Develop Technical Basis Manual for the Control of Radiological Work Program. Include applicable procedures, white papers, position papers, technical specifications, USAR sections, NRC regulations, NUREG's, INPO Guidelines and associated industry events.	Kevin Tanner			In Closure Technical Basis Manual created and kept in Technical HP office.
7	Develop Technical Basis Manual for the Monitoring and Improving Radiological Protection Performance Program. Include applicable procedures, white papers, position papers, technical specifications, USAR sections, NRC regulations, NUREG's, INPO Guidelines and associated industry events.	Dave Kimball			In Closure Technical Basis Manual created and kept in Technical HP office.
8	Develop progression path of existing CNS employees to work as Technical Staff HP's and path for existing Staff HP to become a Certified Health Physicist (CHP).	Dave Kimball			In Closure Progression path for current employees is in Personnel Development Plans (PDP's) and current staff HP has plan for completing CHP requirements by end of 2003.
9	Develop a self-assessment schedule for RP programs, incorporating guidance in O-CNS-25 and using INPO 91-014 as the standard.	Dave Kimball	4Q/02	4Q/02	2003 self-assessment schedule is created identifying all program areas for year.
10	Revise General Orientation Training (GOT) Rad Worker training to include information about fixed and/or loose contamination having the potential to cause airborne when agitated.	Cindy Shaw			In Closure Information is included in GEN001-01-03 Rev 21.
11	Evaluate GOT Rad worker training for workers new to the industry. Specifically consider the use of more "hands-on" and classroom training instead of computer based.	Doug Hale	2Q/02	4Q/02	Completion of Work Order (WO) documents decisions made for training. Any changes are incorporated into the GOT/Employee in-processing.

**TITRATION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
12	Evaluate requal frequency of BET 3233 Radiation Protection (RP) - Dress-out training for site. Currently no requal is required. Consider enhancing current lesson plan. This lesson is needed for qualification to Radiation Protection (RP) – (Performance).	Kevin Tanner	2Q/02	4Q/02	Evaluation and resulting decisions are documented in Corrective Action Program (CAP). Any changes determined necessary are incorporated into GOT.
13	Define Roles and Responsibilities for Radiation Operations, Radshift, and Alara. This is currently in place but not updated, resulting in some responsibilities, such as instruments, not being under correct group.	Tim Francis		In Closure	Roles and Responsibilities are updated for each group, clearly delineating what responsibilities fall to which group, and is conveyed to technicians.
14	Perform area smoke tests to ensure ventilation is still performing its intended function for contamination control, mainly that air is being drawn from clean or low contamination areas into those with higher contamination levels.	Gerald Grotrian		In Closure	Smoke tests performed in Reactor (RX), Turbine Generator (TG) and Radwaste (RW) buildings by contaminated areas and some general areas such as 1001'. A notification for any deficiencies is written and an action assigned to Engineering to resolve.
15	Hold a series of meetings/presentations for RP technicians to discuss the "culture" department. currently has for contamination control. First meeting should be a discussion to ensure buy-in to the current culture and behavior changes needed. Meetings should be once/two weeks to start and then monthly until proper behavior changes have been established.	Dave Kimball	2Q/02	4Q/02	All meetings including topics discussed are documented. Any decisions/actions assigned are also documented. These documented meetings' actions will be used to demonstrate the proper culture change and understanding among the technicians.
16	Establish policy for personnel breaching contaminated systems while working on instrument racks to wear gloves.	Kevin Tanner		In Closure	Policy to wear gloves for work on instrument racks with contaminated systems in place – RPSG 1. Change communicated to shop – particularly Instrument & Control (I&C).

**TIF ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
17	Evaluate radiation worker practices that have the potential to spread contamination to clean areas. Address discrepancies and include changes in radiation worker training.	Kevin Tanner	3Q/02	4Q/02	Discrepancies are documented in corrective action and GOT rad worker training is updated.
18	Evaluate boundaries for contaminated areas and change boundaries where applicable. Evaluation to include: Is area large enough for work? Is housekeeping in area adequate to prevent spread of contamination? Would partial walls be beneficial?	Tim Francis		In Closure	All contaminated areas walked down and spreadsheet updated. Any changes documented in closure are incorporated.
19	Perform Management Observations of RP surveys, job coverage and work practices to ensure technicians are setting the proper example for the station in the area of contamination control.	Tim Francis		In Closure	Observations are documented in CNS Management Observation Program. Feedback is provided to the technicians.
20	Perform benchmark of other utility considered by INPO having a strength in contamination control. (Quad Cities)  Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements by 0-CNS-06.	Tim Francis	4Q/02	4Q/02	Benchmark is performed; report is submitted to Rad Management and plan is in place for any enhancements.
21	Determine a fixed contamination limit for tools in order to limit the potential for spread of contamination from leaching. Determine to be industry practice for top performers by INPO.	Kevin Tanner		In Closure	Fixed limit is determined (5000 ncpm) and guidance is placed in RP Shop Guide 23.
22	Revise appropriate RP procedures and/or shop guides to drive decontamination of clean controlled areas when contamination levels approach the limit of 1000 dpm/100cm <sup>2</sup> .	Kevin Tanner		In Closure	RPSG 8 contains guidance to decon area to NDA on frisker or < 500 dpm/100cm <sup>2</sup> on Tennelec counter when smears are found to approach 1000ncpm/100cm <sup>2</sup> .

**TII ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE	
23	Develop RP Shop Guide of standards for rad workers in contaminated areas including actions to be taken if the standards are not met.	Kevin Tanner			In Closure	RPSG 1 contains guidance on standards for rad workers in contaminated areas. This includes direction to write notifications for those attributed to poor worker practices and repeat offenders.
24	Change the criteria in RPSG 15 to include requirement for continuous RP job coverage in areas where contamination levels are > 1E6 dpm/100cm <sup>2</sup> .	Kevin Tanner			In Closure	RPSG 15 contains the stated guidance, providing another measure of control in areas with a high potential for spread of contamination.
25	Formalize an RP prejob checklist to include contamination control as part of prejob briefings.	Kevin Tanner			In Closure	Checklist is formalized as dataform CNS RP-800. Guidance for its use is contained in RPSG 1.
26	Redefine the storage and control of vacuum cleaner in the Radiological Controlled Area (RCA) to include adding guidance to a RPSG.	Tim Francis			In Closure	RPSG 1 contains section titled "Hepa and Vacuum Cleaner Use." This establishes the controls and methods of issuance to workers.
27	Revise/establish measurement tool for tracking of personnel contaminations > 100 (Level 1), >5000 (Level 2) and > 50000 ncpm (Level 3) to match EPRI guidelines.	Stephen Robinson	4Q/02		1Q/03	Measurement tools matching EPRI guidelines for Levels 1-3 are in place and being used for tracking/trending.
28	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Tim Francis	4Q/02		3Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.

**TIF ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
29	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform Interim Self-Assessment in accordance with Action 9 of this Action Plan to determine the effectiveness of the individual actions taken to improve the Radiological Protection Process. This will include Technical basis Manuals – are they in use, easy to use, being updated with new information; Roles and Responsibilities – are they current, have technicians seen them, know where they are.</p> <p>Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness. Self-assessments to be performed in accordance with 0-CNS-25, Self Assessment.</p>	Tim Francis	1Q/03	3Q/03	Interim Assessments are Performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.
30	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved the Radiological Control practices and the end state is consistent with the stated Objective.</p>	Tim Francis	2Q/03	3Q/03	Final Effectiveness Assessment is performed to establish that the required actions have improved Radiological Control Practices, and the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Operational Excellence

**FOCUS AREA:** Corrective Action, Operating Experience, Self-Assessment

**ACTION PLAN TITLE:** Improve Use of CAP to Effectively Resolve Station Problems

**ACTION PLAN NUMBER:** 5.2.7.1

**COMPLETION DATE:** 2Q/04

**ACTION PLAN OWNER:** Roman Estrada

**FOCUS AREA OWNER:** Mike Boyce

APPROVAL: \_\_\_\_\_

APPROVAL: \_\_\_\_\_

**PROBLEM STATEMENT:**

As an organization, Cooper Nuclear Station (CNS) is not using the Corrective Action Program (CAP) effectively to understand problems and change behaviors for continuous improvement.

**CAUSAL FACTORS:**

1. Site wide behaviors contributed to the inability to identify and resolve problems as noted by:
  - Entering of notifications to fix things later, instead of fixing and documenting on-the-spot
  - Lack of problem ownership from start to finish
  - Lack of appropriate feedback to or input from originators in solutions
  - People do not believe CAP is a tool for solving problems
 (Actions 1a, 1b, 1c, 1d, 1e, 1f, 1g, 1h, 1k)
  
2. The high number of issues that become Resolve Condition Report (RCR) issues within the Corrective Action Program had led to a dilution of the focus on investigating the cause and implementing effective corrective actions for issues that should receive prompt attention. This has led to poor quality apparent cause evaluations and associated corrective actions that allow for higher number of repeat occurrences within the Corrective Action Program. (Actions 1e, 2a)
  
3. The balance between evaluation thoroughness and resource allocation is in need of improvement. Excessive number of RCR evaluations performed is consuming resources that could be used for significant CAP issues and is diluting the quality of those evaluations that are performed. (Action 3a)

4. Resources are not planned and scheduled for continuous improvement program work in the major departments. This leads to part-time involvement with respect to these continuous improvement processes. (Action 4a)
5. Resources for departmental trending are not proficient or consistent. Utilization of trend data to make improvements is not an established concept within the organization. (Actions 5a, 5b, 5c, 5d, 5e)
6. The current performance-monitoring program is not being appropriately utilized to drive performance improvement. Behaviors towards the Corrective Action Program are affected solely on the timeliness measures and are not balanced with the other quality measures provided. (Actions 1j, 6a)
7. The prescriptive requirements in the 0.5 series procedures have in some respect removed line management accountability and standards for processing a CAP item. This, in turn, has caused the process to be considered complex and overly administrative and a possible barrier to use of the CAP process. (Actions 1i, 7a, 7b)
8. The relationship between the various continuous improvement programs is not well understood. As a result, implementation of the proactive aspect of CAP (Self-Assessment, Operating Experience, Human Performance, and Management Observations) is considered an additional workload burden versus an activity to minimize future CAP issues (reactive CAP). (Actions 8a, 8b)

**OBJECTIVE:**

1. Improve ability to effectively communicate, utilize, and reinforce CAP standards and expectations.
2. Improved ownership and oversight by site personnel and line management.
3. Use of the Corrective Action Program as the primary means to fix issues and to effectively improve station performance.

**TITRATION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>DRIVE BEHAVIOR CHANGES</b>					
1a	Re-enforce the "take action now" philosophy through coaching and monitoring in Condition Review Group (CRG) review of notifications. Use established Closed Based on Actions Taken (CBOAT) indicator to monitor effectiveness at taking action on the spot.	Roman Estrada	3Q/02	1Q/04	Use of the CBOAT indicator showing > 35%. (Overall results will be improved utilization of CAP process to resolve issues quickly).
1b	Clarify/revise supervisor review template to include a decision on immediate actions that can be taken on the spot and documented in the notification.	Roman Estrada	3Q/02	1Q/03	Revision of CAP procedures and Systems Applications and Products in Data Processing (SAP) Problem Identification Report (PIR) templates. (Overall results will be improved utilization of CAP process to resolve issues quickly.)
1c	Improve feedback mechanism to the originators. <ul style="list-style-type: none"> <li>Address timeframe after CRG classification.</li> <li>Address during the opportunity to interface in the acceptability of action closures.</li> </ul>	Roman Estrada	3Q/02	1Q/03	Revision of associated CAP procedures to reflect new interfaces with originator. (Cause improved ownership of issues by originator.)
1d	Chose top site equipment, process, program or Human Performance (HP) issue on site and resolve it quickly and completely and celebrate that success. Then address the next top issue the same way. Do 3 issues in succession.	Roman Estrada	3Q/02	3Q/03	TOP 3 issues resolved via the CAP evaluation process and successful completion of all 3 issues. (Reflect CAP's ability to truly resolve issues to support the plant.)
1e	Provide CAP training for site personnel. This will continue reinforcement of CAP standards (i.e. problem statements, apparent causes, and roles and responsibilities)	Roman Estrada	3Q/02	1Q/03	Attendance forms (provides consistent understanding of standards).
1f	Provide CAP training for root cause evaluators. This will continue reinforcement of CAP standards (i.e., root causes, roles and responsibilities).	Roman Estrada	3Q/02	1Q/03	Attendance forms (provides consistent understanding of standards).

**TI...ION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1g	Provide CAP training for CRG. This will continue reinforcement of CAP standards (i.e., problem statements, apparent causes, root causes and roles and responsibilities).	Roman Estrada	3Q/02	4Q/03	Attendance forms (provides consistent understanding of standards).
1h	Provide CAP training to Corrective Action Review Board (CARB). This will continue reinforcement of CAP standards (i.e., problem statements, root cause, roles and responsibilities).	Roman Estrada	3Q/02	4Q/03	Attendance forms for specified groups. (Provide consistent understanding.)
1i	Revise the procedure guidance with respect to the apparent cause report format to differentiate it from a root cause.	Roman Estrada		Complete	Revised process for apparent cause format (Improve quality of apparent causes by not focused on the administrative requirements.)
1j	Create a methodology to have line managers present their CAP Performance Indicators (PIs) at the Management Performance Review Meeting (MPRM).	Roman Estrada	1Q/03	4Q/03	Managers Departmental CAP Performance who impacts a yellow or red CAP PI will be able to effectively present their impact to these CAP PI's at MPRM meeting. (Indicate improved ownership of line managers of how they impact overall CAP implementation.)
1k	Create a methodology to determine how departments are self identifying their own issues.	Roman Estrada	1Q/03	2Q/03	Update to quarterly assessment reports taken to CARB as part of Action 5c. (Determine if departments are proactively finding their own issues through improved use of the CAP process.)

**II . . . ION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>CLEARLY DEFINE WHAT GOES INTO CAP</b>					
2a	Revise CAP procedures to: <ul style="list-style-type: none"> <li>• Define what Conditions Adverse to Quality (CAQ's) are in the CAP process.</li> <li>• Define the mechanism in CAP process to address non-CAQ issues to ensure threshold level is still considered low, i.e., Department Dispositions.</li> <li>• Allow screening process to remove non-CAP issues from CRG review process.</li> </ul>	Roman Estrada	3Q/02	1Q/03	Revision of associated CAP procedures for classification matrix. (Clear delineation of what the significant issues are so that appropriate resources are applied to resolve these issues to ensure proper focus of correcting the safety issues first.)
<b>REDEFINE CLASSIFICATION AND PRIORITIZATION</b>					
3a	Revise CAP procedures to: <ul style="list-style-type: none"> <li>• Implement a risk/confidence matrix for processing CAP evaluations and corrective actions due dates and priorities.</li> <li>• Eliminate RCR root cause level.</li> <li>• Establish fixed timeframes for Significant Condition Report (SCR) level action items with follow-up accountability by CARB.</li> <li>• Allow managers to control due dates for RCR level items but track their performance via health report to ensure appropriate responsiveness.</li> <li>• Focus organization toward more trending or fix only of issues and to use trending to initiate cause analysis of issues.</li> </ul> Reassess management expectations for apparent causes to support Action 4a Initiative. Not designed to prevent recurrence.	Roman Estrada	3Q/02	1Q/03	Revision to associated CAP procedures to allow for work management aspects to be added based on significance aspects. (Improve management's focus on resolving the significant issues first and managing the less significant issues based on resources available.)

**TI ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
<b>ASSIGN RESOURCES TO CONTINUOUS IMPROVEMENT PROGRAMS</b>					
4a	Ensure each department establishes appropriate number of resources via a written agreement signed by the department manager on how they will perform trending, self-assessments, cause analysis, operating experience, management observations, and human performance improvements on an annual basis.	Mike Boyce	4Q/02	1Q/03	Signed resource agreements by each site department manager presented to Site Vice-President. (Ensure accountability for addressing Continuous Improvement programs is established.)
<b>STRENGTHEN TRENDING</b>					
5a	Establish an equipment Trending program for CAP and work items in the appropriate CNS documents. Provide results to CARB routinely.	Roman Estrada	3Q/02	3Q/03	New process requirements created in appropriate CNS documents. (Ensure that equipment issues in work items and CAP process are being analyzed routinely for adverse or emerging trends.)
5b	Develop standard reports for summarizing trend analysis.	Roman Estrada	3Q/02	2Q/03	Guidance provided in the associated CNS documents. (Ensures clear and consistent documents provided for review.)
5c	Establish trending frequency and depth required for departmental and organizational trending reporting to CARB in appropriate CNS documents.	Roman Estrada	3Q/02	2Q/03	Revision of associated CNS procedures. (Ensures clear and consistent documents provided for review.)
5d	Revise CAP procedures to include a collective assessment of root causes from root cause evaluations each year to assess any organizational improvement areas. Provide results to CARB.	Roman Estrada	1Q/03	3Q/03	CAP procedures revised accordingly. (Assesses any organizational trends from significant CAP issues.)

**TRENDRON PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
5e	Revise CAP Procedures to include a periodic assessment of the trending program.	Roman Estrada	1Q/03	3Q/03	CAP procedures revised accordingly. (Continuous improvement activity for trend program)
<b>RE-EVALUATE CAP PERFORMANCE MONITORING</b>					
6a	Reevaluate the performance monitoring on CAP PI's to ensure the correct results and behaviors would be expected to be driven by the performance monitoring and adjust PI's accordingly.	Mike Boyce	3Q/02	1Q/03	Focused Self-Assessment report on the results and actions needed to address this issue. (Improves department's performance with respect to CAP by not allowing PI performance to skew perception of using CAP to improve site performance.) Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.
<b>SIMPLIFY CAP PROCESS FLOWS</b>					
7a	Establish a CAP Council consisting of line supervisors to review process requirements to remove administrative issues that could be considered a hindrance to utilization of CAP process by site personnel. Key areas to address are: <ul style="list-style-type: none"> <li>• Supervisor review of PIRs</li> <li>• Reclassification of PIRs</li> <li>• Corrective Action Closure/Approval requirements</li> </ul> Corrective Action tracking requirements.	Roman Estrada	3Q/02	1Q/03	Procedure revisions to associated CAP procedures reflecting new administrative direction for CNS in these areas. (Improves department ownership of CAP process by allowing them to help structure what it should look like.)
7b	Investigate and establish transfer of current CAP databases from Systems Applications and Products in Data Processing (SAP) to T-track software for enhanced CAP processing.	Roman Estrada	3Q/02	2Q/04	Established/Funded project plan to install T-track at CNS and begin use in 2 <sup>nd</sup> quarter 2004. Improves logistics of use of CAP.

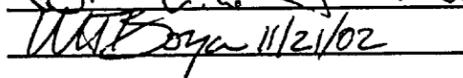
**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
<b>DEFINE OVERALL STATION CONTINUOUS IMPROVEMENT STRATEGY</b>					
8a	Develop a written continuous improvement strategy that describes the relationship of the Performance Analysis Department continuous improvement programs to one another and how they work together to systematically drive organizational learning and improve station performance.	Mike Boyce	3Q/02	1Q/03	Establishment of a site directive or document. (Clearly establishes what continuous improvement should look like at CNS.)
8b	Communicate the overall CNS continuous improvement strategy to site personnel.	Mike Boyce	3Q/02	1Q/03	Site talking paper distributed through normal channels of communication. (Clearly establishes what continuous improvement should look like at CNS.)
9	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Roman Estrada	2Q/03	3Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
10	<u>Monitoring -- Self-Assessments</u> Perform quarterly assessment reviews in Dec 02, Mar 03, June 03, and Sept 03 to determine if performance improving in this TIP area. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Roman Estrada	2Q/03	4Q/03	<ul style="list-style-type: none"> <li>Self-assessment reports for each completed assessment.</li> </ul> (Ensure action plan is working as designed.)

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
11	<u>Verification – Final Assessment</u> Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment with an outside resource to establish that the required actions have improved the Corrective Action Program and the end state is consistent with the stated Objective	Roman Estrada	2Q/04	2Q/04	<ul style="list-style-type: none"><li>Final Assessment report provided to CARB</li></ul> (Ensure action plan worked as designed.)

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Corrective Action, Operating Experience, Self-Assessment  
**ACTION PLAN TITLE:** Root Cause Investigation and Corrective Action Effectiveness  
**ACTION PLAN NUMBER:** 5.2.7.2  
**COMPLETION DATE:** 4Q/03  
**ACTION PLAN OWNER:** Bruce C. Toline  
**FOCUS AREA OWNER:** Mike Boyce

**APPROVAL:**  11-21-02  
**APPROVAL:**  11/21/02

**PROBLEM STATEMENT:**

Cooper Nuclear Station (CNS) has had a history of recurring problems that have not been eliminated or prevented by the root cause investigations and subsequent corrective actions.

**CAUSAL FACTORS:**

1. Problem statements are not consistently well written to provide clear guidance and direction to root cause teams. (Actions 5, 6, 7, 11)
2. Lack of planning for investigations. (Actions 5, 6a, 6b, 6c, 7a, 11)
3. Inconsistent application of root causes techniques or lack of application for evaluation of equipment failure modes, organizational breakdowns, or human performance errors. (Actions 5, 6a, 6b, 6c, 7a, 11)
4. Causal factors for which no corrective actions are identified. (Actions 5, 6a, 6b, 6c, 7a, 11)
5. Corrective Actions are not specific, measurable, achievable, realistic, or timely. (Actions 5, 6a, 6b, 6c, 7a, 11)
6. Ineffective extent of conditions performed in the root cause process has resulted in recurrence of issues. (Actions 5, 6a, 6b, 6c, 7a, 11)
7. Lack of effective root cause methodology in identifying and correcting latent organizational weaknesses associated with human performance fundamentals. (Actions 7a, 10, 11, Action Plan 5.1.4.1)
8. Failure to ensure proficiency of root cause investigators through frequency of performance, well designed training, effective job aids, and timely feedback. (Actions 1, 6a, 6b, 6c, 7a, 8, 12, 13)

**OBJECTIVES:**

Produce root cause analyses that consistently result in:

1. Correction of identified problems.
2. Prevention of similar consequences.
3. Organizational learning.
4. Continuous improvement of root cause products.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Reduce the root cause investigators from ~ 200 to 50 to improve consistency.	Roman Estrada		Complete	New list established and maintained for 50 root cause evaluators.
2	Perform a training assessment using the Systematic Approach to Training in order to determine any knowledge/skill weakness with respect to the Corrective Action Process (CAP).	Tim Donovan		Complete	Completed training assessment detailing knowledge/skill areas where training needs to be developed.
3	Include into the content of CAP training the process for development of good problem statements.	Tim Donovan		Complete	Revised training material.
4	Promulgate the Quality Indicator Report to the line departments. This report provides a quality index by department regarding the quality of their performance of CAP investigations.	Roman Estrada		Complete	Develop Performance Indicators and issue to departments.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
5	<p><b>Interim Action</b> Provide industry experts to mentor root cause teams to achieve a step change improvement in root cause analysis products. In addition to addressing the causal factors above, the mentors will facilitate pre-job briefs for the root cause investigation teams and reinforce the concept of using more than one technique to validate root cause investigations.</p> <p>Implementation is intended to enhance the development of high quality root cause products that support the Action Plan Objectives.</p>	Bruce C. Toline	3Q/02	3Q/03	Documented evidence of mentor observations of each root cause team, including evidence of involvement in pre-job briefs, evidence of use of additional root cause techniques by teams to validate causes, assessments of extent of condition and corrective actions identified, and evidence of facilitated post evaluation critiques.
<b>PRE-JOB BRIEFS &amp; CRITIQUES</b>					
6a	<p>Develop a critique form to be used by root cause teams upon completion of root cause investigations. Design the critique form to specifically address causal factors 1-6 and other essential attributes.</p> <p>Use of the critique form is intended to support the engagement of the root cause teams in the continuous improvement of processes and practices employed in the root cause investigations.</p>	Bruce C. Toline	3Q/02	4Q/02	The completed critique forms will be retained and input to the quarterly root cause ongoing self-assessment.
6b	External/Internal Mentors will facilitate the root cause teams in a self-critique of their performance upon completion of each investigation, specifically addressing causal factors 1-6, on an ongoing basis.	Bruce C. Toline	4Q/02	4Q/03	Critique results for each team will be captured in the ongoing quarterly Root Cause Ongoing Self-Assessment performed in accordance with 0-CNS-25, Self-Assessment.

**TIF ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
6c	Provide a quarterly rollup of critique results, lessons learned, and opportunities for improvement as input to a quarterly Root Cause Ongoing Self-Assessment, performed as required by 0-CNS-25, Self-Assessment. Within the scope of this assessment establish the means to incorporate lessons learned and operating experience to the pre-job brief information provided to root cause teams.	Bruce C. Toline	1Q/03	4Q/03	Documented/retrievable self-assessments will be recorded and used to identify areas for improvement of the root cause process.
7a	Utilize industry experts to conduct a task analysis that will clearly identify elements, prerequisites, conditions, knowledge, skills, and standards for application of excellent root cause analysis.  The task analysis provides the basis for input to: <ul style="list-style-type: none"> <li>• Procedures,</li> <li>• Root cause tools,</li> <li>• Training, and</li> <li>• Performance measures to support the Objectives of this Action Plan.</li> </ul>	Bruce C. Toline	3Q/02	1Q/03	The documented task analysis provides critical steps, key decision points, standards, and expectations that become the basis for development of procedural guidance, training lesson plans, job aids, and performance measures to support performance management concepts.
7b	Evaluate the stream analysis process being endorsed by Nuclear Management Corporation. Incorporate the process for its appropriate application in the task analysis. Elements of the task analysis will be incorporated into training, procedures, and root cause analysis tools.	Bruce C. Toline	4Q/02	1Q/03	A description of the benefit and technique of stream analysis will be captured in the body of the task analysis.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
8	<p>Conduct quarterly feedback sessions to provide feedback to root cause investigators on lessons learned from past investigations and process improvements. Use these sessions to positively reinforce examples of excellent performance.</p> <p>The use of feedback sessions is intended to enhance the root cause investigator's understanding of CNS root cause performance concerns, process changes, and new initiatives.</p>	Bruce C. Toline	4Q/02	4Q/03	Documented and retrievable meeting minutes with scope of information covered and attendees included.
9	Utilizing input from the task analysis conducted in Action 7a, design and develop or revise root cause performance measures as necessary, to address critical performance criteria that can be utilized to target areas for performance improvement. Specifically include the Significant Condition Report (SCR) recurrence and SCR root cause quality performance indicators within the scope of this revision.	Bruce C. Toline	4Q/02	4Q/03	The results of the performance measures will be documented in the quarterly Performance Analysis Department ongoing self-assessment and input will be provided to the quarterly feedback sessions in Action 9.
10	Make additional revisions to the root cause procedure as necessary, based upon the results of the task analysis conducted in Action 7a. Ensure the procedure revision addresses appropriate reinforcement of operating experience.	Bruce C. Toline	1Q/03	2Q/03	<p>The procedure will work in concert with the training, performance measures, job aids, and the critique process to achieve consistency in root cause investigator performance.</p> <p>Procedure change process documentation will provide evidence of task completion.</p>

**TIT LATION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	Revise the root cause training program materials to address qualification of root cause investigators and address input from the task analysis.  Root cause investigator qualification will require achievement and maintenance of a level of proficiency and the necessary training to support the use of all employed root cause techniques and tools.	Bruce C. Toline	1Q/03	2Q/03	Training material developed or revised will provide evidence of task completion.
12	Provide training that incorporates lessons learned and supports the qualification process for root cause investigators.	Tim Donovan	2Q/03	3Q/03	Documentation of attendance and qualification of investigators will provide evidence of task completion.
13	Establish a dedicated root cause performance and mentoring team to facilitate successful root cause investigations: <ul style="list-style-type: none"> <li>• Create and fill positions for four technical root cause experts to lead, conduct and facilitate investigations.</li> <li>• Create and fill positions for two administrative/technical root cause support personnel who can provide administrative and technical support to root cause investigation teams.</li> <li>• Provide mentoring coaching and training to team members as necessary to ensure appropriate level of expertise is achieved prior to elimination of the need for industry mentors.</li> </ul>	Bruce C. Toline	4Q/02	3Q/03	Required positions are established and filled with qualified root cause technical experts and supporting personnel in accordance with this Action Plan.

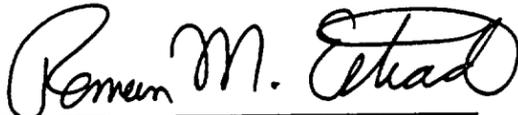
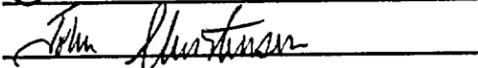
**TII ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
14	Develop a rapid response root cause investigation organization to facilitate interim management of evidence to be preserved, consideration for compensatory measures, and investigation early start: <ul style="list-style-type: none"> <li>• Establish on-call rotation of the four technical root cause experts in Action 13.</li> <li>• Develop a callout protocol.</li> <li>• Develop expectations for early incident evaluation techniques.</li> </ul>	Bruce C. Toline	2Q/03	3Q/03	Procedural and guidance documentation describing the rapid response organization roles and responsibilities.
15	To introduce the improvement plan for root cause analysis, an article will be included in the current events along with a handout presented at a leadership meeting, summarizing the scope, objective, and timeframe for Action Plan implementation.  Reference Action 8 (feedback sessions) to address process changes resulting from this plan.	Bruce C. Toline	4Q/02	1Q/03	Roll out of expectations to impacted organizations to ensure personnel understand revised organizational and individual roles and responsibilities, expectations, accountabilities, and requirements.
16	<u>Change Management</u>  Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Bruce C. Toline	4Q/02	4Q/03	A written Change Management Plan approved by the Assistant to the Vice-President.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
17	<p><u>Verification – Final Assessment</u></p> <p>Conduct a Final Assessment focused on the quality and effectiveness of root cause to validate performance achieved by performance techniques prescribed above.</p> <p>This Self-Assessment performed in accordance with 0-CNS-25, Self-Assessment, will ensure that the action plan was and is effective in its final implementation.</p>	Bruce C. Toline	4Q/03	4Q/03	<p>The Final Assessment will validate the results of critiques, effectiveness reviews and quality indicators. In addition it will provide the basis to either close out this Action Plan or determine if further action is required.</p> <p>Documentation of the self-assessment and subsequent actions will provide evidence of task completion.</p>

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Corrective Action, Operating Experience,  
Self-Assessment  
**ACTION PLAN TITLE:** Improve Utilization of OER  
**ACTION PLAN NUMBER:** 5.2.7.3  
**COMPLETION DATE:** 2Q/05  
**ACTION PLAN OWNER:** Roman Estrada  
**FOCUS AREA OWNER:** John Christensen

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Long-standing problems exist with applying Operating Experience, such as reporting of events to the industry and using operating experience in daily activities. Additionally, Significant Operating Experience Report (SOER) recommendations are not implemented and tracked consistently.

**CAUSAL FACTORS:**

1. Deficiencies in using operating experience in daily activities.
  - Lack of appreciation of the value of using Operating Experience at all levels of the Organization. (Action 1b)
  - There is not a consistent follow-up by line management to ensure that operating experience is utilized in the field by the Cooper Nuclear Station (CNS) work force. (Actions 1a, 1c, 1d, 1e, 1f, 1g)
  - There is not consistent coaching and mentoring by line management to improve the ability of the CNS work force to benefit from operating experience lessons. (Actions 1a, 1b, 1c, 1d, 1e, 1f, 1g)
  - Weaknesses in knowledge and proficiency for where to look for and how to find and use Operating Experience. (Actions 1b, 1e)
2. Reporting of events to the industry.
  - Number of approvals required to publish Operating Experience Reports (OERs) were excessive. (Action 2a)
  - Generating the report was the sole responsibility of the OER Group using the Apparent/Root Cause after it was completed. (Actions 2b, 2c)
3. SOER recommendations are not implemented and tracked consistently.
  - No single file exists for each specific SOER recommendation; files exist for complete SOER Response. (Actions 3a, 3b)
4. Effectiveness Review of Operating Plant Experience (OE) Corrective/Preventive Actions is inadequate to prevent events occurring. (Actions 4a, 4b)

**OBJECTIVE:**

Improve the utilization of Operating Experience in Daily activities such that;

1. The Managers look for the use of Operating Experience during Management Observations.
2. Appropriate site personnel familiar with finding Operating Experience and effectively apply Operating Experience.
3. CNS quickly communicates CNS events and issues to the industry.
4. Easily auditable SOER Recommendations files.
5. Effectiveness reviews performed and formally issued Operating Experience Documents Corrective/Preventive Actions.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>INTERNALIZE USE OF INDUSTRY OPERATING EXPERIENCE IN DAILY ACTIVITIES</b>					
1a	Provide standards and expectations on use of operating experience to Plant and Engineering management to be used in improving implementation and use of OE by their staffs.	Dave Shrader		Complete	Talking paper for specified managers and tailgate provided to these managers.
1b	Perform a Needs Analysis to identify training requirements and target population for finding and including Operating experience in Maintenance Work Packages and Pre-Job Briefs. Work with the OER Group to create a training lesson plan for the use of the CNS OER Web Pages, Institute Nuclear Power Operations (INPO) Web Pages and search engines and Nuclear Regulatory Commission Web Site. Included within this training will be the Standards and Expectations provided to managers in 1a above. The training will also provide instruction for setting up the computer work stations for access to INPO's NucNet News Groups.	Tim Donovan	2Q/03	2Q/05	Documented proof that individuals in the target population has received the training and is capable of accessing each of the sites and their work station is set up to access the NucNet News Groups.

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1c	Review a representative sample of work packages issued to the field and discuss identified improvement areas with the work planners.	Dave Shrader	3Q/02	4Q/03	Documented report of results of the observations on work planning group provided to the Work Planning Manager and Supervisors.
1d	Provide Coaching and Mentoring to all Supervisors and Leads on the importance of using Operating Experience in Daily Activities.	Roman Estrada	3Q/02	2Q/03	Documentation that Supervisors and Leads have been mentored and coached.
1e	Provide Coaching to all individuals who perform "Management Observations" on how to perform observations of the use of Operating Experience in pre-job briefs and performance of tasks. Highlight looking for barriers that have been put in place to prevent similar events and identifying areas of improvement for utilization of Operating Experience.	Roman Estrada	3Q/02	2Q/03	Improved Management Observations that conditionally identify the use or lack of use of Operating Experience in daily activities.
1f	Perform quarterly follow-up of management's observations of the use of OER in work planning, pre-job briefs, and performance of tasks, and discuss identified areas of "good practices" and areas for improvement with the Respective Department.	Roman Estrada	2Q/03	2Q/04	Documented management observations on departments.
1g	OE Customer to Benchmark OE program implementation and use at a Plant designated as a leader by INPO. Validate if gaps in performance in this area are improving towards industry standards. Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements of 0-CNS-06.	Dave Shrader to Coordinate trip	2Q/03	4Q/03	Completed Trip Report identifying improvement areas.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>INCREASE CNS PARTICIPATION IN SHARING CNS EVENTS AND ISSUES WITH THE REST OF THE INDUSTRY</b>					
2a	Reduce number of required approvals for Operating Experience Reports ready for publication and document in 0.10, Operating Experience Program.	Dave Shrader	3Q/02	1Q/03	Implemented revision to 0.10, Operating Experience Program, that describes OE Report Publication approval process.
2b	Document in Procedure 0.10, Operating Experience Program, method for identifying events to be reported as Operating Experience Reports.	Dave Shrader	3Q/02	1Q/03	Implemented revision to 0.10, Operating Experience Program, that includes method for identifying CNS Events for publication to industry.
2c	Document in Procedure 0.10, Operating Experience Program, method for Generating Operating Experience Reports.	Dave Shrader	3Q/02	1Q/03	Implemented revision to 0.10, Operating Experience Program, how OE reports are to be generated and who is responsible.
<b>IMPROVE CNS IMPLEMENTATION AND TRACKING OF SOER RECOMMENDATIONS.</b>					
3a	Document in Procedure 0.10, Operating Experience Program, generation of SAP Notifications for each Recommendation contained in SOERs.	Dave Shrader	3Q/02	1Q/03	Implemented revision to 0.10, Operating Experience Program, with requirements for generation of Notifications for each SOER Recommendation.
3b	Document in Procedure 0.10, Operating Experience Program, Periodic review of disposition of SOER Recommendations, including continued compliance with the Recommendations. SOER Recommendations reviewed should be selected from those contained in INPO 02-003, Selected Significant Operating Experience Report Recommendations.	Dave Shrader	3Q/02	1Q/03	Implemented revision to 0.10, Operating Experience Program, Method and how to schedule review of INPO 02-003 SOER Recommendations.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>IMPROVE EFFECTIVENESS REVIEW OF OE CORRECTIVE/PREVENTIVE ACTIONS</b>					
4a	Create and Document in Procedure 0.10, Operating Experience Program, an effectiveness review process of actions taken in response to Industry Operating Experience documents.	Dave Shrader	3Q/02	1Q/03	Implemented revision to 0.10, Operating Experience Program, with an effectiveness review process for actions taken in response to OE documents.
4b	Perform a contractor review of a representative sampling of close out packages of OE documents closed since 1994. The criteria for document selection and acceptance will be created by the contractor. Notifications will be generated for the discrepancies identified.	Roman Estrada	1Q/03	4Q/03	A report to the Performance Analysis Department Manager listing documents reviewed, results of reviews, and recommended changes to the OER program as appropriate from the results of the document review.
5	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Dave Shrader	1Q/04	2Q/04	A written Change Management Plan approved by the Assistant to the Site Vice-President.
6	<u>Monitoring – Self-Assessments</u> Perform Interim Effectiveness Review to assess: <ul style="list-style-type: none"> <li>The internalization of OER at CNS using the Procedure 0.5.CAER process, and</li> <li>The OE Publication process.</li> </ul> Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Bob DeLay	4Q/02	2Q/03	Documented reports of review with action to adjust as needed

**TIF ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
7	<p><u>Verification – Final Assessment</u></p> <p>Perform a Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, of the Action Plan. The assessment addresses:</p> <ul style="list-style-type: none"> <li>• Effectiveness of the revised Procedure 0.10, Operating Experience Program,</li> <li>• Effectiveness in addressing SOER recommendations, including continued compliance with dispositions.</li> </ul>	Dave Shrader	1Q/05	2Q/05	Documented reports of review with action to adjust as needed.

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Functions & Services  
**ACTION PLAN TITLE:** Vendor Manual Upgrade Program  
**ACTION PLAN NUMBER:** 5.2.8.1  
**COMPLETION DATE:** 4Q/05  
**ACTION PLAN OWNER:** Keith Wright  
**FOCUS AREA OWNER:** Laurie Schilling

APPROVAL: \_\_\_\_\_

APPROVAL: \_\_\_\_\_

*Keith Wright*  
*Laurie A. Schilling*

**PROBLEM STATEMENT:**

Baselining, re-formatting, and scanning of Cooper Nuclear Station (CNS) vendor manuals was not completed in a timely manor.

The manuals in their current state cost lost time for engineering and maintenance due to the difficulty in finding needed information in poorly organized manuals and slows the revision process for the vendor manual program.

(Baselining is administrative cleanup and verification of fidelity of hard copy manuals with the Vendor Manual Database)

**CAUSAL FACTORS:**

1. A lack of priority in completing Baselining process. (Actions 4, 5, 6)
2. A lack of dedicated resources. (Action 3)

**OBJECTIVES:**

1. All CNS Vendor Manuals baselined, re-formatted, scanned and available for online viewing by 12/04.

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1	Complete Baselineing of essential vendor manuals.	Keith Wright		Complete	All essential vendor manuals baselined.
2	Develop Performance Indicators.	Keith Wright		Complete	Performance Indicators Developed.
3	Obtain and train dedicated resources. (1 Internal, 2 External Temporary Clerical personnel)	Keith Wright	2Q/02	1Q/03	Personnel hired, trained and working in baselining and scanning process.
4	Complete re-formatting & scanning process – essential vendor manuals.	Keith Wright	3Q/02	2Q/03	All essential vendor manuals scanned and available for online viewing.
5	Complete baselining, re-formatting and scanning process – high priority non-essential vendor manuals.	Keith Wright	3Q/02	2Q/04	All high priority non-essential vendor manuals baselined, reformatted, scanned and available for online viewing.
6	Complete baselining, re-formatting and scanning process – other non-essential vendor manuals.	Keith Wright	3Q/04	4Q/05	All CNS vendor manuals baselined, re-formatted, scanned and available for online viewing.
7	Develop and conduct training for all site personnel on vendor manual control, use and revision process.	Tim Donovan	2Q/03	2Q/04	All site personnel trained on vendor manual control, use and revision process.
7a	Perform needs analysis.	Tim Donovan	2Q/03	3Q/03	Training needs identified.
7b	Develop lesson plan.	Tim Donovan	3Q/03	4Q/03	Lesson plan developed.
7c	Conduct training.	Tim Donovan	4Q/03	2Q/04	Training completed for target audience.
8	<u>Change Management</u> Not Required – This action plan is to complete a process that is already started and well received by the site.	N/A	N/A	N/A	N/A

TIP ACTION PLAN

<u>NO.</u>	<u>ACTION</u>	<u>ACTION OWNER</u>	<u>START DATE</u>	<u>END DATE</u>	<u>DELIVERABLE</u>
9	Verification – Final Assessment Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that all CNS Vendor Manuals have been scanned and are available for online viewing and the end state is consistent with the stated Objectives.	Keith Wright	3Q/05	4Q/05	Perform Final Effectiveness Assessment to establish that all CNS Vendor Manuals have been scanned and are available for online viewing and the end state is consistent with the stated Objectives.

**BACKGROUND:**

In 1998 Litton Enterprise Solutions performed an assessment on the CNS Vendor Manual Process. The CNS Vendor Manual Process was deemed marginal due to many issues such as poor organization of manuals, lack of program oversight and inconsistencies in the manuals and the Vendor Manual database.

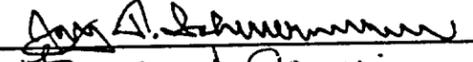
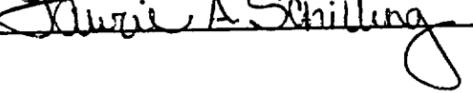
Some of Litton's recommendations were to declare CNS Vendor Manuals a program instead of a process with dedicated knowledgeable oversight, re-write procedures and guidelines, re-establish the review process, and re-establish basis for vendor contact; these items were completed. Also Litton recommended rebaselining the CNS Vendor Manuals to ensure Information Resource Center (IRC) and Technical Support Center (TSC) copies matched each other and the vendor manual database and initiate scanning of vendor manuals, this is still not complete.

Since program initiation in 3/98 baselining has been performed on all of the essential manuals and a small portion of non-essential manuals. One third of the CNS Vendor Manuals have been reformatted and scanned for online viewing. Administrative resources have been scarce during this process and have caused a slow pace of improvement.

Dedicated administrative resources are needed for 2 years, to complete rebaselining, reformatting, and scanning of the CNS Vendor Manuals.

Training Plan

**PILLAR OF EXCELLENCE:** Operational Excellence  
**FOCUS AREA:** Functions & Services  
**ACTION PLAN TITLE:** Independent Qualified Reviewer Process  
**ACTION PLAN NUMBER:** 5.2.8.3  
**COMPLETION DATE:** 1Q/04  
**ACTION PLAN OWNER:** Jay Scheuerman  
**FOCUS AREA OWNER:** Laurie Schilling

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The existing procedure change process requires the unnecessary routing of many changes to the Station Operations Review Committee (SORC).

**CAUSAL FACTORS:**

- 1. Unnecessary complexity of change process. (Actions 4, 5, 6, 7, 8)

**OBJECTIVES:**

- 1. Unnecessary complexity removed from the procedure change process allowing the average processing time to be reduced by ~ 1 week.
- 2. Reduced time commitments from SORC members and presenters required for review and approval of station procedures.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Develop Independent Qualified Reviewer (IQR) process procedure structure to allow training development to begin.	Jay Scheuerman		Complete	Completed strawman of IQR process to allow training development to begin.
2	Develop draft IQR process procedures to support continued training development progress.	Jay Scheuerman		Complete	Completed draft IQR process procedures to support continued training development progress.

**II. Action Plan**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
3	Approve Training Qualification Descriptions (TQDs) for IQRs and Independent Qualified Approvers (IQAs).	Phil Leininger		Complete	Completed IQR and IQA TQDs.
4	Develop and approve IQR process implementing procedures.	Jay Scheuerman		Complete	Completed IQR process implementing procedure revisions.
5	Develop and approve Quality Assurance Policy Document (QAPD) revision to support IQR process implementation.	Linda Dewhirst		Complete	Completed QAPD revision to support IQR process implementation.
6	Develop and approve Updated Safety Analysis Report (USAR) revision to support IQR process implementation.	Dave VanDerKamp		Complete	Completed USAR revision to support IQR process implementation.
7	Develop and implement initial training for IQRs and IQAs.	Phil Leininger		Complete	Completed initial training for IQRs and IQAs.
8	Implement IQR process.	Jay Scheuerman		Complete	IQR process implemented.
	<u>Change Management</u>				
9	N/A, as the IQR process has already been rolled out per Action 8.	N/A	N/A	N/A	N/A
	<u>Monitoring – Self-Assessments</u>				
10	Provide periodic samples of IQR processed PCRs to SORC for Interim monitoring of process effectiveness.	Jay Scheuerman	4Q/02	1Q/03	Listing of procedure revisions and dates reviewed in SORC plus any associated Notifications.
	<u>Verification – Final Assessment</u>				
11	Perform Final Self-Assessment in accordance with Procedure 0-CNS-25, Self Assessment, to ensure IQR process implementation is in accordance with requirements and is meeting plan objectives. This action is supported by improvements to the Self-Assessment process driven by Action Plan 5.1.5.1.	Jay Scheuerman	1Q/04	1Q/04	Final Effectiveness Assessment report on IQR process issued.

**PILLAR OF EXCELLENCE:** Operational Excellence

**FOCUS AREA:** Functions & Services

**ACTION PLAN TITLE:** Materials Management

**ACTION PLAN NUMBER:** 5.2.8.4

**COMPLETION DATE:** 4Q/06

**ACTION PLAN OWNER:** Hrach Minassian

**FOCUS AREA OWNER:** Laurie Wetherell

**APPROVAL:** 

**APPROVAL:** 

**PROBLEM STATEMENT:**

Lack of an integrated process to ensure availability of parts and untimely completion of equivalency evaluations has resulted in schedule breakage and delays in work.

**CAUSAL FACTORS:**

1. Many vendor supplied parts require equivalency evaluations that result in added delays. (Actions 2, 4)
2. There is a lack of timely identification and communication of the parts needed to support the schedule. (Actions 3, 5)
3. Lack of Bill of Materials (BOM) has hindered the identification of parts when planning work packages. (Actions 1, 3)

**OBJECTIVES:**

1. Equivalent replacement parts procured in a timely manner to support the work schedule.
2. Equivalency evaluations completed prior to ordering parts.
3. Procurement requirements received sufficiently in advance in order to meet vendor lead times to meet scheduled work dates.
4. Documented BOM for critical components to facilitate part identification and ordering.

**ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>BOM DEVELOPMENT</b>					
1a	Establish roles, responsibilities, and accountabilities associated with the development and maintenance of BOMs. This includes: <ul style="list-style-type: none"> <li>• Planning,</li> <li>• Procurement and</li> <li>• Engineering.</li> </ul>	Safwat El Mallakh	1Q/03	1Q/03	Roles, responsibilities, and accountabilities established for development and maintenance of the BOMs.
1b	Develop a flow chart that details the desired process for development, approval, and maintenance of BOMs.	Hrach Minassian	1Q/03	1Q/03	Process flowchart established for development, approval, and maintenance of the BOMs.
1c	Revise 0-EBS-BOM, BOM Data Management, to incorporate: <ul style="list-style-type: none"> <li>• Revised roles, responsibilities, and accountabilities,</li> <li>• Flow chart detailing the process for the development of BOMs.</li> </ul>	Safwat El Mallakh	1Q/03	1Q/03	Requirements for the development, approval and maintenance of the BOMs are established in 0-EBS-BOM, BOM Data Management.
1d	Perform Needs Analysis to identify required individuals needing training on revised procedure.	John Christensen	1Q/03	1Q/03	Individuals requiring training are identified based upon Needs Analysis.
1e	<p><u>Phase 1 Validation of Existing BOMs</u></p> <p>Establish options for validation of the existing 30,000 BOM's High Pressure Coolant Injection, Residual Heat Removal, Diesel Generator, and Core Spray. Evaluate options for completing this task using:</p> <ul style="list-style-type: none"> <li>• In-house resources,</li> <li>• Contractors or</li> <li>• A combination of both.</li> </ul> <p>(This action is tied to Action Plan 5.2.5.2.)</p>	Safwat El Mallakh	1Q/03	3Q/04	A detailed proposal that pinpoints costs and identifies specific personnel who will conduct walkdowns along with a start date for the task to begin.

ACTION PLAN

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1f	<p>Perform walkdown of the 30,000 BOM's to obtain the following information:</p> <ul style="list-style-type: none"> <li>• Component location</li> <li>• Manufacturer</li> <li>• Model/Type</li> <li>• Serial Number</li> </ul> <p>Transmit results of walkdown to Vendor Manual Group for initial assessment against current design or configuration documents (i.e. Vendor Manuals).</p> <p>(This action is tied to Action Plan 5.2.8.1.)</p>	Hrach Minassian	1Q/03	1Q/05	BOM walkdowns performed to validate installed configuration.
1g	Assess BOM walkdown results and initiate notifications, as required, where component related information does not match current design or configuration documents.	Keith Wright	2Q/03	1Q/05	Assessment of BOM walkdown results is performed to identify configuration control issues. Notifications are initiated as required.
1h	Assess existing 2200 notifications issued against 30,000 BOMs	Safwat El Mallakh	2Q/03	2Q/05	Assessment of existing notifications against BOMs is performed.
1i	Review and assess impact of the 1500 Change Evaluation Documents (CEDs) impacting the 30,000 BOMs.	Safwat El Mallakh	2Q/03	3Q/05	Assessment of existing CEDs impacting BOMs is performed.
1j	<p>Disposition notifications resulting from:</p> <ul style="list-style-type: none"> <li>• BOM walkdowns</li> <li>• Existing 2200 notifications against BOMs</li> <li>• Configuration issues resulting from assessment of 1500 CED.</li> </ul> <p>Revise associated design, configuration controlled documents and databases to reflect installed configuration.</p>	Kevin Jones	2Q/03	3Q/05	Notifications resulting from the BOM assessments are dispositioned. BOMs are established which reflect installed configuration. Associated design, configuration controlled documents and databases reflect installed configuration.

**ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1k	Phase 2 Validation of Remaining BOMs  Determine which additional components require the establishment of BOMs (Beyond initial 30,000). The determination of the additional BOMs to be developed is to be integrated with the identification of critical components established in Action Plan 5.3.1.1, System/Equipment Performance.  (This action is tied to Action Plan 5.3.1.1.)	Hrach Minassian	2Q/03	4Q/05	A list that contains BOM's to be developed in addition to 30,000 which has been integrated with Action Plan 5.3.1.1.
1l	Create BOMs for critical components defined in Action 1k.	Hrach Minassian	2Q/03	1Q/06	Develop the remaining BOM's as defined in Action 1k.
1m	Develop Work Off Curve to track development of additional BOMs.	Hrach Minassian	2Q/03	4Q/03	Work Off Curve to track progress.
<b>CED INVENTORY REDUCTION</b>					
2a	Identify backlogged equivalency evaluations. The backlogged equivalency evaluations contain parts requiring "parts evaluations" and parts requiring issuance of a modification for installation.	John DeWitt	3Q/03	3Q/03	A complete equivalency evaluation backlog list, which separates "parts evaluations" from modifications.
2b	Evaluate backlogged equivalency evaluations to identify those requiring "parts evaluations" from those requiring a modification package for installation.	John DeWitt	3Q/03	3Q/03	A complete list of items, which require modifications to allow their use.
2c	For equivalency evaluations requiring modifications evaluate to ensure that the identified parts are not obsolete.	Jim Lindsay	3Q/03	4Q/03	Equivalency evaluations have been evaluated to identify any obsolescence parts issues.
2d	Develop required modification plans for equivalency evaluations listed in Action 2c.	Kevin Jones	4Q/03	4Q/06	Required modification packages are developed for parts installation.
2e	Obtain funding to perform "part evaluations" identified in Action 2b. Upon approval of funding perform required "parts evaluations".	Hrach Minassian	3Q/03	3Q/05	Approved funding obtained to perform required "parts evaluation". Required "parts evaluations" performed.
2f	Develop Work Off Curve to track resolution of backlogged equivalency evaluations.	Hrach Minassian	3Q/03	3Q/03	Work Off Curve developed to track progress.

**ACTION PLAN**

CRITICAL COMPONENT SPARE PARTS					
3a	Based upon the assessment performed in Action Step 1g identify those critical components requiring spare parts and determine required inventory stocking level requirement (using input on past work history/usage).  (This action is tied to Action Plans 5.2.5.1, 5.2.5.2, 5.3.1.1.)	Safwat El Mallakh	2Q/05	2Q/05	List of critical components requiring spare parts is established along with required stocking level.
3b	Develop and implement critical spare parts list.	Safwat El Mallakh	2Q/05	2Q/06	A list of critical spare parts developed.
3c	Perform assessment to determine gap between the current inventory and required critical spares.	Gajendra Trivedi	1Q/06	2Q/06	Gap between existing inventory and critical spare parts requirements is established.
3d	Prioritize the critical spares required from the assessment in accordance with Administrative Procedure 0-NPG-4.12, Site Work Prioritization, for purchase.  Requirements in support of the 12 Week Work Schedule or Outage Schedule are also considered.  (This action is tied to Action Plans 5.2.5.1, 5.2.5.2.)	Safwat El Mallakh	1Q/06	1Q/06	The required spare parts are prioritized for procurement.
3e	Revise or develop corresponding BOMs as required for critical spare parts.	Safwat El Mallakh	1Q/06	1Q/06	BOMs are revised or developed as required for critical spare parts.
3f	Purchase required critical spare parts from the BOMs.	Gajendra Trivedi	1Q/06	2Q/06	Procurement of critical spare parts is performed.
3g	Update Materials Master database.	John DeWitt	1Q/06	2Q/06	Updated Materials Master database.
3h	Develop Work Off Curve to track purchase of critical spare parts.	Hrach Minassian	2Q/05	2Q/05	Work Off Curve developed to track progress.

INVENTORY "ON HOLD" REDUCTION					
4a	Identify the amount of material in inventory on "On Hold" that requires a material equivalency evaluation in order to be utilized as a spare part.  (This item is tied to Action Plans 5.2.5.1 and 5.2.5.2.)	Al Carpenter	2Q/03	4Q/03	Identified list of material inventory "On Hold".
4b	Generate required Commercial Grade Dedication packages	Gajendra Trivedi	4Q/03	3Q/04	Required Commercial Grade Dedication packages are developed.
4c	Generate required part classifications.	Gajendra Trivedi	4Q/03	2Q/05	Required part classifications are developed.
4d	Generate required shelf-life part evaluations.	Safwat El Mallakh	4Q/03	3Q/05	Required shelf-life evaluations are developed.
4e	Resolve required other related "On Hold" issue not addressed in Actions 4b - 4d.	Dave Madson	4Q/03	3Q/05	Remaining issues not addressed in Actions 4b - 4d are resolved in order to release material "On Hold".
4f	Develop Work Off curve to track reduction in inventory "On Hold" status.	Hrach Minassian	4Q/03	4Q/03	Work Off curve developed to track progress.
REQUISITION STREAMLINING					
5a	Evaluate Site Services Procedure 1.4, Procurement Procedure, to identify required requisition streamlining changes.	Marieann Brady	3Q/03	4Q/03	Determination of required changes to Site Services Procedure 1.4, Procurement Procedure, to address required requisition streamlining.
5b	Revise Site Services Procedure 1.4, Procurement Procedure, based upon Action 5a.	Al Carpenter	4Q/03	4Q/03	Revision to Site Services Procedure 1.4, Procurement Procedure.
5c	Perform Needs Analysis to identify required individuals needing training on revised procedure in Action 5b.	John Christensen	4Q/03	4Q/03	Individuals requiring training are identified based upon Needs Analysis.

ACTION PLAN

5d	Train on revisions to 0-EBS-BOM, BOM Data Management and Site Services Procedure 1.4, Procurement Procedure, based upon Needs Analysis.	Hrach Minassian	2Q/03	2Q/03	Station personnel impacted by the procedural revisions are identified and trained in accordance with the systematic approach to training.
6	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Hrach Minassian	2Q/03	2Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
7	<u>Monitoring – Self-Assessments</u> Perform Interim Self-Assessment 7 months after issuance of revision of Action Plan, to determine the effectiveness of the individual actions taken to improve the Materials Management Process. Revise Action Plan based upon Interim Assessment, as required, to improve process effectiveness. Self-Assessments to be performed in accordance with 0-CNS-25, Self Assessment.	Hrach Minassian	1Q/04	3Q/04	Interim assessment is performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the interim assessment.
8	<u>Verification – Final Assessment</u> Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved the Materials Management process and the end state is consistent with the stated Objective.	Hrach Minassian	3Q/06	4Q/06	Final Effectiveness Assessment is performed to establish that the required actions have improved the Materials Management Process according to Action Steps 1a through 5c.

**APPENDIX A-4**

**TIP ACTION PLANS**

**EQUIPMENT EXCELLENCE PILLAR**

**TIP ACTION PLAN**

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition and Equipment Reliability  
**ACTION PLAN TITLE:** Equipment Reliability Improvement Plan  
**ACTION PLAN NUMBER:** 5.3.1.1  
**COMPLETION DATE:** 3Q/05  
**ACTION PLAN OWNER:** Bob Wulf  
**FOCUS AREA OWNER:** Vince Roppel

**APPROVAL:** \_\_\_\_\_  
**APPROVAL:** \_\_\_\_\_

*Bob Wulf*  
*Vince Roppel*

**PROBLEM STATEMENT:**

Lack of pro-active processes to resolve equipment performance problems have resulted in an inability to consistently achieve long-term reliable system and equipment operation.

**CAUSAL FACTORS:**

1. Lack of an integrated approach to equipment reliability to preclude the initial failure and minimize recurrence. (Actions 1, 2, 3, 4, 5, 6)
2. Inability to effectively implement corrective actions for equipment problems, including obsolescence issues, and tolerance for incomplete solutions. (Actions 3, 5)
3. Cultural acceptance of long-standing equipment problems due to lack of organizational leadership which continually sets and reinforces high standards for equipment performance. (Action 5)

**OBJECTIVE:**

1. An integrated equipment reliability process, modeled after Institute of Nuclear Power Operations (INPO) AP-913, which results in a pro-active approach to anticipate and prevent system and equipment problems.
2. Reliable equipment operation that results in plant operation meeting performance goals.

NOTE: Separate Action Plans to resolve specific equipment performance and reliability problems have been developed and are enveloped by this Action Plan, which establishes an equipment reliability program consistent with industry standards.

**TITLE ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>IDENTIFICATION AND SCOPING OF CRITICAL COMPONENTS</b>					
1a	Identify important functions - Integrate maintenance rule and other considerations for risk to generation.	Joe Edom	4Q/02	1Q/03	List of important functions.
1b	Define criteria for identification of critical components.	Vince Roppel	4Q/02	1Q/03	Criteria for identification of critical components.
1c	Conduct system reviews for identification of critical components.	Todd Hottovy	2Q/03	1Q/04	List of critical components for systems.
<b>PERFORMANCE MONITORING</b>					
2	Validate monitoring plans against list of critical components and establish monitoring bases for the systems.	Todd Hottovy	2Q/03	3Q/04	System monitoring plans which identify the parameters to be monitored for critical equipment.
<b>CORRECTIVE ACTIONS FOR EQUIPMENT PROBLEMS</b>					
3a	Develop a performance indicator for the number of unexpected failed critical components.	Vince Roppel	2Q/03	2Q/03	Performance indicator developed and being monitored.
3b	Improve the definition of roles and responsibilities for system engineers to prioritize work items for the T-12 work management process. This action supports Action Plans 5.1.1.3 and 5.2.5.2.	Bob Wulf	4Q/02	1Q/03	Roles and responsibilities defined, incorporated into Cooper Nuclear Station (CNS) 0.40.1, and communicated to engineers.
3c	Develop action plans that address resolution of existing long-standing equipment issues.	Vince Roppel		In Closure	Action Plans for long-standing equipment issues developed. (Ref: Action Plans 5.3.1.2.a through k)
3d	Identify obsolescence issues that can be addressed in the short-term and will give immediate benefit to CNS. Interview personnel to identify obsolescence issues.	Hrach Minassian		In Closure	List of issues associated with equipment obsolescence.
Note: The process used for this plan is modeled after INPO AP-913.					
3e	Prioritize obsolescence issues.	Todd Hottovy	1Q/03	1Q/03	Prioritization of issues associated with equipment obsolescence completed and communicated to site.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
3f	Develop an action plan to resolve high-priority obsolescence issues.	Kevin Jones	2Q/03	4Q/03	Action plans for equipment obsolescence issues developed. (Ref: Action Step 5a)
<b>CONTINUING EQUIPMENT RELIABILITY IMPROVEMENT</b>					
4a	Provide a database tool for documenting the PM technical bases.	Jim Salisbury	2Q/03	2Q/03	Database available to document PM technical bases.
4b	<p>Perform Preventative Maintenance (PM) Optimization using the system critical components and methodology similar to Section 4.0 of AP-913. PM Optimization will also include predictive tasks for an integrated maintenance strategy.</p> <ul style="list-style-type: none"> <li>Add requirement for continuous equipment reliability improvement/PM Optimization to address PM/vendor manual recommendations and document bases for reconciliation.</li> <li>Validate existing vendor manual recommendations as part of PM Optimization, including verification that the correct vendor is referenced. This action is supported by Action Plan 5.2.8.1.</li> </ul>	Jim Salisbury	2Q/03	2Q/05	<p>Completed PM Optimization for systems.</p> <p>Documented requirement in the PM process to address vendor manual recommendations. Requirements incorporated into new CNS procedure.</p>
4c	Initiate analysis and trending of as-found equipment condition codes to identify changes for continuing improvement of PM task and frequency.	Jim Salisbury	2Q/03	3Q/03	A method to trend as-found equipment condition results has been implemented.
4d	Review process for Operating Plant Experience (OE) and Equipment Performance and Information Exchange (EPIX) vulnerability reports to ensure need for PM evaluation is adequately addressed.	Vince Roppel	2Q/03	2Q/03	OE/EPIX process includes guidance to consider PM changes.

**TIT LATION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
4e	Establish methodology to review upcoming PMs for T-12 work windows for value added. This review should identify the function being protected by the PM and whether the equipment affected by the PM in question is critical. This action supports Action Plans 5.1.1.3, 5.2.5.2.	Bob Wulf	2Q/03	3Q/03	Incorporate methodology for PM review as part of T-12 work review in Procedure 0.40.1, 12 Week Work Schedule Process.
<b>LONG-TERM PLANNING AND LIFE CYCLE MANAGEMENT</b>					
5a	Develop model template and format for long-term system plan, including threshold for inclusion and planning horizon.	Vince Roppel	2Q/03	3Q/03	Documented guidance that includes a model template for long-range system plan.
5b	Define management expectations for individual engineers to develop long-term system plans.	Todd Hottovy	2Q/03	3Q/03	Management expectations included in guidance document.
5c	Initiate Plant Health Committee (composed of CNS leadership team) to provide: <ul style="list-style-type: none"> <li>Routine forum for System Engineers/System Health Team to present improvement recommendations to management leadership team.</li> <li>Reinforce management's philosophy for intolerance of unexpected equipment failures.</li> </ul>	Jim Hutton	1Q/03	2Q/03	Plant Health Committee charter and implementation plan established.
5d	Establish process to link individual system long-range plans to station business plan.	Bob Wulf	3Q/03	4Q/03	Process description for integration of long-range plans and reconciliation with business plan.
5e	Provide guidance for assessing equipment aging issues.	Bob Wulf	2Q/03	3Q/03	Documented Guidance.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>PM IMPLEMENTATION</b>					
6	Establish and implement a method to capture as-found equipment condition from completed PM work orders.	Mike Young	4Q/02	1Q/03	Revised Maintenance Procedure 7.0.2, Preventive Maintenance Process, issued incorporating the as-found equipment condition feedback method.
7	<p><u>Change Management</u></p> <p>Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.</p> <p>Note: Training assessments needed to support implementation of this Action Plan will be incorporated as a part of the Change Management Plan.</p>	Vince Roppel	4Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
8	<p><u>Monitoring – Self-Assessments</u></p> <p>Form multi-discipline team and perform a Self-Assessment to AP-913. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of the Equipment Reliability Process. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Dave Robinson	3Q/03	4Q/03	Performance of Interim Assessments to determine effectiveness of actions taken to improve the Equipment Reliability Process. Action Plan would be revised to as required based upon results of the Interim Assessments.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
9	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment with assistance of Quality Assurance, to establish that the required actions have improved the Equipment Reliability Process and the end state is consistent with the stated Objective.</p>	Vince Roppel	3Q/05	3Q/05	Final Effective Assessment performed to establish that the required actions have improved the Equipment Reliability Process and the end state is consistent with the stated Objective

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Service Water (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.a  
**COMPLETION DATE:** 1Q/05  
**ACTION PLAN OWNER:** Dwight Vorpahl  
**FOCUS AREA OWNER:** Todd Hottovy

**APPROVAL:** *[Signature]* FOR D. VORPAHL  
**APPROVAL:** *[Signature]* FOR T. HOTTOVY

**PROBLEM STATEMENT:**

Numerous Service Water (SW) system functions are categorized as Maintenance Rule (a)(1) and selected system components have exhibited chronically unacceptable performance and unexpected failures. These issues have been previously documented in numerous evaluations, including RCR's 98-0152 and 2001-1667. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

The causes of the issues addressed within this plan:

1. Low wear ring flush water flow to the SW Booster pumps. (RCR 98-0152) (Action 1)
2. Inappropriate design of the SW pump gland water system. (RCR 2001-1667) (Action 2)
3. Observed wear and associated leakage in SW Pump Discharge Check Valves. (Action 3)
4. Inconsistent/incomplete preventive maintenance of pump motors. (Actions 9, 10)
5. SW system piping leakage and wall thinning caused by river water chemistry (Actions 4, 11)
6. Inappropriate valve internals design for valves SW-MOV-MO89A/B. (Action 8)
7. Obsolete controllers on Reactor Equipment Cooling (REC) system temperature control valves SW-TCV-451A/B (Action 6)
8. Inappropriate original design of system pressure gauges (Action 7)
9. Inappropriate original design and configuration of SW radiation monitors (Action 5)

**OBJECTIVES:**

1. System returned to Maintenance Rule (a)(2) status
2. Chronic equipment issues that are significantly impacting SW system performance resolved

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1	Based on the evaluation that determined that the wear ring flush is not necessary, remove the wear ring flush feature from the SW Booster Pumps to correct the poor design and eliminate chronic low flow issues.	Neal Wetherell	4Q/02	1Q/03	Implementation complete with acceptable Post Maintenance Test (PMT).
2	Convert the normal gland water supply for the four SW Pumps from River Well to SW to correct the inadequate design. Replace the Service Water Pump bowl assemblies, including impellers, impeller liners, shafting, and modify the stuffing box, as required. a) Develop Change Evaluation Document (CED) b) Implementation	a) Jerry Horn b) Neal Wetherell	a) 3Q/02 b) 4Q/02	a) 1Q/03 b) 3Q/03	a) Approved CED. b) Implementation complete with acceptable PMT.
3	Replace the four SW Pump Discharge Check Valves to improve performance and extend their service life. a) Develop Part Evaluation. b) Implementation.	a) Steve Phillips b) Neal Wetherell	a) 3Q/02 b) 4Q/02	a) 4Q/02 b) 3Q/03	a) Approved Part Evaluation. b) Implementation complete with acceptable PMT.
4	Replace the REC Heat Exchanger Service Water Discharge Piping to address corrosion and pin hole leaks.	J.T. Ownby	1Q/03	3Q/03	Implementation of piping replacement complete with acceptable PMT.
5	Install new SW Radiation Monitor to correct the inadequate design and address chronic low flow conditions.	Neal Wetherell	3Q/02	3Q/03	Implementation complete with acceptable PMT.
6	Replace the controllers for valves SW-TCV-451A/B to address equipment obsolescence and improve REC system temperature control.	Neal Wetherell	4Q/02	3Q/03	Implementation complete with acceptable PMT.
7	Replace selected pressure gauges to address gauge damage from short-term system pressure perturbations.	Neal Wetherell	3Q/02	2Q/03	Implementation complete with acceptable PMT.

**TIP ACTION PLAN**

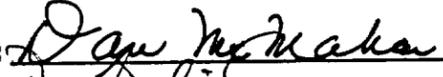
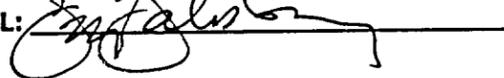
NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
8	<p>Replace the internals in both RHR Heat Exchanger Service Water Outlet Valves (SW-MOV-MO89A/B) during Refueling Outage 21 (RE21) with "like for like" hardware in conjunction with changes to Service Water Booster Pump operation. During the following refueling outage 22 (RE22), replace the internals with an upgraded design for long-term resolution.</p> <p>a) Implement internals replacement (RE21).                      b) Establish upgrade funding.                      c) Develop CED for internals upgrade and initiate hardware purchase.                      d) Upgrade implementation (RE22).</p>	<p>a) Neal Wetherell                      b) Russ Wenzl                      c) Kevin Jones                      d) Neal Wetherell</p>	<p>a) 1Q/03                      b) 1Q/03                      c) 2Q/03                      d) 4Q/04</p>	<p>a) 3Q/03                      b) 2Q/03                      c) 3Q/03                      d) 1Q/05</p>	<p>a) Internals replaced.                      b) Integrated Management Committee (IMC) &amp; Board approval.                      c) Approved CED and Purchase Order Issued.                      d) Implementation complete with acceptable PMT.</p>
9	<p>Upgrade the preventive maintenance (PM) activities for the SW pump motors and implement the identified changes.</p> <p>a) Upgrade PM activity description                      b) Incorporate changes into PM Program</p>	<p>a) Jerry Norton                      b) Mike Young</p>	<p>a) 3Q/02                      b) 3Q/03</p>	<p>a) 2Q/03                      b) 3Q/03</p>	<p>a) PM task approved.                      b) PM task scheduled within PM Program.</p>
10	<p>Upgrade the preventive maintenance activities for the SW Booster pump motors and implement the identified changes.</p> <p>a) Upgrade PM activity description                      b) Incorporate changes into PM Program</p>	<p>a) Jerry Norton                      b) Mike Young</p>	<p>a) 3Q/02                      b) 3Q/03</p>	<p>a) 2Q/03                      b) 3Q/03</p>	<p>a) PM task approved.                      b) PM task scheduled within PM Program.</p>
11	<p>Eliminate the remaining identified Microbiologically Induced Corrosion safe harbor sites (i.e.; "dead legs") within the SW system piping.</p> <p>a) Establish funding.                      b) Develop CED.                      c) Implementation.</p>	<p>a) Richard Dewhirst                      b) Kevin Jones                      c) Richard Dewhirst</p>	<p>a) 1Q/03                      b) 2Q/03                      c) 4Q/04</p>	<p>a) 2Q/03                      b) 1Q/04                      c) 1Q/05</p>	<p>a) IMC &amp; Board approval.                      b) Approved CED.                      c) Implementation complete with acceptable PMT.</p>

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
12	Perform Interim Assessment, after issuance of the Action Plan, in order to determine the effectiveness of the completed near term actions. Confirm that no new issues have arisen that significantly affect system performance or reliability. Self-Assessment to be performed in accordance with 0-CNS-25, Self-Assessment.	Dwight Vorpahl	3Q/03	3Q/03	Interim assessment of the effectiveness of the actions taken to that point. Results are incorporated into the System Health Report.
13	Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment to establish that both the near term and long term actions have improved the Service Water System and the end state is consistent with the stated Objective.	Dwight Vorpahl	1Q/05	1Q/05	Final Effectiveness Assessment to establish that the required actions have improved the Service Water System and the end state is consistent with the stated Objectives.

**TIP ACTION PLAN**

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Feedwater Check Valves (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.b  
**COMPLETION DATE:** 3Q/08  
**ACTION PLAN OWNER:** Dan McMahon  
**FOCUS AREA OWNER:** Jim Salisbury

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The Feedwater Check Valves (FWCVs) have exhibited chronically unacceptable performance as evidenced by continued Local Leak Rate Test (LLRT) Failures, resulting in the Maintenance Rule (a)(1) status of Primary Containment function PC-CONT 1, Primary Containment Leakage Limits. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

Past maintenance practices were inadequate to maintain the valves in their original design condition as evidenced by (Ref: SCR 2001-1161):

1. Failure to maintain the metal-to-metal hard seat configuration, opting instead, to install soft seats recommended by the Original Equipment Manufacturer (Actions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17)
2. Hinge Pin/Bushing Bore clearances, which if not monitored and maintained, can result in misalignment of the disc and seat (Actions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17)

**OBJECTIVES:**

1. Return of the Primary Containment System to the Maintenance Rule (a)(2) status.
2. Valve performance that meets design requirements.

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1	Document the FWCV Monitoring Plan.	Dan McMahon	4Q/02	1Q/03	Documented FWCV Monitoring Plan.
2	Develop contingency work packages for Refueling Outage 21 (RE21) to refurbish all FWCVs in the event that they fail AS-FOUND LLRT.	Dan McMahon	3Q/02	2Q/03	Completed work packages with scope of work to be performed as determined by initial FWCV open and inspection for each FWCV that fails LLRT.
3	Obtain funding for development of the required design change documents, procurement of Swing Check Valves and related materials required for installation, and contact supervision and labor for installation activities.	John Humphrey	2Q/03	3Q/03	Approved project funding established.
4	Develop a Change Evaluation Document (CED) for replacement of the existing FWCVs with Swing Check Valves during Refueling Outage 22 (RE22) and Refueling Outage 23 (RE23).	Kevin Jones	3Q/03	3Q/03	Approved CED.  NOTE: Development of Swing Check Valve refurbishment procedure(s) and establishment of required Preventive Maintenance (PMs) activities (including technical basis and frequency of performance) is included in CED development activities.
5	Perform LLRT and document results per the Monitoring Plan.	Billy Morris	1Q/03	2Q/03	Evaluation of AS FOUND LLRT results.
6	Based upon the results of LLRT, implement the contingency work package(s) required to restore the FWCV(s) involved to an operable condition.	John Humphrey	1Q/03	2Q/03	Satisfactory AS LEFT LLRT results for FWCVs that had failed the AS FOUND LLRT.
7	Obtain Field data (measurements, pick points etc.) during RE21 to support Inboard FWCV replacement (RE22) and Outboard FWCV replacement (RE23).	John Humphrey	1Q/03	2Q/03	Field data to be used to develop CED for 4 new Swing Check Valves.
8	Develop contingency work package for RE22 to refurbish outboard FWCVs in the event both valves fail LLRT.	Dan McMahon	4Q/03	4Q/03	Completed work packages with scope of work to be performed as determined by initial FWCV open and inspection for each FWCV that fails LLRT.

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
9	Perform LLRT and document results per the Monitoring Plan.	Billy Morris	4Q/04	1Q/05	Evaluation of AS FOUND LLRT results to 1) determine if one or both Outboard FWCVs must be refurbished in RE22 and 2) assess the effectiveness of refurbishment(s) completed in RE21)
10	Based upon the results of LLRT, implement the contingency work package(s) required to restore the Outboard FWCVs involved to an operable condition.	John Humphrey	4Q/04	1Q/05	Satisfactory AS LEFT LLRT results for FWCVs that had failed the AS FOUND LLRT
11	Replace the two Inboard FWCVs with Swing Check Valves per the requirements of the CED developed in Action 4.	John Humphrey	4Q/04	1Q/05	Installation of improved FWCVs (two inboard)
12	Implement revised Maintenance procedures and PMs for the Swing Check FWCVs.  NOTE: Development of Swing Check Valve refurbishment procedure(s) and establishment of required Preventative Maintenance (PMs) activities (including technical basis and frequency of performance) is included in CED development activities.	Neal Wetherell	3Q/04	1Q/05	Approved inspection and refurbishment procedures and PMs incorporating vendor information for the Swing Check FWCVs.
13	Perform LLRT and document results per the Monitoring Plan.	Billy Morris	1Q/06	2Q/06	Evaluation of AS FOUND LLRT results and performance of the Inboard Swing Check Valves installed in RE22 and the Outboard Check Valves originally installed.
14	Conduct Management Review of LLRT results and performance assessment of the FWCVs. If Action Plan Objectives are determined to be satisfied, EXIT this Action Plan.	Vince Roppel	2Q/06	2Q/06	Management decision to EXIT this Action Plan or to continue on with Action 15
15	Replace the two Outboard FWCVs with Swing Check Valves per the requirements of the CED developed in Action 4.	John Humphrey	1Q/06	2Q/06	Installation of improved FWCVs (two inboard)

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
16	Perform LLRT and document results per the Monitoring Plan.	Billy Morris	4Q/07	4Q/07	Evaluation of AS FOUND LLRT results to assess the effectiveness of the Swing Check Valve modification installed in RE22 and RE23
17	Perform Final Effectiveness Assessment in accordance with O-CNS-25, Self-Assessment to determine that the replacement of the FWCVs with Swing Check Valves has improved their LLRT performance and reliability and that their performance is consistent with the stated Objective.	Dan McMahon	4Q/07	3Q/08	Final Effectiveness Assessment to determine performance is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Off-Site Power/Switchyard Reliability Improvement  
(Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.c  
**COMPLETION DATE:** 4Q/04  
**ACTION PLAN OWNER:** Alan Bysfield  
**FOCUS AREA OWNER:** James Gausman

**APPROVAL:** *Alan Bysfield*  
**APPROVAL:** *J. W. Gausman*

**PROBLEM STATEMENT:**

Automatic scrams, unplanned power changes, and unplanned Limiting Conditions for Operation (LCOs) related to the emergency off-site power sources have occurred at Cooper Nuclear Station (CNS) as a result of switchyard equipment problems. Certain industry operating experience related to off-site power/switchyard reliability has been recently issued. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

1. Inadequate CNS involvement in the specification and monitoring of the switchyard maintenance program led to some substation equipment failures. Reference Significant Condition Report (SCR) 2000-1016, SCR 2001-0567, and SCR 2001-0849. (Actions 2, 3, 6, 13, 14, 15, 16, 17, 19)\*
2. Postulated post event offsite power voltages available at CNS under anticipated grid conditions are projected to decline slightly through 2007. (Actions 4, 5)
3. Recent switchyard related industry-operating experience is applicable to CNS:
  - a. Institute of Nuclear Power Operations (INPO) Significant Operating Experience Report (SOER) 99-1 "Loss of Grid" (Action 1)
  - b. Nuclear Regulatory Commission Information Notice 2000-06 "Offsite Power Voltage Inadequacies" (Actions 7, 8, 9, 10)
  - c. INPO SOER 02-03 "Large Power Transformer Reliability" (Action 18)
4. CNS switchyard design complicates the conduct of maintenance on the start-up station service transformer. (Actions 11, 12, 21, 22)

\* One corrective action taken prior to development of this plan was to include the switchyard in the station's maintenance rule program. Certain actions contained in this plan are credited under the switchyard Maintenance Rule (a)(1) plan.

**OBJECTIVES:**

1. Emergency off-site power source performance meets the goals established under the Maintenance Rule process (Unavailability and Maintenance Preventable Functional Failure).
2. Real-time grid analysis provides continuous assurance that acceptable voltage will be available following a CNS trip.
3. Acceptable grid voltage is available at the offsite power sources under anticipated grid conditions.
4. Automatic scrams, unplanned power changes, and unplanned LCOs associated with the switchyard are sufficiently infrequent such that station level performance objectives are supported.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Implement Recommendations of SOER 99-1 "Loss of Grid".	Jim Gausman		Complete	Actions implemented that address the recommendations of SOER 99-01 including agreements, procedures, calculations, training, etc.
2	Improve reliability of off-site power sources by establishing a joint Preventative Maintenance (PM) program with Nebraska Public Power District (NPPD) Transmission Services. Program will cover "critical" switchyard components identified through SCR 2001-0567.	Jim Gausman		Complete	Required preventive and predictive maintenance activities documented. Transmission Services and Plant PM programs revised to incorporate required maintenance activities.
3	Conduct a third party equipment condition survey of switchyard critical components.	Alan Bysfield		In Closure	Report describing condition of critical components and noting any deficiencies.
4	Adjust the Second Level Undervoltage Relays to have a reset dead-band less than the present 1%.	Ken Cohn		Complete	Second Level Undervoltage Relays adjusted to reduced reset dead-band per approved Change Evaluation Document (CED).
5	Lower the Emergency Station Service Transformer (ESST) permissive setting. Calculation and procedures will be revised and relays set to the new settings.	Marshall VanWinkle		Complete	ESST Permissive setting lowered in accordance with approved CED.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
6	Obtain a third party review of the switchyard maintenance and work control processes.	Alan Bysfield		In Closure	Report describing the process review and any recommended changes.
7	Evaluate the plant specific potential for and consequences of double sequencing.	Glen Seeman		Complete	Documented position on plant specific probabilities and consequences of double sequencing. Procedural guidance (5.3GRID) verified optimal for degraded voltage conditions.
8	Establish a plant specific methodology for determining acceptable off-site power source voltages.	Ken Cohn	3Q/02	1Q/03	Calculations that identify voltage limits to be compared to voltages calculated by the analysis developed in Action 9.
9	Provide for an analysis of grid conditions in near real time. Analysis will determine available grid voltages following a trip of Cooper and other grid disturbances as necessary.	Ken Cohn	3Q/02	2Q/03	Analytical model that consistently provides expected post-disturbance voltages. Model will run remote from CNS. Procedure changes needed for the operators to use model outputs in identifying acceptability of off-site power sources.
10	Revise the "AC Electrical Distribution" Design Criteria Document to include discussion of real time grid model and calculation methodology adopted by CNS to determine acceptability of off-site power sources.	Ken Cohn	2Q/03	3Q/03	Revised Design Criteria Document
11	Evaluate switchyard modifications since initial licensing.	Ken Cohn	2Q/03	3Q/03	Validate that switchyard modification list used in previous switchyard modification review is comprehensive (2001 ALTRAN Report).

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
12	Provide analysis and procedures that support removal of the T-2 transformer from service during outage conditions.	Ken Cohn	3Q/02	2Q/03	Qualification of generator back-feed and/or Auburn 161 KV line as off-site sources during shutdown conditions (may utilize real-time model output).
13	Replace Critical Current Transformers (CTs) and Potential Transformers (PTs) within the "CNS Area Grid".	Alan Bysfield	3Q/02	4Q/03	CTs and PTs replaced.
14	Replace critical "Surge Arrestors" within the "CNS Area Grid".	Alan Bysfield	2Q/03	4Q/03	Surge Arrestors replaced.
15	Degas the T-2 Autotransformer to rebaseline the dissolved gas levels.	Alan Bysfield	2Q/03	2Q/03	Degassing of T-2 Autotransformer complete.
16	Prepare an "Interface Agreement" between CNS and NPPD Retail if any critical components are to be maintained by Retail. Revise the "Interface Agreement" between CNS and Transmission Services to incorporate the joint maintenance program developed in Action 2, accepted recommendations from Action 6, and other lessons learned.	Alan Bysfield	2Q/03	2Q/03	New and revised Interface Agreements.
17	Revise processes and procedures to effectively implement the revised and new interface agreements developed in Action 16.	Alan Bysfield	2Q/03	3Q/03	Revised 0-CNS-52, Control of Switchyard and Transformer Yard Activities at CNS, and other procedures.
18	Evaluate and implement any needed actions associated with SOER 02-03, Large Power Transformer Reliability.	Alan Bysfield	4Q/02	1Q/04	Evaluation of SOER 02-03 and documentation of action implementation.
19	Provide training or tailgate information to the engineering staff regarding the design and design basis of the switchyard and associated maintenance program.	Alan Bysfield	3Q/03	1Q/04	Documentation of completed training or tailgate.
20	Exit the early action phase of this plan based on improved performance of the existing switchyard equipment.	Jim Gausman	1Q/04	1Q/04	Interim Effectiveness Assessment report concludes that actions to improve system performance support achieving the plan objectives.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
21	Benchmark several other pre-Three Mile Island single unit plant offsite power designs with respect to reliability, redundancy and maintainability.	Ken Cohn	1Q/04	2Q/04	Report comparing Cooper's switchyard design with other similar plants.
22	Perform an economic evaluation to determine the advisability of modifying the design of the offsite power sources to further increase reliability and availability and to reduce maintenance costs.	Alan Bysfield	2Q/04	3Q/04	Report containing recommendations as to proceeding with any substantive modification of the offsite power source design. **
23	Perform Final Effectiveness Assessment to establish that the actions have satisfactorily addressed potential offsite power voltage inadequacies and switchyard reliability issues and that the end state is consistent with the plan objective.	Jim Gausman	3Q/04	4Q/04	Final Effectiveness Assessment report identifying whether the objectives of the plan have been met.

\*\*If design modifications are deemed desirable, they will be implemented in accordance with the long term planning process not as part of this plan.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Feedwater Controls Improvement (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.d  
**COMPLETION DATE:** 3Q/06  
**ACTION PLAN OWNER:** Matt Stoner  
**FOCUS AREA OWNER:** Mark Metzger

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Reactor Vessel Level Control post-scrum is complicated by age-related failures and poor operator interface design. Numerous problems with Reactor Vessel Level Control and Reactor Feed Pump Turbine Speed Control have occurred since 1993, resulting in the system being classified as Maintenance Rule (a)(1). Existing hardware is obsolete and at the end of or past its expected operating life. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

1. A Maintenance Rule (a)(1) evaluation concluded that age-related degradation of electronic components and a latent defect in a manufacturer-installed spade lug crimp were the causes of two unplanned power reductions. (Ref: RCR 2002-0224)
2. Poor operator interface design and control system deficiencies resulted in inadequate post-scrum reactor water level control. (Ref: RCR 98-00202)
3. Age-related degradation of GE/MAC control equipment and inadequate preventive maintenance resulted in a trip from 100% power. The Preventive Maintenance issues were resolved as corrective action following the trip. (Ref: Non Conformance Report (NCR) 93-265)

NOTE: Actions 1, 2, 3, 4 address the above noted Causal Factors related to the Reactor Feedwater Control System.

**OBJECTIVES:**

1. The objective is to provide stable control of reactor vessel level during normal operation and transients, and improve post-scrum response to prevent Level 8 Trips, Reactor Water Cleanup (RWCU) Isolation, and Level 2 High Pressure Coolant Injection (HPCI)/Reactor Coolant Injection Coolant (RCIC) initiation. Elimination of operator interface deficiencies will simplify response to plant events by reducing the level of attention required to maintain control of reactor vessel level and ensure systems remain available immediately following an event.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
	<u>Phase 1</u>				
1	Implement Change Evaluation Document (CED) 6007522 and replace Reactor Feed Pump Turbine Speed Controls (RFPT) Turbine Supervisory Instrumentation, and Startup Vessel Level Controls.	Matt Stoner	4Q/02	3Q/03	Implement CED 6007522, Phase 1, Project C/001315
2	Develop Monitoring Plan and monitor Maintenance Rule Function RF-F01 (a)(1) status against goal and provide periodic reports to the Maintenance Rule Expert Panel.	Matt Stoner	2Q/03	3Q/04	Periodic Status Reports on RF-F01 and/or RFC-F01 as determined by the Maintenance Rule Expert Panel. Results are incorporated into System Health Plan.
	<u>Phase 2</u>				
3	Replace Reactor Vessel Level Controls, including Main Turbine and Reactor Feed Pump Turbine Level 8 Trip components and implementation of appropriate recommendations of General Electric (GE) Service Information Letter (SIL) 131.	Matt Stoner	4Q/02	1Q/05	Implement Phase 2 of Project C/001315
4	Revise Monitoring Plan to incorporate system updates and monitor Maintenance Rule performance for Phase 2 (Action 3).	Matt Stoner	1Q/05	3Q/06	No Maintenance Rule Functional Failures against RFC-F01 during the monitoring period. Results are incorporated into System Health Plan.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Water Sulfates (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.e  
**COMPLETION DATE:** 4Q/05  
**ACTION PLAN OWNER:** Pete Bell  
**FOCUS AREA OWNER:** Jerry Lewis

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Reactor water sulfate concentration has been consistently greater than 2.0 parts per billion (ppb) and the Institute of Nuclear Power Operations (INPO) Chemistry Performance Index has been greater than 1.0. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

1. Implementation of zero discharge policy. (Action 15)
2. Influx of water-borne contaminants into radwaste, including: excessive non-radioactive inputs to radwaste, volume of inputs to radwaste (both water and oil), and cleanliness of sumps & radwaste tanks. (Actions 1, 5, 7)
3. Condensate and Reactor Water Cleanup Unit (RWCU) filter demineralizer issues resulting in loss of ion-exchange resin into feedwater due to septa type, septa adapter type, and resin particle size. (Actions 9, 12, 13, 18, 20)
4. Less than optimal make-up water quality (Action 4)
5. Limited radwaste processing capabilities resulting in Condensate Storage Tank and Torus Water quality issues. (Action 16)

**OBJECTIVES:**

1. The objective of this action plan is to address identified issues that are significantly impacting the failure of the station to reduce reactor water sulfates to an acceptable level. Completion of the identified actions will result in sulfates to being consistently less than 2.0 ppb.

**TIF ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	<u>Actions to keep sulfates from entering system</u> Evaluate need to clean Reactor Building floor drain sumps and hydrolaze affected drains.	Tim Chard	4Q/02	2Q/03	Plan to clean sumps and drains as necessary.
2	Determine need for alternative method of processing Torus Water or route Torus Water to floor drain system vs. equipment drains.	Pete Bell	4Q/02	4Q/03	Decision on method to process Torus water other than solely through the equipment drains.
3	Initiate activities based upon the decision made in Action 2.	Pete Bell	4Q/03	4Q/04	Desired processing solution for Torus water implemented and processing method in service.
4	Redevelop contract specifications with vendor supplying makeup water.	Rick Gardner	4Q/02	3Q/03	Contract with water supplier with tighter specifications than currently implemented.
5	Develop Change Evaluation Document (CED) to allow vacuum priming tank effluent to be routed to Circulating Water discharge canal.	Stan Domikaitis	3Q/03	1Q/04	CED to install modification.
6	Implement CED.	Neal Wetherell	2Q/04	4Q/04	Vacuum priming tank effluent modification completed and in service.
7	Develop CED to install catch basins in various plant locations to prevent groundwater in-leakage from entering floor drain system.	Kevin Jones	2Q/03	1Q/04	CED to allow installation of catch basins.
8	Implement CED.	Neal Wetherell	1Q/04	3Q/04	Catch basins installed and verified to be functional.
9	<u>Actions to Mitigate Sulfates In System</u> Verify no leakage in the hold pump with each filter demineralizer (FDEM) septa replacement.	Pete Bell	3Q/02	1Q/05	Verification that no leakage through applicable valves.
10	Evaluate the necessity to reroute eductor tank discharge to precoat pump suction.	Tim Chard	4Q/02	2Q/03	Decision to reroute discharge line or not.
11	Initiate design change activities based upon the decision made in Action 10.	Pete Bell	3Q/03	4Q/04	Eductor Tank discharge line re-routed and in service.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
12	Complete resin study with Reactor RWCU.	Tim Chard	4Q/02	3Q/03	Report on effectiveness of currently used resin as opposed to new resin.
13	Benchmark industry to determine if a change in resin vendor is desirable.	Tim Chard	4Q/02	2Q/03	Decision on resin to be used.
14	Based upon the decision made in Action 13, procure and implement resin that will improve the removal of contaminants in the process stream	Tim Chard	2Q/03	1Q/04	New resin procured and installed.
15	Verify actions necessary for liquid radioactive waste (RW) discharges to be completed.	Rick Gardner	4Q/02	4Q/03	Ability to discharge liquid RW as necessary.
16	Evaluate need for alternative technology for removal of organics in RW system.	Tim Chard	4Q/02	3Q/03	Identification of need to develop a CED to add equipment to remove organics in floor drain system.
17	Initiate design change activities based upon the decision made in Action 16.	Pete Bell	3Q/03	4Q/05	Modification to improve the removal of organics installed and in operation.
18	Evaluate replacement of existing FDEM septa with different style septa.	Pete Bell	4Q/02	4Q/03	Decision on need to replace septa.
19	Initiate design change activities based upon the decision made in Action 18.	Pete Bell	4Q/03	4Q/05	New style FDEM septa installed and in service, as necessary.
20	Replace Ecoloc attachment hardware with resin leak-proof Sealfast hardware in all seven FDEMs.	Neal Wetherell	2Q/02	1Q/05	Installation of new attachment hardware in all seven FDEMs.
<u>Other actions</u>					
21	Complete evaluation of Zero Discharge Policy to reconcile new issues that are a consequence of a Zero Discharge Policy.	Tim Chard	4Q/02	2Q/03	Complete documentation of zero discharge policy to reconcile issues that are a consequence of the policy.
22	Complete a Final Effectiveness Review in accordance with O-CNS-25, Self-Assessment review following completion of the above-noted actions or completion of a six month time period when reactor sulfates have been $\leq$ 2.0 ppb, 90% of the time (when >10% power and RWCU filters in-service).	Pete Bell	3Q/05	4Q/05	Effectiveness Review Report confirming the suitability of actions taken to ensure reactor water sulfate limits can be maintained within specs and that this Action Plan can be exited.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Heating Ventilation and Air Conditioning (HVAC) (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.f  
**COMPLETION DATE:** 4Q/08  
**ACTION PLAN OWNER:** Joe Cass  
**FOCUS AREA OWNER:** Jason Dubois

**APPROVAL:** \_\_\_\_\_

**APPROVAL:** \_\_\_\_\_



**PROBLEM STATEMENT:**

The HVAC has a history of repeated equipment failures due to the age of the equipment, limited design margin and increased thermal demands. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

1. Maintenance has not been performed at the necessary level resulting in some equipment that has been less than adequately maintained.
  2. Some HVAC equipment is reaching its end of life and needs to be replaced.
- Note: Actions 1 through 7 address the causal factors listed above.

**OBJECTIVES:**

1. Refurbish or add equipment to reduce challenges to plant operations from chronic HVAC problems.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1a	<p><u>Issue 1</u></p> <p>Complete the initial corrective actions necessary to resolve the Reactor Building Differential Pressure (d/p) Control System problem.</p> <p>The corrective actions comprise:</p> <ul style="list-style-type: none"> <li>• Fix RB exhaust fans HV-FAN-(EF-R-1A) &amp; HV-FAN-(EF-R -1B)</li> <li>• Fix RB exhaust fan vortex dampers HV-VD-VD1014A &amp; B.</li> <li>• Repair RB Exh Fan Disch dampers HV-AD-AD1014A &amp; B (EAST) &amp; (WEST)</li> <li>• Repair existing damper actuators HV-AO-AD1014A &amp; B (EAST) &amp; (WEST) and HV-AO-VD1014A &amp; B.</li> </ul>	Joe Cass		In Closure	Specific corrective actions were identified to resolve these individual long standing HVAC issues.

**III ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1b	<p>Complete the remaining corrective actions necessary to resolve the Reactor Building Differential Pressure Control System problem.</p> <p>The major corrective actions comprise:</p> <ul style="list-style-type: none"> <li>• Install new supports on RB exhaust fan vortex dampers HV-VD-VD1014A &amp; B. In progress. Change Evaluation Document (CED) approved.</li> <li>• Dynamically balance RB exhaust fans HV-FAN-(EF-R-1A) &amp; HV-FAN-(EF-R-1B).</li> <li>• Increase stroke of actuators HV-AO-VD1014A &amp; B. CED needed.</li> <li>• Add additional air circuits to RB fan &amp; damper controls to allow one train to be worked on at a time. CED needed.</li> <li>• Elimination of feedback to supply flow control loop from building pressure. CED needed.</li> <li>• Replace obsolete controllers HV-DPIC-835A &amp; B. CED needed.</li> </ul>	Joe Cass	1Q/02	4Q/04	Specific corrective actions are identified to resolve the individual long standing HVAC issue.
1c	Identify and develop modifications, replacements or repairs to implement the above actions.	Kevin Jones	1Q/02	3Q/04	Modifications to Reactor Building d/p control systems created and approved.
1d	<p>Implement the above actions:</p> <ul style="list-style-type: none"> <li>• Work orders are initiated and the required work activities are scheduled.</li> <li>• Work performed.</li> <li>• Post maintenance testing performed.</li> </ul>	Neal Wetherell	1Q/02	4Q/04	Required corrective actions are scheduled, work packages prepared, work performed, and accepted.
2a	<p><u>Issue 2</u></p> <p>Resolve elevated Drywell temperature issues by reducing Drywell heat load from its present level.</p>	Joe Cass	2Q/06	3Q/06	Reduce Drywell heat load from ~6 MBTU/hr to ~4.5 MBTU/hr. Make Ave. Drywell temperature closer to 135° F.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
2b	<ul style="list-style-type: none"> <li>• Enter drywell immediately after shutdown and identify locations where insulation can be improved.</li> <li>• Hydrolaze inside of Feedwater nozzles to allow local access to vessel exterior.</li> <li>• Gather information to support design fabrication and installation of required insulation packages.</li> </ul>	Neal Wetherell	1Q/02	3Q/04	Specific corrective actions are identified to resolve the drywell high temperature issue.
2c	<ul style="list-style-type: none"> <li>• Initiate CED to provide permanent, removable insulation for the Feedwater nozzle areas and remove existing temporary blankets.</li> <li>• Develop additional required insulation modifications.</li> </ul>	Kevin Jones	1Q/03	2Q/06	Modifications to engineered insulation in drywell created and approved.
2d	<ul style="list-style-type: none"> <li>• Work orders are initiated and the required work activities are scheduled.</li> <li>• Repair existing insulation in drywell.</li> <li>• Work performed to add new insulation.</li> <li>• Post maintenance testing performed.</li> </ul>	Neal Wetherell	2Q/03	3Q/06	Required corrective actions are scheduled, work packages prepared, work performed, and accepted.
3a	<p><u>Issue 3</u></p> <p>Required corrective actions necessary to resolve long term Operator Work-Around involving Control Room Supply Fan Discharge Dampers HV-AD-1021A &amp; B consist of 2 options:</p> <ul style="list-style-type: none"> <li>• Reconfigure duct work to include gravity biased check dampers.</li> <li>• Add new essential air actuators and 16 Solenoid Operated Valves for ensured operation of existing dampers.</li> </ul> <p>Required corrective actions are:</p> <ul style="list-style-type: none"> <li>• Identify specific options to resolve problem.</li> <li>• Evaluate specific options.</li> <li>• Select optimum corrective action.</li> </ul>	Kevin Jones	1Q/05	4Q/05	Specific corrective actions are identified to resolve the individual long standing HVAC issue.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
3b	Identify and develop modifications, replacements or repairs to implement the above actions.	Kevin Jones	2Q/05	2Q/06	Modifications to control room supply fan dampers are created and approved.
3c	Implement the above actions: <ul style="list-style-type: none"> <li>• Work orders are initiated and the required work activities are scheduled.</li> <li>• Work performed.</li> <li>• Post maintenance testing performed.</li> </ul>	Neal Wetherell	2Q/06	1Q/07	Required corrective actions are scheduled, work packages prepared, work performed, and accepted.
4a	<u>Issue 4</u>  Establish corrective actions necessary to resolve habitability concerns for the Technical Support Center by providing additional HVAC.  Required corrective actions are: <ul style="list-style-type: none"> <li>• Initiate CED to install new additional Air Conditioning (AC) unit in Technical Support Center (TSC) ceiling</li> <li>• Initiate CED to install new fan HV-FAN-OAF-1 to replace existing fan.</li> <li>• Balance system.</li> </ul>	Kevin Jones	1Q/02	4Q/03	Specific corrective actions are identified to resolve the individual long standing HVAC issue.
4b	Identify and develop modifications, replacements or repairs to implement the above actions.	Kevin Jones	1Q/05	4Q/05	Modifications to TSC air conditioning are created and approved.
4c	Implement the above actions: <ul style="list-style-type: none"> <li>• Work orders are initiated and the required work activities are scheduled.</li> <li>• Work performed.</li> <li>• Post maintenance testing performed.</li> </ul>	Neal Wetherell	4Q/05	1Q/06	Required corrective actions are scheduled, work packages prepared, work performed, and accepted.

**TITLE ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
5a	<p><u>Issue 5</u></p> <p>Establish corrective actions necessary to resolve habitability of Instrument and Controls (I&amp;C) shop by providing adequate HVAC.</p> <p>Required corrective actions are:</p> <ul style="list-style-type: none"> <li>• Initiate CED to replace existing I&amp;C shop AC unit with bigger unit.</li> </ul>	Joe Cass	1Q/02	4Q/03	Specific corrective actions are identified to resolve the individual long standing HVAC issue.
5b	Identify and develop modifications, replacements or repairs to implement the above actions.	Kevin Jones	3Q/03	1Q/04	Modification to I&C Shop air conditioning created and approved.
5c	<p>Implement the above actions:</p> <ul style="list-style-type: none"> <li>• Work orders are initiated and the required work activities are scheduled.</li> <li>• Work performed.</li> <li>• Post maintenance testing performed.</li> </ul>	Neal Wetherell	1Q/04	1Q/04	Required corrective actions are scheduled, work packages prepared, work performed, and accepted.

**TIP ACTION PLAN**

NO.	ACTION	ACTION/OWNER	START DATE	END DATE	DELIVERABLE
6	<p><u>HVAC Improvement Project</u></p> <p>Establish an Integrated HVAC Improvement Team (System Engineer, Design Engineering, Maintenance, and Operations) to provide a systematic assessment of the remaining HVAC issues. The Integrated HVAC Improvement Team would be responsible for:</p> <ul style="list-style-type: none"> <li>• The identification of the remaining HVAC issues.</li> <li>• Resolution of required actions.</li> <li>• Prioritization of the Identified HVAC issues.</li> <li>• Initiate required Maintenance Work Orders and modification requests and scheduling of work activities.</li> <li>• Review and optimize existing HVAC related Preventative Maintenance.</li> <li>• Identify potential Predictive Maintenance techniques that can be applied to improve equipment monitoring. (vibration, oil sampling, thermography etc.)</li> </ul>	Vince Roppel	4Q/02	4Q/03	An Integrated HVAC Improvement Team (System Engineer, Design Engineering, Maintenance, and Operations) is established
7	Designate Management Sponsor for the Integrated HVAC Improvement Team to provide management oversight and direction.	Vince Roppel	4Q/02	4Q/02	Management Sponsor for the Integrated HVAC Improvement Team established to provide management oversight and direction.
8	<p><u>Monitoring</u></p> <p>Monitor HVAC performance following completion of the individual corrective actions to ensure that the action taken resolved the problem and that performance has measurably improved.</p> <ul style="list-style-type: none"> <li>• Monitoring Plan to be developed as part of System Health</li> </ul>	Joe Cass	4Q/02	4Q/08	Establish that the corrective actions to address the individual long standing HVAC issues have measurably improved performance.

**III. ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
9	Perform a Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment to determine that the actions initiated have corrected the identified problem and that the stated Objective has been achieved.	Joe Cass	3Q/04	4Q/08	Final Effective Assessment performed to establish that the required actions have improved the work package process and addresses the identified causal factors. The end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Primary Containment Vacuum Breakers  
(Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.g  
**COMPLETION DATE:** 1Q/08  
**ACTION PLAN OWNER:** Ken Pounders  
**FOCUS AREA OWNER:** Jason Dubois

**APPROVAL:** KFP 11/19/02  
**APPROVAL:** Jason P. Dubois

**PROBLEM STATEMENT:**

Since 1998, two valves have failed to close. One valve failure resulted in an unplanned plant shutdown, and one occurred during an outage. In June 2002, one valve failed to open during routine surveillance testing.

**CAUSAL FACTORS:**

1. Ineffective corrective maintenance procedures. (This causal factor is related to the two closure failures. The corrective maintenance procedure was revised to address the deficiencies.)
2. Inadequate periodic maintenance. (This causal factor is related to the non-safety related air operated mechanism and is believed to be the cause of the failure to open.)
3. Poor valve design results in maintenance difficulties including poor access to hinge adjustment, very close tolerances for pallet adjustment and a difficult to adjust magnetic closure mechanism.

Note: Actions 1 through 6 address the causal factors listed above.

**OBJECTIVES:**

1. Operability of the torus to drywell vacuum breakers consistent with design requirements.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
	<b>Phase 1 – Air Operator Maintenance</b>				
1	Troubleshoot and repair PC-AOV-NRV30 during the next outage of sufficient duration.	Neal Wetherell	1Q/03	2Q/03	Approved and closed Work Order (WO).
2	Develop and schedule Preventative Maintenance Activities (PMs) for air operator components to improve reliability.	Ken Pounders	3Q/03	4Q/03	Approved PM established and incorporated into schedule.
3	Procure required air operator component parts.	Hrach Minassian	1Q/04	2Q/04	Approved parts in stock to support PMs and refurbishments.
	<b>Phase 2 – Replacement of Valves</b>				
4	Prepare and present a project plan to Integrated Management Committee (IMC) to obtain funding for Engineering work in 2004 to develop a Change Evaluation Document (CED) to replace the torus to drywell vacuum breaker valves.	Ken Pounders	3Q/03	4Q/03	Identification of project for funding in 2004.
5	Perform necessary engineering design activities to develop and obtain approval of a CED to replace the torus to drywell vacuum breakers with a more reliable are more easily serviced valve design.	Todd Stevens	2Q/04	1Q/05	Approved CED to install more reliable torus to drywell vacuum breakers.
6	Implement CED to replace existing torus to drywell vacuum breakers with a more reliable design.	Rich Dewhirst	1Q/06	2Q/06	Installation of new vacuum breakers completed.
7	Perform a Final Self-Assessment following Refueling Outage 24 (RE24) to determine the acceptability of the valves installed in Refueling Outage 23 (RE23) to meet the performance specifications identified for development of the CED.	Ken Pounders	4Q/07	1Q/08	Final Effectiveness Assessment.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Control Room Recorders Obsolescence  
(Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.h  
**COMPLETION DATE:** 2Q/06  
**ACTION PLAN OWNER:** Alan Able  
**FOCUS AREA OWNER:** Wes Frewin

**APPROVAL:** Alan L Able  
**APPROVAL:** ~~Wes Frewin~~ W.FREWIN

**PROBLEM STATEMENT:**

Control Room recorders are obsolete, and spare parts for the current equipment are no longer manufactured. Of approximately 50 Control Room Deficiencies per year, recorders cause 28%. This Action Plan supports Action Plan 5.3.1.1, System/Equipment Performance.

**CAUSAL FACTORS:**

1. Technological advances, as well as changes in customer demand, have rendered original components such as recorders obsolete. Manufacturers no longer provide spare parts. (Actions 1, 2, 3, 4, 5, 6)

**OBJECTIVES:**

1. Reduction in Control Room Deficiencies and Operator Work-Arounds associated with recorders.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Develop a modification for the wholesale change out of the recorders in the Control Room.				
	a) Prioritize the phased approach for the recorder replacement based on feedback from Operations and Maintenance.	a) Jesse Neddenriep	a)	a) In Closure	a) Operations and maintenance were contacted regarding a prioritization of the recorder replacement based on work history. The entire list of control room recorders was reviewed and the recorder replacements were prioritized based on both model and specific functional locations.
	b) Assignment of a Project Manager for this project.	b) Rich Dewhirst	b)	b) In Closure	b) Project Manager named for the recorder replacement project.
	c) Establish funding for the modification development and materials required.	c) Bill Faraone	c) 4Q/02	c) 1Q/03	c) Integrated Management Committee (IMC) and Board approval.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
2	Obtain resources to assist in Change Evaluation Document (CED) development and implementation for Conceptual and Phase 1 (GEMAC and Bently Nevada) recorders in the Control Room.				
	a) Conceptual Design development.	a) Jesse Neddenriep	a) 4Q/02	a) 1Q/03	a) Approved Conceptual Design.
	b) Develop Final CED for Phase 1 (GEMAC and Bently Nevada).	b) Jesse Neddenriep	b) 1Q/03	b) 2Q/03	b) Approved Final Design Phase 1 (GEMAC and Bently Nevada).
	c) Implementation 1. On-line 2. Outage	c) 1. Neal Wetherell 2. Neal Wetherell	c) 1. 2Q/03 2. 1Q/03	c) 1. 1Q/05 2. 3Q/03	c) Implementation complete including acceptance testing for Phase 1 (GEMAC Bently Nevada).
3	Development and implementation of Phase 2 (Leeds and Northrup (L&N) 165/250, Yokogawa RS1800, Bently Nevada) recorders in the Control Room.				
	a) Develop Final CED for Phase 2 (L&N) 165/250, Yokogawa RS1800, Bently Nevada).	a) Jesse Neddenriep	a) 2Q/03	a) 4Q/03	a) Approved Final Design Phase 2 (L&N) 165/250, Yokogawa RS1800, Bently Nevada).
	b) Implementation 1. On-line 2. Outage	b) 1. Neal Wetherell 2. Neal Wetherell	b) 1. 4Q/03 2. 4Q/04	b) 1. 4Q/04 2. 1Q/05	b) Implementation complete including acceptance testing for Phase 2 (L&N) 165/250, Yokogawa RS1800, Bently Nevada).

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
4	<p>Development and implementation of Phase 3 (Honeywell and L&amp;N 100) recorders in the Control Room.</p> <p>a) Develop Final CED for Phase 3 (Honeywell and L&amp;N 100).</p> <p>b) Implementation                      1. On-line                      2. Outage</p>	<p>a) Jesse Neddenriep</p> <p>b)                      1. Neal Wetherell                      2. Neal Wetherell</p>	<p>a) 2Q/04</p> <p>b)                      1. 3Q/04                      2. 4Q/04</p>	<p>a) 3Q/04</p> <p>b)                      1. 3Q/05                      2. 1Q/05</p>	<p>a) Approved Final Design Phase 3 (Honeywell and L&amp;N 100).</p> <p>b) Implementation complete including acceptance testing for Phase 3 (Honeywell and L&amp;N 100).</p>
5	<p>Development and implementation of Phase 4 (L&amp;N 100 (narrow case) and Foxboro) recorders in the Control Room.</p> <p>a) Develop Final CED for Phase 4 (L&amp;N 100 (narrow case) and Foxboro).</p> <p>b) Implementation                      1. On-line                      2. Outage</p>	<p>a) Jesse Neddenriep</p> <p>b)                      1. Neal Wetherell                      2. Neal Wetherell</p>	<p>a) 3Q/04</p> <p>b)                      1. 4Q/04                      2. 4Q/04</p>	<p>a) 3Q/04</p> <p>b)                      1. 1Q/06                      2. 2Q/06</p>	<p>a) Approved Final Design Phase 4 (L&amp;N 100 (narrow case) and Foxboro).</p> <p>b) Implementation complete including acceptance testing for Phase 4 (L&amp;N 100 (narrow case) and Foxboro).</p>
6	<p>Perform a Final Effectiveness Review to determine if Action Plan Problem Statement has been corrected. Identify further corrective actions if additional measures are necessary. This review should be based on a review of:</p> <ul style="list-style-type: none"> <li>• Control Room Deficiencies and</li> <li>• Corrective Action Program and System Health Team reviews.</li> </ul>	<p>Alan Able</p>	<p>4Q/03</p>	<p>2Q/06</p>	<p>Effectiveness report and follow-up actions, as necessary.</p>

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Air Systems (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.i  
**COMPLETION DATE:** 3Q/07  
**ACTION PLAN OWNER:** Ken Pounders  
**FOCUS AREA OWNER:** Jason Dubois

**APPROVAL:** [Signature] 11/18/02  
**APPROVAL:** [Signature]

**PROBLEM STATEMENT:**

The reliability of the Service Air System has been unsatisfactory as evidenced by the following problems:

1. Maintenance rule function IA-F01 – "Supply reactor building critical loads" is currently status Maintenance Rule (a)(1).
2. The material condition of the Service Air Compressor discharge moisture draining system is degraded.
3. Reliability of Service Air compressors has been declining.
4. The Cooper Nuclear Station (CNS) response to Generic Letter (GL) 88-14 has been inadequate.

**CAUSAL FACTORS:**

1. Inadequate Preventative Maintenance (PM) Program - Lack of periodic maintenance.
  2. Gradual degradation of the Moisture Separator chevrons.
  3. Failure to adequately specify and document inspections required by GL 88-14.
- Note: Actions 1 through 8 address the causal factors listed above.

**OBJECTIVES:**

1. Restore the Maintenance Rule Function IA-F01 to Maintenance Rule (a)(2) status.
2. Correct the material and component deficiencies and implement additional PMs needed
3. Conformance of the system and equipment to design and GL 88-14 requirements.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1.a	<u>Maintenance rule function IA-F01, "Supply reactor building critical loads"</u> Identify the components requiring PMs to ensure the design function of the essential accumulators is maintained.	Ken Pounders	1Q03	1Q/03	List of check valves and boundary valves for essential accumulators that require PM to help assure reliability. (Ref: RCR 2002-0341, Action 3)
1.b	Develop and implement appropriate PM's for components.	Ken Pounders	1Q/03	2Q/03	Notification(s) to specify and implement appropriate PM's for components.
2.a	<u>Degraded Service Air Compressor discharge moisture draining system</u> Develop a Change Evaluation Document (CED) to replace the carbon steel moisture separators with stainless steel equivalents and install new drain lines and valves.	Kevin Jones	4Q/02	4Q/02	Approved CED.
2.b	Implement the Moisture Separator Modification in accordance with CED requirements.	Neal Wetherell	1Q/03	1Q/03	Installation of new Moisture Separators with a new active automatic blowdown system.
3.a	<u>Service Air Compressor Near Term Reliability</u> Change the frequency of the compressor overhaul PM back to once per year and implement compressor overhauls as specified in the PM Program.	Neal Wetherell		In Closure	Approved PM changes. Results of inspections and tests performed during compressor overhauls.
3.b	Develop and implement PM's to inspect, refurbish and test the compressor air regulators at a frequency sufficient to eliminate requirements for breakdown maintenance.	Ken Pounders	4Q/02	1Q/03	Approved PMs for the air regulator coordinated with compressor overhaul schedule.

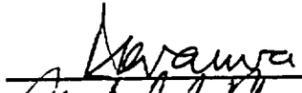
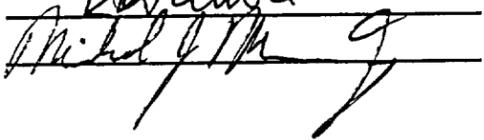
**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
4	<p><u>GL 88-14 requirements for air filter inspection documentation</u></p> <p>Identify the PMs that address GL 88-14 inspection requirements (which require filter element replacement) and initiate action to include the results of inspections in the work orders issued to change the filters and for the Air System Engineer to review the results of the inspections.</p>	Ken Pounders	4Q/02	1Q/03	Approved PMs requiring documentation of filter condition in the work orders issued for each PM and System Engineer review of filter inspection results.
5	<p><u>GL 88-14 requirements to identify specific equipment considered important to plant operation that requires instrument air</u></p> <p>Identify "essential equipment", "equipment important to safety", and "risk significant equipment" that require instrument air and assure that PMs for required air filter inspections are in place and being performed.</p>	Ken Pounders	4Q/02	1Q/03	A listing of "essential equipment", "equipment important to safety", and "risk significant equipment" that require instrument air and the associated PMs in place to assure that filter inspections are accomplished and documented.
6	<p>Perform an Effectiveness Review in accordance with O-CNS-25, Self-Assessment of actions taken to improve the reliability and performance of the Service Air (SA) Compressors.</p>	Ken Pounders	3Q/04	4Q/04	Effectiveness Report addressing the performance improvements achieved as a result of the corrective actions taken.
7	<p>Transition the remaining actions to the Long Term Improvement Plan. (Ref: Action Plan 5.3.1.1)</p>	Ken Pounders	4Q/04	4Q/04	Management Review of the Effectiveness Report and System Health Reports, which demonstrate, improved performance and on-schedule progress of Long Term Actions.
8a	<p><u>Long Term Actions</u></p> <p>Obtain funding for SA Compressor replacement.</p>	Ken Pounders	2Q/03	2Q/03	Obtain funding for Design Engineering Department design work for 2003.
8b	<p>Develop a CED to replace the SA Compressors with current generation design units.</p>	Kevin Jones	3Q/03	4Q/03	Approved CED to replace the current station air compressors.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
8c	Replace the SA Compressors per CED requirements spaced apart by 6-12 months.	Neal Wetherell	3Q/04	3Q/07	New SA Compressors installed.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** KAMAN Radiation Monitors (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.j  
**COMPLETION DATE:** 2Q/07  
**ACTION PLAN OWNER:** Vinnie Varma  
**FOCUS AREA OWNER:** Mike Manning

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The Kaman System reliability has been unsatisfactory and the availability of spare parts has been insufficient, resulting in numerous unplanned entries into Limiting Condition for Operations (LCOs).

**CAUSAL FACTORS:**

1. Equipment Age/Obsolescence
2. Unavailability of Vendor Technical Support

Note: Actions 1 through 11 address the causal factors listed above.

**OBJECTIVES:**

1. Reliable equipment installed that will meets design and performance requirements.
2. Kaman monitors operable, minimizing unplanned LCOs.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
	<b>Phase 1 – Immediate Actions</b>				
1	Prepare a Short Term Action Plan to maintain installed monitors operational and obtain the requisite spare parts.	Vinnie Varma	3Q/02	1Q/03	Action plan reviewed and accepted by station management.
2	Implement refurbishment activities per the Short Term Action Plan for each KAMAN unit.	Neal Wetherell	1Q/03	3Q/03	Completed Work Orders for refurbishment activities.
3a	Monitor performance of each Kaman unit following refurbishment as specified in the Short Term Action Plan.	Vinnie Varma	2Q/03	1Q/04	Quarterly monitoring report consistent with the Equipment Reliability Improvement initiative as specified in Short Term Action Plan. (Action Plan 5.3.1.1)
3b	Continue to monitor performance of each Kaman unit until installation of new Radiation Monitoring System.	Vinnie Varma	1Q/04	2Q/06	Continue quarterly monitoring report consistent with the Equipment Reliability Improvement initiative until installation of New Radiation Monitoring System. (Action Plan 5.3.1.1)
4	Perform an Effectiveness Review of the Short Term Action Plan implemented to improve the operational readiness of the KAMAN Monitors and minimize unplanned entries into LCOs. Self-Assessment to be performed in accordance with 0-CNS-25, Self-Assessment.	Vinnie Varma	3Q/03	4Q/03	Approved report developed per the requirements of 0-CNS-25 addressing the suitability of the Short Term Action Plan to achieve improved operation of the KAMAN Monitors.
5	Exit the Immediate Action Phase of this Action Plan based on improved performance of the existing KAMAN Monitors.	Vinnie Varma	4Q/03	1Q/04	Management Review of the Effectiveness Report and Quarterly Monitoring Reports that demonstrate improved performance and on-schedule progress of Long Term Actions.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
	<b>Phase 2 - Long Term Actions</b>				
6	Communicate with potential vendors (MGP, CANBERRA) in order to obtain system and equipment information associated with their specific product.	Vinnie Varma		In Closure	Vendor information received.
7	Establish a Project Manager in accordance with O-CNS-018, Project Management.	Rich Dewhurst		In Closure	Project Manager assigned.
8	Prepare Project Charter, get funding approval and request bids from vendors.	Jim Tinkle	2Q/03	4Q/03	Bids from vendors received.
9	Award contract.	Marieann Brady	4Q/03	2Q/04	Contract in place.
10	Prepare Change Evaluation Documents (CEDs) in accordance with Cooper Nuclear Station Engineering Procedure 3.4, Configuration Change Control.	Kevin Jones	2Q/04	2Q/05	Approved CEDs.
11	Install, test and release equipment to operations.	Neal Wetherell	2Q/05	2Q/06	Required CED Post Modification Testing completed and system declared operational.
12	Monitor system performance to demonstrate that the modification was successful and that the end Objective has been satisfied.	Vinnie Varma	2Q/06	2Q/07	System performance meets design requirements established for the upgraded Radiation Monitoring System.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Material Condition & Equipment Reliability  
**ACTION PLAN TITLE:** Optimum Water Chemistry (Long Standing Equipment Issue)  
**ACTION PLAN NUMBER:** 5.3.1.2.k  
**COMPLETION DATE:** 4Q/04  
**ACTION PLAN OWNER:** Khalil Dia  
**FOCUS AREA OWNER:** Mark Metzger

APPROVAL: KHALIL m. Dia / K. Metzger 11/15/02  
APPROVAL: Mark Metzger 11/15/02

**PROBLEM STATEMENT:**

The Optimum Water Chemistry (OWC) system has been in startup testing status since the end of 2000 due to poor design, which in turn, is preventing hydrogen injection into the feedwater system. This Action Plan supports Action Plan 5.3.1.1, System Equipment Performance.

**CAUSAL FACTORS:**

1. Design deficiency within the hydrogen generation and injection system.

**OBJECTIVES:**

1. Stable reliable hydrogen injection in the reactor at an availability of > 90%.
2. Ensure Electrochemical Potential (ECP) measurements are maintained at < -230 mV to provide Intergranular Stress Corrosion Cracking mitigation.

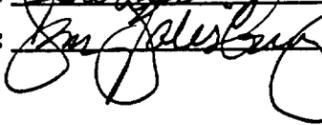
**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	<p>Modify the existing hydrogen/oxygen generation and injection system as needed to establish steady state (stable) hydrogen injection flow into the feedwater system.</p> <p>a) Establish approval from Senior Management.</p> <p>b) Develop Change Notices to Change Evaluation Document (CED) 1999-0072.</p> <p>c) Implement the system Change Notice.</p>	<p>a) J.T Ownby</p> <p>b) Dan Buman</p> <p>c) Neal Wetherell</p>	<p>c) 3Q/02</p>	<p>a) In Closure</p> <p>b) In Closure</p> <p>c) 4Q/02</p>	<p>a) Senior Management approval.</p> <p>b) Approved Change Notice.</p> <p>c) Implementation of the change.</p>
2	<p>After the Hydrogen/Oxygen generation/injection system is modified under Action 1, perform two-week reliability run and assess adequacy of system operation (reliability). Report to Senior Manager on the result of the two-week reliability run.</p>	Khalil Dia	4Q/02	4Q/02	Report for Senior Managers on system reliability.
3	<p>Establish H2/O2 injection into the plant (including updates to operating procedures for OWC system that are needed for this activity). This action cannot be implemented by the due date if Action 1 fails. If Action 2 fails then this action will be closed to Action 4c.</p>	Khalil Dia	4Q/02	1Q/03	Establish H2 injection into the plant.
4	<p>Contingency: This contingency is applicable if the Hydrogen/Oxygen generation/injection system fails the reliability run after the proposed modification per Action 1 is complete. Actions 4a, 4b, and 4c are for contingency.</p>	See Below	See Below	See Below	See Below
4a	<p>OWC System Health Team (this team consist of Operations Department, Plant Engineering Department, Design Engineering Department, Chemistry Department, Project Management Department) to perform a feasibility study on a new method or new system to establish hydrogen/oxygen injection into the feedwater system.</p>	Khalil Dia	4Q/02	1Q/03	Feasibility study.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
4b	Present team recommendation to Senior Management in order to obtain their approval for the new method of hydrogen injection into the plant.	Khalil Dia	1Q/03	1Q/03	Obtain Senior Management approval for the new method.
4c	Implement the new method of H2/O2 injection into the plant as recommended by the OWC team (including update to operating procedures for OWC system). a) Establish funding for the new method. b) Develop Modification package. c) Implement Modification. d) Establish hydrogen injection.	a) J.T. Ownby b) Dan Buman c) Neal Wetherell d) Khalil Dia	a) 4Q/03 b) 1Q/04 c) 2Q/04 d) 3Q/04	a) 4Q/03 b) 2Q/04 c) 3Q/04 d) 1Q/05	a) Integrated Management Committee and Board approval. b) Approved Change Evaluation Document (CED). c) Implementation complete. d) Steady state hydrogen injection (turn system over to operation department).
5	Develop Monitoring Plan (for ECP values and H2 injection unavailability) and monitor OWC under Maintenance Rule performance criteria.	Khalil Dia	4Q/02	2Q/03	Results will be incorporated into System Health Plan.
6	Perform an assessment to ensure that the Boiling Water Reactor Vessel Inspection Program (BWRVIP) recommendations with respect to H2 injection and reactor water ECP values are implemented and that a reliable method of H2 Injection into the vessel is installed.	Khalil Dia	3Q/03	1Q/04	Assessment results confirm that the reliability and performance of the OWC System meets the design spec and the BWR VIP recommendations with respect to H2 injection and reactor water ECP values are implemented.
7	Perform a Final Self-Assessment in accordance with O-CNS-25, Self-Assessment of the actions taken to implement the OWC H2/O2 generation/injection system and the end state is consistent with the stated Objective.	Khalil Dia	3Q/04	4Q/04	Final Effectiveness Assessment to confirm that the actions taken have resulted in an OWC system operating consistent with design specs, and that the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Programs  
**ACTION PLAN TITLE:** Engineering Programs  
**ACTION PLAN NUMBER:** 5.3.2.1  
**COMPLETION DATE:** 1Q/07  
**ACTION PLAN OWNER:** Scott Freborg  
**FOCUS AREA OWNER:** Jim Salisbury

**APPROVAL:**  11/22/02  
**APPROVAL:**  11/22/02

**PROBLEM STATEMENT:**

The performance of Cooper Nuclear Station (CNS) Engineering Programs has historically lacked sustained effectiveness.

**CAUSAL FACTORS:**

1. Ownership of Engineering Programs has been loosely defined or not defined at all. (Actions 1, 2, 3)
2. The expectations of Engineering Program owners were not clearly defined or enforced. (Actions 1, 2, 9)
3. Organizational depth in Engineering Programs has been lacking. (Actions 5, 6, 7)
4. The quality and frequency of self-assessments has been lacking. (Actions 1, 2, 4, 10, 11, 12, 13)
5. Oversight and implementation of the CNS Engineering Programs has been less than adequate. (Action 8, 14a, 14b, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41)

**OBJECTIVES:**

1. Procedure 0-CNS-12, CNS Program Administration, is closely aligned with the industry with respect to proper scope of Engineering Programs and the proper standards and expectations for Engineering Program oversight and management.
2. The full extent of condition in Engineering Programs is identified through completion of the remaining program self-assessments and interface assessments.
3. High priority corrective actions resulting from the self-assessments, program benchmarks, and the interface assessments are identified and implemented.
4. Independent verification of effectiveness of program corrective actions and program health ratings is established. Programmatic controls to insure sustained Engineering Program health beyond The Strategic Improvement Plan closure are established.
5. Organizational depth in Engineering Programs is established.

**TIP ACTION PLAN**

- 6. Implementation of required Engineering Program related modifications and projects.
- 7. Adequate and consistent management oversight of Engineering Program health is established.
- 8. Improvements in CNS Program Management through implementation of industry benchmarking recommendations.

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>CNS ENGINEERING PROGRAM INFRASTRUCTURE</b>					
1	Benchmark Procedure 0-CNS-12 against best industry practices in the area of major program scope and standards and expectations for Engineering Program management. (This action is tied to Action Plan 5.1.1.9.)  Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements by 0-CNS-06.	Beth Hannaford		Complete	Benchmark report in accordance with Procedure 0-CNS-06.
2	With input from the benchmark report, revise CNS Procedure 0-CNS-12 to include the proper scope of Engineering Programs and the appropriate standards and expectations for Engineering Program management. (This action is tied to Action Plan 5.1.1.9.)	Beth Hannaford	4Q/02	4Q/02	Revised Procedure 0-CNS-12 which will reflect scope of engineering programs consistent with the industry, and the associated standards and expectations for program implementation.
3	Review and revise, as necessary, Action Plan 5.3.2.1 Rev. 2 to reflect applicable changes implemented as a result of Action 2.	Scott Freborg	4Q/02	1Q/03	Action Plan 5.3.2.1 revised as required, to incorporate additional Engineering Program improvements identified through completion of benchmarking and revision to 0-CNS-12.
4	Establish a specific standard for sustained quality Engineering Program self-assessments.	Beth Hannaford	2Q/03	3Q/03	Revised Procedure 0-CNS-12 to include specific standards for sustained quality Engineering Program self-assessments.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
5	Develop and approve Training Qualification Descriptions (TQDs) for areas within Engineering Programs lacking formal qualification requirements. These include: <ul style="list-style-type: none"> <li>• Snubber,</li> <li>• Electrical Breaker, and</li> <li>• Repairs and Replacements.</li> </ul> Establishment of these specific qualifications will be utilized to increase technical proficiency and provided increased organizational depth.	Ken Thomas	2Q/03	3Q/03	Approved TQD for stated programs.
6	Establish organizational depth for the major Engineering Programs listed in 0-CNS-12.	Jim Salisbury	4Q/02	4Q/04	Fully qualified back-up program owners for each major Engineering Program in accordance with applicable TQD.
7	Revise CNS Procedure 0-CNS-12 to include a standard for maintaining organizational depth.	Beth Hannaford	2Q/03	3Q/03	Standard for maintaining organizational depth in Engineering Programs included in procedure 0-CNS-12.

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
8	Develop a process that will insure adequate and consistent management oversight of program health.	Jim Salisbury	2Q/03	3Q/03	Revised Procedure 0-CNS-12 which includes a process for adequate and consistent management oversight of program health.
9	Revise 0-CNS-22, Conduct of Engineering, to align with standards and expectations established in 0-CNS-12 for engineers assigned to Engineering Programs. This includes specific expectations for Engineering Program engineers in providing field support.	Jim Salisbury	1Q/03	2Q/03	Procedure 0-CNS-22 revised to align with 0-CNS-12.
<b>CNS ENGINEERING PROGRAM ASSESSMENTS</b>					
10	<p>Complete detailed technical self-assessments of the following programs in 2002:</p> <ul style="list-style-type: none"> <li>• Boiling Water Reactor Vessel and Internals Project (BWRVIP),</li> <li>• Erosion/Corrosion (Flow Accelerated Corrosion (FAC)),</li> <li>• 10 CFR 50, Appendix J, and</li> <li>• Welding/repair and replacement.</li> </ul> <p>Procedure 0-CNS-25, Self Assessment, is used for assessment methodology and approach.</p>	Ken Thomas	2Q/02	4Q/02	Self-Assessment reports prepared in accordance with 0-CNS-25. Notifications written for deficiencies/conditions.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	Complete detailed technical self-assessments, or program benchmarks of the following programs in 2003. <ul style="list-style-type: none"> <li>• Heat Exchangers,</li> <li>• Snubbers,</li> <li>• Check Valves,</li> <li>• Seismic Qualification, and</li> <li>• Probabilistic Risk Assessment (PRA)</li> </ul> Procedure 0-CNS-25, Self Assessment, is used for assessment methodology and approach.  Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with 0-CNS-06 requirements.	Scott Freborg	2Q/03	4Q/03	Self-Assessment reports prepared in accordance with 0-CNS-25. Notifications written for deficiencies/conditions. Benchmark reports prepared in accordance with 0-CNS-06 and Notifications written for deficiencies/conditions.
12	Complete interface assessments of the following programs in 2003. <ul style="list-style-type: none"> <li>• BWRVIP,</li> <li>• Erosion/corrosion (FAC),</li> <li>• 10 CFR 50, Appendix J,</li> <li>• Welding/repair and replacement,</li> <li>• Inservice Inspection (ISI),</li> <li>• Inservice Testing (IST),</li> <li>• Motor Operated Valves (MOVs),</li> <li>• Fire Protection (FP), and</li> <li>• Electrical Breakers.</li> </ul>	Ken Thomas	2Q/03	4Q/03	Interface assessment reports prepared in accordance with 0-CNS-25. Notifications written for deficiencies/conditions.
13	Complete interface assessments of the following programs in 2004. <ul style="list-style-type: none"> <li>• Heat Exchangers</li> <li>• Snubbers</li> <li>• Check Valves</li> <li>• Seismic Qualification</li> <li>• PRA</li> <li>• Air Operated Valves (AOV)</li> </ul>	Scott Freborg	1Q/04	2Q/04	Interface assessment reports prepared in accordance with 0-CNS-25. Notifications written for deficiencies/conditions.

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
<b>CNS ENGINEERING PROGRAMS CORRECTIVE ACTION IMPLEMENTATION</b>					
<b>BWRVIP</b>					
14a	Identify and implement high priority corrective actions resulting from the BWRVIP Program technical self-assessment and the interface assessment. Perform required BWRVIP Program inspections in Refueling Outage 21 (RE 21).  In addition, identify and schedule the required BWRVIP inspections for Refueling Outage 22.	Mark Lyman	2Q/02	3Q/03	Action plan developed and high priority Corrective Action Program (CAP) items associated with BWRVIP Program implemented during RE 21. Target health goal is sustained GREEN by 7/05.
14b	Perform required BWRVIP Program inspections in Refueling Outage 22 (RE 22).	Mark Lyman	3Q/03	4Q/04	Required BWRVIP Program inspections completed in RE 22.
15	Develop a separate BWRVIP Program document and implementing procedure.	Mark Lyman	2Q/02	4Q/02	BWRVIP Program document in place and implementing procedure issued.
<b>EROSION/CORROSION PROGRAM</b>					
16	Identify and implement high priority corrective actions resulting from the Erosion/Corrosion Program technical self-assessment and the interface assessment.	Audrey Plympton	2Q/03	2Q/04	Action plan developed and high priority CAP items associated with Erosion/Corrosion Program implemented. Target health goal is sustained GREEN by 7/05.
<b>10CFR50 APPENDIX J PROGRAM</b>					
17	Identify and implement high priority corrective actions resulting from the Appendix J Program technical self-assessment and the interface assessment.	Billy Morris	2Q/03	2Q/04	Action plan developed and high priority CAP items associated with Appendix J Program implemented. Target health goal is sustained GREEN by 7/05.

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
<b>WELDING/REPAIR AND REPLACEMENT PROGRAM</b>					
18	Identify and implement high priority corrective actions resulting from the Welding/Repair and Replacement Program technical self-assessment and the interface assessment.	Doug Boes	2Q/03	2Q/04	Action plan developed and high priority CAP items associated with Welding/Repair and Replacement Program implemented. Target health goal is sustained GREEN by 7/05.
<b>HEAT EXCHANGER PROGRAM</b>					
19	Identify and implement high priority corrective actions resulting from the Heat Exchanger Program technical self-assessment or benchmark and the interface assessment.	Scott Freborg	2Q/03	3Q/04	Action plan developed and high priority CAP items associated with Heat Exchanger Program implemented. Target health goal is sustained GREEN by 7/05.
<b>SNUBBER PROGRAM</b>					
20	Identify and implement high priority corrective actions resulting from the Snubber Program technical self-assessment or program benchmark, and the interface assessment.	Doug Boes	2Q/03	3Q/04	Action plan developed and high priority CAP items associated with Snubber Program implemented. Target health goal is sustained GREEN by 7/05.
<b>ELECTRICAL BREAKERS PROGRAM</b>					
21	Identify and implement high priority corrective actions resulting from the Electrical Breakers Program technical self-assessment or program benchmark, and the interface assessment.	Jim Dykstra	2Q/03	1Q/05	Action plan developed and high priority CAP items associated with Electrical Breaker Program implemented. Target health goal is sustained GREEN by 7/05.
22	Implement the 4160 Volt Breaker Refurbishment Project Plan.	Jim Dykstra	2Q/02	2Q/03	Breakers refurbished and installed in accordance with 4160 Volt Breaker Refurbishment Project Plan.

**TIP. . . . .ION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
23	Create and approve the 480 Volt Circuit Breaker Replacement and Refurbishment Project Plan per Procedure 0-CNS-18, Project Management.	Ted Hough		Complete	Approved project plan for 480 Volt Circuit Breakers.
24	Implement 480 Volt Circuit Breaker Replacement and Refurbishment Project Plan scope.	Jim Dykstra	2Q/02	1Q/07	Breakers refurbished in accordance with 480 Volt Circuit Breaker Replacement and Refurbishment Project Plan.
<b>CHECK VALVE PROGRAM</b>					
25	Identify and implement high priority corrective actions resulting from the Check Valve Program technical self-assessment or program benchmark, and the interface assessment.	Duane Stuhr	2Q/03	3Q/04	Action plan developed and high priority CAP items associated with Check Valve Program implemented. Target health goal is sustained GREEN by 7/05.
<b>SEISMIC QUALIFICATION PROGRAM</b>					
26	Identify and implement high priority corrective actions resulting from the Seismic Qualification Program technical self-assessment or program benchmark, and the interface assessment.	Tim McClure	2Q/03	3Q/04	Action plan developed and high priority CAP items associated with Seismic Program implemented. Target health goal is sustained GREEN by 7/05.
<b>PRA PROGRAM</b>					
27	Identify and implement high priority corrective actions resulting from the PRA Program technical self-assessment or program benchmark, and the interface assessment.	Kent Sutton	2Q/03	3Q/04	Action plan developed and high priority CAP items associated with PRA Program implemented. Target health goal is sustained GREEN by 7/05.
<b>MOV PROGRAM</b>					
28	Identify and implement high priority corrective actions resulting from the MOV Program technical self-assessment or program benchmark, and the interface assessment.	Duane Weninger	2Q/01	2Q/04	Action plan developed and high priority CAP items associated with MOV Program implemented. Target health goal is sustained GREEN by 7/05.

**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
29	<u>Regulatory Commitment</u> Complete MOV Program Category II Design Basis Calculations.	Duane Weninger	4Q/01	2Q/03	Calculations completed and approved.
30	<u>Regulatory Commitment</u> Perform baseline testing of Category II Valves.	Duane Weninger	1Q/03	3Q/03	Completed work packages for testing of Category II Valves.
31	<u>Regulatory Commitment</u> Include Category II MOVs in the MOV Program.	Duane Weninger		In Closure	Revised MOV Program Document which includes Category II MOVs.
<b>AOV PROGRAM</b>					
32	Identify and implement high priority corrective actions resulting from the AOV Program technical self-assessment or program benchmark, and the interface assessment.	John Oswald	4Q/01	1Q/05	Action plan developed and high priority CAP items associated with AOV Program implemented. Target health goal is sustained GREEN by 7/05.
33	Complete Category I System Level Review/Component Level Review (SLR/CLR) calculations.	John Oswald	2Q/02	3Q/03	Calculations completed and approved.
34	Perform baseline testing of Category I AOV Valves.	John Oswald	1Q/03	2Q/03	Completed work packages for Category I AOV Valve Testing.
35	Complete Category II SLR/CLR calculations.	John Oswald	4Q/03	3Q/06	Calculations completed and approved.
36	Perform baseline testing of Category II Valves.	John Oswald	4Q/04	1Q/07	Completed work packages for Category II AOV Valve Testing.

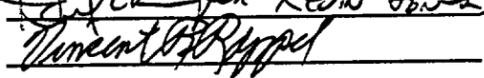
**TIP ACTION PLAN**

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
<b>ISI PROGRAM</b>					
37	Identify and implement high priority corrective actions resulting from the ISI Program technical self-assessment or program benchmark, and the interface assessment.	Mark Lyman	2Q/01	2Q/04	Action plan developed and high priority CAP items associated with Seismic Program implemented. Target health goal is sustained GREEN by 7/05.
<b>IST PROGRAM</b>					
38	Identify and implement high priority corrective actions resulting from the IST Program technical self-assessment or program benchmark, and the interface assessment.	Tom Robinson	2Q/01	2Q/04	Action plan developed and high priority CAP items associated with IST Program implemented. Target health goal is sustained GREEN by 7/05.
<b>FP PROGRAM</b>					
39	Identify and implement high priority corrective actions resulting from the FP Program technical self-assessment or program benchmark, and the interface assessment.	Ray Dyer	2Q/01	2Q/04	Action plan developed and high priority FP items associated with MOV Program implemented. Target health goal is sustained GREEN by 7/05.
<b>EQUIPMENT QUALIFICATION (EQ) IMPROVEMENT PROJECT</b>					
40	<u>Regulatory Commitment</u> Complete implementation of those portions of the EQ Improvement Project as necessary to establish 50.49 compliance.	Ted Hough	2Q/00	2Q/03	All project milestones associated with restoring compliance with 10CFR50.49 completed.
41	Complete Implementation of the EQ Improvement Project.	Ted Hough	2Q/00	1Q/04	All project milestones complete, all project deliverables issued or implemented. Target health goal is sustained GREEN by project completion date.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
<b>GENERAL</b>					
42	Training of targeted personnel from the engineering department, as identified by CNS Training Procedure 1.12, Document Review Committee.	Beth Hannaford	2Q/03	3Q/03	Documentation that CNS personnel impacted by the procedural revisions are identified and trained in accordance with the systematic approach to training.
43	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Beth Hannaford	4Q/02	2Q/03	A written Change Management Plan approved by the Assistant Vice-President.
44	<u>Monitoring – Self-Assessments</u> Perform Interim Self-Assessments to determine the effectiveness of the individual actions taken to improve Engineering Programs. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of Engineering Programs. Self-Assessments to be performed in accordance with 0-CNS-25, Self Assessment, as supplemented by the Generic Program Self-Assessment Guideline.	Scott Freborg	2Q/03	2Q/06	Documentation that the Interim Assessments were performed and determined the effectiveness of actions taken to improve the Engineering Programs. Action Plan would be revised as required based upon results of the Interim Assessments.
45	<u>Verification – Final Assessment</u> Perform Final Effective Assessment in accordance with 0-CNS-25, Self-Assessment, with assistance of Quality Assurance, to establish that the required actions have improved Engineering Programs and the end state is consistent with the stated Objective.	Scott Freborg	4Q/06	1Q/07	Documentation that the Final Effective Assessment was performed and established that the required actions have improved Engineering Programs and that the end state is consistent with the stated Objective.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Key Modifications, Projects, Configuration  
**ACTION PLAN TITLE:** Design Basis Information/Licensing Basis Information (DBI/LBI) Translation Project  
**ACTION PLAN NUMBER:** 5.3.3.1  
**COMPLETION DATE:** 2Q/04  
**ACTION PLAN OWNER:** Kevin Jones  
**FOCUS AREA OWNER:** Vince Roppel

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Cooper Nuclear Station (CNS) has produced lower quality documents such as Operability Determinations and Configuration Changes when these documents have had a higher reliance on locating and understanding the assumptions used in the CNS Safety Analysis or required translation of these assumptions into operating procedures.

**CAUSAL FACTORS:**

1. Retrieval of Design Basis Information is complex and inefficient. (Actions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
2. Engineering personnel lack site-specific knowledge of the Design Basis. (Action 11)

**OBJECTIVES:**

1. Inputs and assumptions for the CNS safety analysis properly translated into the appropriate policies, procedures, and programs.
2. A tool for CNS engineering/operations use that enables better and quicker access to design basis and supporting design information.
3. An improved site wide understanding of the CNS design, supporting design information, and licensing basis.
4. Improved understanding of the design basis, which enables the site to fully utilize the design basis criteria when performing operability determinations or when modifying the plant.

**TIP ACTION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Scope and perform a Design Basis Information/Licensing Basis Information (DBI/LBI) Pilot Project for selected systems.	Kevin Jones		Complete	DBI/LBI Database for selected systems; DBI/LBI Pilot Project Completion Report.
2	Develop lessons learned from DBI/LBI Pilot Project.	Kevin Jones		Complete	DBI/LBI Pilot Project Completion Report.
3	Develop DBI/LBI Translation Project Plan.	Kevin Jones		Complete	DBI/LBI Translation Project Plan.
4	Develop DBI/LBI Translation Project Implementation Phase Project Instructions.	Kevin Jones		Complete	DBI/LBI Translation Project Implementation Phase Project Instructions.
5	Develop DBI/LBI Translation Project Interim Report.	Kevin Jones		Complete	DBI/LBI Translation Project Interim Report.
6	Present DBI/LBI Translation Project Interim Report to NRC.	Kevin Jones		Complete	DBI/LBI Translation Project Interim Report Presented.
7	Complete DBI/LBI Translation Project Implementation.	Kevin Jones	1Q/02	4Q/02	DBI/LBI Database; Project completion documentation.
8	Create an action plan to correct procedure and program discrepancies identified during the implementation. <ul style="list-style-type: none"> <li>• Address immediate actions taken.</li> <li>• Prioritize actions based on safety and risk probability.</li> </ul>	Kevin Jones	1Q/02	1Q/03	Associated action plan generated with notifications.
9	Install DBI/LBI Database on CNS Local Area Network.	Kevin Jones	2Q/03	2Q/03	Installed DBI/LBI Database.
10	Develop Procedures/process for maintaining database.	Kevin Jones	4Q/02	2Q/03	DBI/LBI database maintenance procedure and owner.
11	DBI/LBI database training, as identified by CNS Training Procedure 1.12, of targeted personnel.	Kevin Jones	2Q/03	4Q/03	Lesson plan developed; classroom training on the information retrieval capability of the DBI/LBI database completed.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
12	<p><u>Change Management</u></p> <p>Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.</p>	Kevin Jones	4Q/02	2Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.
13	<p><u>Monitoring – Self-Assessments</u></p> <ul style="list-style-type: none"> <li>Spot-check of Operability Determinations (ODs) and modifications until assessments of Action Plan 5.2.1.2 and 5.3.3.4 are implemented.</li> <li>Perform Interim Self-Assessments (As defined in Action Plans 5.2.1.2 and 5.3.3.4) to determine the effectiveness of the individual actions taken to improve the utilization of design basis information. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness of the utilization of design basis information. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</li> </ul>	Kevin Jones	1Q/03	2Q/04	An Interim Self-Assessment is performed to determine effectiveness of actions taken. Additional or revised Action Plan items may be required based upon results of the Self-Assessment.
14	<p><u>Verification - Final Assessment</u></p> <p>Perform Final Effectiveness Assessment of the DBI/LBI Translation Project Implementation Phase, design basis training administered, and utility of DBI/LBI database. Self-Assessment to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Kevin Jones	1Q/04	2Q/04	Success of this action item will be evaluated with Assessments under Action Plans 5.2.1.2, ODs, and 5.3.3.4, Design Modifications Process.

PILLAR OF EXCELLENCE: Equipment Excellence

FOCUS AREA: Key Modifications, Projects, Configuration

ACTION PLAN TITLE: Unauthorized Modifications Follow-Up Project Completion

ACTION PLAN NUMBER: 5.3.3.3

COMPLETION DATE: 1Q/04

ACTION PLAN OWNER: James Gausman

FOCUS AREA OWNER: Kevin Jones

APPROVAL: J. W. Gausman

APPROVAL: W. Poppel for K. Jones

**PROBLEM STATEMENT:**

Implementation of the "Unauthorized Modifications (UMs) Follow-up Project" plan is not yet complete.

Note: The "Unauthorized Modifications Follow-Up Project" was established in 1998 primarily to resolve open actions that resulted from Nuclear Regulatory Commission (NRC) inspection report (IR) 98-22. While 53 of 61 project action items are complete, several actions remain. A brief history of this project is contained in the "Background" section at the end of this plan.

**CAUSAL FACTORS:**

1. Completion of the remaining action items has not been a priority for the station due to their low safety significance.

Note: This causal factor was addressed by identifying the UM Follow-Up Project in TIP Revision 1 and specifying a schedule for its completion. The schedule for completion of this project has been accelerated under this plan revision.

**OBJECTIVES:**

1. The "Unauthorized Modifications Follow-Up Project" plan is complete and open items from IR 98-22 are resolved.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Complete review of 562 potentially inappropriately dispositioned UMs.	Jim Gausman		Complete	562 completed Engineering Departmental Procedure-21 (EDP-21) Checklists.
2	Complete review of 1478 "White Paper" potential unauthorized modifications.	Jim Gausman	2Q/02	1Q/03	1478 completed EDP-21 Checklists.
3	Perform walkdowns to determine installed configuration for modifications that are normally inaccessible at power.	Jim Gausman	1Q/03	2Q/03	Affected EDP-21 checklists annotated.
4	Prepare design change documents Engineering Evaluations (EEs) and Change Evaluation Documents (CEDs) to address UMs identified in the reviews performed under the UM Follow-Up Project.	Jim Gausman	2Q/03	4Q/03	Approved EEs and CEDs as appropriate.
5	Revise configuration documents to reflect the EE's/CED's developed in Action 4 as well as authorized configuration changes identified in Actions 1 and 2.	Jim Gausman	2Q/03	4Q/03	Revised drawings, databases and procedures as appropriate.
6	Complete remaining open "Unauthorized Modifications Follow-Up Project" matrix action items.	Jim Gausman	1Q/02	4Q/03	Completed matrix action items.
7	Perform a close-out/effectiveness review of UM Follow-Up Project.	Jim Gausman	4Q/03	1Q/04	Completed closeout report.

**BACKGROUND**

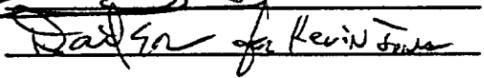
The original "Unauthorized Modification" (UM) project was initiated in response to the identification of a deviation identified in 1995 that could have impacted the design basis of a plant component (NRC IR 96-04). As part of the corrective actions, a sample of Maintenance Work Requests (MWRs) was reviewed to determine the extent of condition of this issue. The results of these samples eventually led to the expansion of the MWR review scope to include the entire population of MWRs from initial plant licensing through June 12, 1996 (95,736 MWRs), at which time corrective actions were put in place to prevent recurrence and address the extent of condition with respect to introduction of unauthorized modifications (Reference SCAQ 96-0363). In 1998, the NRC inspected CNS actions taken under the original "Unauthorized Modification" project (IR 98-22). As a result of that inspection, the NRC issued a violation based on inadequate screening of several MWR populations, and improper evaluation and disposition of several identified UMs. The "Unauthorized Modifications Follow-Up Project" was established in 1998 to resolve open actions that

resulted from NRC inspection IR 98-22. As documented in NPPD's February 22, 1999 violation response, there is reasonable confidence that there are no Unreviewed Safety Questions with respect to these modifications and that the safety significance of these modifications is low.

**PILLAR OF EXCELLENCE:** Equipment Excellence  
**FOCUS AREA:** Engineering Processes  
**ACTION PLAN TITLE:** Design Modification Process  
**ACTION PLAN NUMBER:** 5.3.3.4  
**COMPLETION DATE:** 4Q/05  
**ACTION PLAN OWNER:** Wesley Frewin  
**FOCUS AREA OWNER:** Kevin Jones

APPROVAL: \_\_\_\_\_

APPROVAL: \_\_\_\_\_

 11/21/02  
 for Kevin Jones

**PROBLEM STATEMENT:**

1. In several cases, design modifications have not been delivered and installed in a timely manner to support the operational needs of the station.
2. Additional cases have been cited with long-standing problems with the quality/adequacy of modification packages, problems with inadequate rigor/quality of calculations and analyses, and problems with addressing component obsolescence issues in a timely manner.

**CAUSAL FACTORS:**

Causal factors associated with Problem Statement 1 include:

1. Ineffective engineering work controls (Actions 1a, 1b, 1c)
2. Lack of station alignment (which includes lack of engagement by craft or operations until after the modifications are approved) and identification of roles & responsibilities for Field Engineers (Actions 1d, 1e, 2b)
3. Inconsistent implementation of the modification process (Actions 1a, 1b)

Causal Factors associated with Problem Statement 2 include:

1. Long-standing problems with the quality/adequacy of plant modification packages (Actions 3a-i)
2. Inadequate rigor/quality of calculations, evaluations, and analyses (Action 2a)
3. Timeliness in recognizing (based on design life, manufacturer availability of spare parts or one-for-one replacements) and correcting component obsolescence issues (Action 2c)

**OBJECTIVES:**

1. Modifications prepared as scheduled and meeting quality standards.
2. Clear milestones within the modification process for activities such as document development, training updates, configuration document updates, etc.
3. Clear roles & responsibilities for Engineering (i.e., Field Engineering) during modification implementation.
4. Modification process procedure(s) to address component design life and/or availability/longevity of spare parts and one-for-one replacements.
5. Modification process aligned with industry peers.
6. Design Basis Information/Licensing Basis Information (DBI/LBI) effectively integrated in modification process.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1a	Establish additional management oversight for all modifications.	Kevin Jones		In Closure	Assistant Manager of Design Engineering has direct focus and oversight of outage modifications. (Ref RCR 2001-0969)
1b	Establish project management techniques for modifications that will interface with Systems Applications and Products in Data Processing process.	Dan Buman		In Closure	<ul style="list-style-type: none"> <li>• Issued Project Management Desktop Guide.</li> <li>• Issued 2002-2007 Cooper Nuclear Station (CNS) Strategic Plan to improve integrated work planning, scheduling &amp; execution.</li> <li>• Issued 2002/2003 Project Management Plan.</li> </ul> (Ref RCR 2001-0969)
1c	Establish clear milestones within the modification process for activities such as document development, training updates, configuration document updates, etc.	Dan Buman		In Closure	Detailed milestones and a performance indicator for these milestones. (Ref RCR 2002-0051)

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1d	<ul style="list-style-type: none"> <li>Revise modification process Procedure 3.4, Configuration Change Control, to specify participation from site groups outside of Engineering (i.e., Operations, Maintenance, Training, etc.) in the development of conceptual &amp; final design.</li> <li>This includes establishing controls in the design change process to require craft input prior to completing conceptual design. (Transfer from Action Plan 5.2.6.3)</li> </ul>	Elizabeth Kernes Krause		In Closure	Procedure 3.4, Revision 33 issued. (Ref RCR 2002-0717)
1e	Conduct training on new procedure 3.4 revision to target population.	Linda Dewhirst		In Closure	SAP Attendance Report for Training Lesson ESP0010220. (Ref RCR 2002-0717)
2a	Perform assessment to address inadequate rigor/quality of calculations/analyses.	Elizabeth Kernes Krause		In Closure	Corrective Action No. RCR 2002-1232 documented this assessment and determined that no inadequate condition exists.
2b	Establish expectations for design engineers field support during design development and implementation on assigned modifications/design changes. (Transfer from Action Plan 5.2.6.3)	Kevin Jones		In Closure	Procedures 0-CNS-18, 0-CNS-20, 3.4, 3.7 & EDP-12 collectively reflect roles & responsibilities (expectations) for field engineering. (Ref. RCR 2002-1034)
2c	Review modification process implementing procedures and revise as appropriate to ensure that consideration of component design life and availability/longevity of manufacturer spare parts and one-for-one replacements are appropriately prompted such that planned replacement can be implemented.	Wesley Frewin		In Closure	Engineering Procedure EDP-06 was revised to add appropriate controls within the modification process to address component/part obsolescence issues to prevent untimely identification.
3a	Participate in the Nuclear Management Corporation (NMC) Fleet Modification Process Initiative Group activities and assist in procedure and training lesson development.	Wesley Frewin	3Q/02	2Q/03	a) NMC Fleet modification procedures. b) NMC Fleet training lesson plans.
3b	Benchmark fleet implementation activities to ensure consistency and process alignment.	Wesley Frewin	2Q/03	2Q/03	Benchmarking report with inputs on implementation and transition processes.

**TIP ACTION PLAN**

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
3c	Reconcile CNS Quality Assurance Program (QAP) to support implementation of NMC Fleet modification process.	Sterling Bray	2Q/03	1Q/04	QAP alignment with NMC Fleet modification process.
3d	Reconcile current licensing commitments within the CNS modification process for alignment with NMC Fleet process.	Paul Fleming	2Q/03	1Q/04	Licensing commitment alignment with NMC Fleet modification process.
3e	Ensure transition and integration with other CNS processes.	Wesley Frewin	3Q/03	3Q/03	CNS supporting procedures aligned with NMC Fleet modification process.
3f	Prepare training material and train target personnel on NMC Fleet modification process.	Linda Dewhirst	4Q/03	4Q/03	Target population trained.
3g	Station Operations Review Committee (SORC) review and approval of site procedures.	Wesley Frewin	1Q/04	1Q/04	SORC-approved procedures for implementation of NMC Fleet modification process.
3h	Implement procedures and transition rules.	Wesley Frewin	1Q/04	2Q/04	Modification process procedures issued.
3i	<ul style="list-style-type: none"> <li>• Perform a Self-Assessment of the CNS implemented fleet modification process.</li> <li>• Assess effective use of DBI/LBI within the modification process. (This action step relies on Action Plan 5.3.3.1 for DBI/LBI translation project implementation)</li> </ul>	Wesley Frewin	4Q/05	4Q/05	Modification process Self-Assessment report and additional actions as needed.
4	<p><u>Change Management</u></p> <p>Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.</p>	Wesley Frewin	2Q/03	1Q/04	A written Change Management Plan approved by the Assistant to the Site Vice-President.
5	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform an interim Self-Assessment 6 months after issuance of Action Plan to determine the effectiveness of current Modification Process and the individual actions taken to improve the Modification Process. Self-Assessment to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Dan Buman	1Q/04	2Q/04	An interim Self-Assessment is performed that confirms the effectiveness of actions taken. Additional or revised Action Plan items may be required based upon results of the Self-Assessment.

**TIP MODIFICATION PLAN**

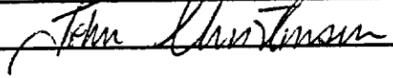
<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
6	Verification – Final Assessment Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have addressed the Action Plan Objectives.	Wesley Frewin	4Q/05	4Q/05	Final Effective Assessment is performed to establish that the required actions have improved the Modification Process, and the end state is consistent with the stated Objective.

**APPENDIX A-5**

**TIP ACTION PLANS**

**TRAINING EXCELLENCE PILLAR**

**PILLAR OF EXCELLENCE:** Training Excellence  
**FOCUS AREA:** Training Program  
**ACTION PLAN TITLE:** Line Ownership of Training  
**ACTION PLAN NUMBER:** 5.4.1.1  
**COMPLETION DATE:** 3Q/03  
**ACTION PLAN OWNER:** Mark Schaible  
**FOCUS AREA OWNER:** John Christensen

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Training has not consistently achieved desired results due to ineffective line ownership of training.

**CAUSAL FACTORS:**

1. Unclear roles and responsibilities for line ownership of training. (Actions 1, 3)
2. Failure of station management to hold line managers and supervisors accountable for proper ownership of training. (Action Plan 5.1.1.1)
3. Lack of clear ownership measures and Performance Indicators. (Action 2)
4. Deficiencies in plant performance areas are not being identified and included in initial and continuing training for site workers. (Actions 2, 3, 5)

**OBJECTIVES:**

1. Clearly defined line management roles and responsibilities for training.
2. A management team that understands and is accountable for their roles and responsibilities related to training.
3. Line managers and incumbents identify opportunities for improved performance through utilization of training.
4. Line ownership is monitored for effectiveness and corrective action initiated for performance decline.

**TRAINING PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Develop and communicate expectations for line management ownership of accredited training programs.	Mike Coyle		Complete	Written document containing expectations delivered to line management responsible for accredited training programs.
2	Implement a process to monitor and evaluate management ownership of training. The Cooper Nuclear Station (CNS) Training Council will review this measurement tool.	John Christensen		Complete	Implemented process to monitor and evaluate management ownership of training.
3	Revise Procedures NTP 1.0, Nuclear Training Department Management and Administration and O-CNS-47, Performance Improvement Committees as required to refine the expectations for the various Plant Training Committees, including implementation of a Training Council, Performance Indicators, Training Effectiveness Scorecards, and Line Ownership Scorecards.	Tim Donovan		Complete	Approved Procedures NTP 1.0, Nuclear Training Department Management and Administration and O-CNS-47, Performance Improvement Committees, that provide management's expectations of the Plant Training Committees, requiring identification and resolution of performance issues.
4	Conduct a self-assessment on management ownership of training.	Chris Sunderman	4Q/02	1Q/03	Self-assessment results indicating effective corrective action and additional actions, as required.
5	Provide training to line managers and supervisors on the Systematic Approach to Training.	Tim Donovan	3Q/03	3Q/03	Training to line managers and supervisors completed and documented.
6	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Mark Schaible	4Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Site Vice-President.

**TIT LATION PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
7	<p><u>Monitoring – Self-Assessments</u></p> <p>Perform Self-Assessment to determine the effectiveness of the individual actions taken to improve line management ownership of training. Revise Action Plan based upon Interim Assessment, as required, to improve effectiveness. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.</p>	Mark Schaible	4Q/02	3Q/03	Interim Assessments are Performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.
8	<p><u>Verification – Final Assessment</u></p> <p>Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved line management ownership of training and the end state is consistent with the stated Objective.</p>	Mark Schaible	4Q/02	3Q/03	Final Effective Assessment is performed to establish that the required actions have improved the Work Control Process, and the end state is consistent with the stated Objective.

**BACKGROUND:**

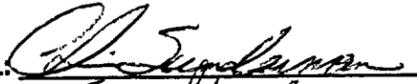
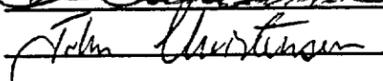
Line ownership of Training has been a recurring problem. Ownership issues contributed to the Maintenance and Technical Training Programs being placed on probation in 1996 and again in 2000. In 2001, during a self-assessment of the Operations Training Programs, line ownership was again cited as an area requiring improvement.

After the 2001 self-assessment revealed that line ownership continued to be a problem, it was determined that the expectations regarding line ownership of training were not clear and concise. In addition, there was no method in place to measure the adequacy of line ownership. As a result, clear expectations were established and promulgated to the organization along with a process that provides for early identification of a pending ownership problem. This process, which is governed by procedure O-CNS-47, Performance Improvement Committees drives the use of a tool known as the Training Program Ownership Scorecard.

The Training Council reviews the scorecard results and monitors the correction of the behaviors that contributed to the low score. The scorecard results are also rolled up into a site Performance Indicator that is reviewed and discussed by the Management Performance Review Committee.

**TIP ACTION PLAN**

**PILLAR OF EXCELLENCE:** Training  
**FOCUS AREA:** Training Program  
**ACTION PLAN TITLE:** Evaluation and Qualification  
**ACTION PLAN NUMBER:** 5.4.1.2  
**COMPLETION DATE:** 4Q/03  
**ACTION PLAN OWNER:** Chris Sunderman  
**FOCUS AREA OWNER:** John Christensen

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

Worker knowledge, proficiency, and qualification is inconsistently evaluated and verified to expected standards within the accredited training programs.

**CAUSAL FACTORS:**

1. Lack of instructor knowledge concerning development of higher order test questions and exams. (Action Plan 5.4.1.3)
2. The tool to verify personnel qualifications is difficult to use. (Actions 2, 3a, 3b)
3. Personnel are not following procedural requirements for developing evaluation tools, verifying personnel qualifications, and implementing On-the-Job Training/Task Performance Evaluation (OJT/TPE). (Actions 4, 5, Action Plan 5.1.1.1)

**OBJECTIVES:**

1. Training material that appropriately evaluates and verifies worker knowledge, skill, and proficiency.
2. The staff verifies qualification levels prior to performing tasks independently.

**TRAINING PLAN**

NO	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Conduct quarterly monitoring of the use of the qualification tracking system by the line organizations to identify problem areas.	John Christensen	1Q/02	4Q/03	Quarterly monitoring reports with actions to correct noted problems.
2	Revise Procedure 0.17, Selection and Training of Station Personnel, to provide guidelines, expectations, and roles and responsibilities for Cooper Nuclear Station (CNS) staff relative to maintaining qualification status.	Tim Donovan		Complete	Revised and approved procedure.
3a	In cooperation with the line, evaluate how individual qualifications for task performance will be verified prior to assigning individuals work.	Chris Sunderman		Complete	Documented evaluation results and identified recommendations.
3b	<ul style="list-style-type: none"> <li>Revise 0.17 to reflect that site personnel will use Systems Applications and Products in Data Processing (SAP) to verify qualification and attendance.</li> <li>Communicate to site personnel the basis for using SAP and the methodology for using SAP to verify qualifications and attendance.</li> </ul>	Tim Donovan		In Closure	Revised 0.17 reflecting SAP as new tool to verify personnel qualification.  Communication to site personnel completed.
4	Conduct an assessment in the Maintenance and Technical training programs that is focused on evaluation of the effectiveness of actions taken to address OJT/TPE performance and evaluation tool issues.	Chris Sunderman	3Q/02	4Q/02	Completed and documented assessment report with issues identified.
5	Conduct an assessment in the Operations training program focused on evaluation of the effectiveness of actions taken to address OJT/TPE performance and evaluation tool issues.	Mark Schaible	4Q/02	1Q/03	Completed and documented assessment report with issues identified.

<b>NO</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
6	<u>Change Management</u> Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Chris Sunderman	4Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Vice-President.
7	<u>Monitoring – Self-Assessments</u> Self-Assessments performed per Actions 1, 4 and 5 will be used to determine the effectiveness of the actions taken to improve quality of exams and validation of individual staff qualification status, as well as process implementation associated with OJT/TPE. Revise Action Plan based upon this assessment, as required, to improve effectiveness. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Chris Sunderman	1Q/02	4Q/03	Interim Assessments are Performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.
8	<u>Verification – Final Assessment</u> Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self Assessment to establish that the required actions have improved quality of exams and validation of individual staff qualification status, as well as process implementation associated with OJT/TPE and the end state is consistent with the stated Objective.	Chris Sunderman	4Q/03	4Q/03	Final Effectiveness Assessment is performed to establish that the end state is consistent with the stated Objective.

**BACKGROUND:**

The Continuing Instructor Training Program did not focus on identified instructor deficiencies in 2000 and 2001. As a result, a 2001 assessment found that the instructor abilities required to develop evaluation tools that verify the knowledge and proficiency of the incumbents had deteriorated. Continuing Instructor Training was developed to address the shortcoming and was delivered to the Operations instructors in the first quarter of 2002 and to the Maintenance and Technical instructors in the second and third quarters of the year.

Shortcomings in the delivery of OJT/TPE were identified in 2000 as a part of the Maintenance and Technical World Association of Nuclear Operators visit and subsequent probation. As a result, the OJT/TPE program was revised to incorporate the use of a protocol and management expectation brief. In addition, a limited number of individuals with superior standards were identified and required to observe each OJT/TPE instructor in the delivery of training in order for the instructor to maintain the qualification. Subsequently, in 2001, after the OJT/TPE Training Program had been upgraded, each OJT/TPE instructor was required to attend the revised OJT/TPE Instructor Training in order to maintain the qualification. An OJT/TPE Instructor must now re-qualify on a bi-annual basis.

The tools used to monitor and verify incumbent qualifications have also been difficult to use in the past. To remedy this, new tools have been developed and implemented along with much more stringent expectation regarding their use.

**PILLAR OF EXCELLENCE:** Training  
**FOCUS AREA:** Training Program  
**ACTION PLAN TITLE:** Training Organizational Effectiveness  
**ACTION PLAN NUMBER:** 5.4.1.3  
**COMPLETION DATE:** 2Q/05  
**ACTION PLAN OWNER:** Tim Donovan  
**FOCUS AREA OWNER:** John Christensen

**APPROVAL:** Steve Blake <sup>for</sup> Tim Donovan  
**APPROVAL:** John Christensen

**PROBLEM STATEMENT:**

Training personnel do not consistently adhere to training processes.

**CAUSAL FACTORS:**

1. Training administrative processes are unnecessarily complex. (Action 3, 5)
2. Roles and responsibilities are not clearly defined. (Action 2)
3. Ineffective communications and change management for implementing process revisions and enhancements. (Action 1, Action Plan 5.1.1.10)
4. Instructor continuing training has not addressed identified instructor performance issues. (Action 4)

**OBJECTIVES:**

1. Training processes are clearly understood and easily implemented.
2. Changes to processes are effectively communicated.

**TIF ACTION PLAN**

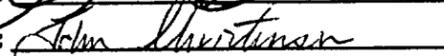
<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
1	Implement a standard communication model that assures consistent alignment between training groups and provides a structured format for communicating change to the staff.	John Christensen		Complete	Written criteria that assure consistent communications within the department.
2	Develop a "Conduct of Training" procedure that provides the guidelines for the Training Department infrastructure.	Tim Donovan	4Q/02	2Q/03	Approved Conduct of Training procedure.
3	Implement a training program effectiveness scorecard that measures the effectiveness of training relative to the establishment of measurable goals (Procedure 0-CNS-47, Performance Improvement Committee). The scorecard measures areas such as Observations, Feedback, Operating Experience, Performance Issues, Instructor In-Plant Presence, and Training Program Priorities.	Tim Donovan		Complete	Revision to Procedure 0-CNS-47, Performance Improvement Committee.
4	Conduct instructor continuing training sessions that address identified instructor skill weaknesses. This training will include content to improve exam item development and conduct of task analysis. (This item also tied to Action Plan 5.4.1.2.	Tom Doray		Complete	Instructor Continuing Training Lesson Plan and attendance sheets indicating qualified instructors have successfully completed continuing instructor training.
5	Develop and implement a training process simplification project with the purpose of producing improved procedures and change process controls. This will incorporate the use of industry benchmarking.	Tim Donovan	2Q/03	4Q/04	Revised, simplified training processes.
6	<u>Change Management</u> Establish a Change Management Plan in accordance with the Cooper Nuclear Station (CNS) Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Tim Donovan	3Q/02	4Q/02	A written Change Management Plan approved by the Assistant to the Site Vice-President.

<b>NO.</b>	<b>ACTION</b>	<b>ACTION OWNER</b>	<b>START DATE</b>	<b>END DATE</b>	<b>DELIVERABLE</b>
7	<u>Monitoring – Self-Assessments</u> Perform Self-Assessment to determine the effectiveness of the individual actions taken to improve methods of communicating expectations and managing change. Revise Action Plan based upon this assessment, as required, to improve effectiveness. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Tim Donovan	3Q/02	4Q/04	Interim Assessments are Performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.
8	<u>Verification – Final Assessment</u> Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment, to establish that the required actions have improved methods of communicating expectations and managing change and the end state is consistent with the stated Objective.	Tim Donovan	4Q/04	2Q/05	Final Effective Assessment is performed to establish that the required actions have improved the Work Control Process, and the end state is consistent with the stated Objective.

**BACKGROUND:**

In 2000, it was identified that the Training Staff's performance did not meet expectations. Investigation determined that the primary causes to the performance shortcomings were frequent and significant changes to the Training Department's programs and processes without effective change management principles used to manage the changes. To address the problem, a communications plan has been developed and implemented that ensures the Training Staff is aware of changes in their own department as well as the issues and challenges that face the entire station. Continuing Instructor Training was also developed and delivered regarding the procedures that implement the Analysis Design Development Implementation Evaluation process as it is specified in the Training Department's procedures.

**PILLAR OF EXCELLENCE:** Training  
**FOCUS AREA:** Training Program  
**ACTION PLAN TITLE:** Training Program and Process Enhancements  
**ACTION PLAN NUMBER:** 5.4.1.4  
**COMPLETION DATE:** 4Q/03  
**ACTION PLAN OWNER:** Linda Dewhirst  
**FOCUS AREA OWNER:** John Christensen

**APPROVAL:**   
**APPROVAL:** 

**PROBLEM STATEMENT:**

The purpose of this Action Plan is to track the remaining actions of the Training Excellence Plan.

**CAUSAL FACTORS:**

Not Applicable.

**OBJECTIVES:**

1. Track improvement actions for training programs so they will meet or exceed industry standards and guidelines.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
1	Upgrade and implement the following training programs to best practices as defined by Institute of Nuclear Power Operations (INPO): Electrical Maintenance (EM) Program. This includes: <ul style="list-style-type: none"> <li>• Benchmark the EM Program against industry peers.</li> <li>• Facilitate an INPO assist visit.</li> </ul> Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements by 0-CNS-06.	Bob Wulf		Complete	Implementation of training program materials that fully meet or exceed industry guidelines and Cooper Nuclear Station (CNS) staff needs.
2	Upgrade and implement the following training programs to best practices as defined by INPO: Maintenance Supervisor Training Program. This includes: <ul style="list-style-type: none"> <li>• Complete material and program upgrades.</li> <li>• Implement approved recommendations.</li> <li>• Complete training schedule for Maintenance Supervisors and Crew Leads.</li> <li>• Assess and provide delta training for those already qualified.</li> </ul>	Bob Wulf		Complete	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.
3	Upgrade and implement the following training programs to best practices as defined by INPO: Shift Technical Engineer (STE). This includes: <ul style="list-style-type: none"> <li>• Evaluate the STE task analysis. Update the STE training material. Develop a lesson plan for casualty management concepts.</li> <li>• Evaluate training needs and assess delta training.</li> </ul>	Mark Schaible		Complete	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.

**TIP ACTION PLAN**

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
4	Upgrade and implement the following training programs to best practices as defined by INPO: Radiation Protection/Chemistry program. This includes: <ul style="list-style-type: none"> <li>• Material revision and development.</li> <li>• Conduct of delta training.</li> </ul>	Linda Dewhirst	1Q/02	3Q/03	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.
5	Upgrade and implement the following training programs to best practices as defined by INPO: EM Program. This includes: <ul style="list-style-type: none"> <li>• Conduct of a benchmark visit.</li> <li>• Review of task analysis and objectives.</li> <li>• Revision/development of training material.</li> <li>• Assessment and provision of required delta training.</li> </ul> Benchmarking is to be performed in accordance with 0-CNS-06, Guideline for Benchmarking. Benchmarking goals and objectives will be established in accordance with the requirements by 0-CNS-06.	Chris Sunderman	1Q/02	3Q/03	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.
6	Upgrade and implement the following training programs to best practices as defined by INPO: Engineering support program. This includes: <ul style="list-style-type: none"> <li>• Complete orientation material development.</li> <li>• Complete job/task analysis for position-specific population.</li> <li>• Complete material revisions/development.</li> <li>• Provide required delta training.</li> </ul>	Linda Dewhirst	1Q/02	4Q/03	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.
7a	Upgrade and implement the following training programs to best practices as defined by INPO: Shift Technical Engineer. This includes: <ul style="list-style-type: none"> <li>• Completion of STE delta training.</li> </ul>	Mark Schaible	1Q/02	4Q/03	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
7b	Upgrade and implement the following training program to best practices as defined by INPO:  Station Operator Program. This includes: <ul style="list-style-type: none"> <li>• Completion of Non Licensed Operator (NLO) tabletop task analysis to reanalyze NLO tasks.</li> <li>• Revision/development of training materials.</li> </ul> Provision of required delta training.	Mark Schaible	1Q/02	4Q/03	Implementation of training program materials that fully meet or exceed industry guidelines and CNS staff needs.
8	Review the newly revised accreditation objectives and criteria in ACAD 02-001, and revise CNS training processes and procedures as required. This includes: <ul style="list-style-type: none"> <li>• Revision of training processes/procedures.</li> <li>• Development of training on new processes.</li> <li>• Delivery of training to instructors.</li> </ul>	Tim Donovan	1Q/02	1Q/03	Approved and implemented training process and procedures that implement industry guidelines and standards.
9	Perform Self-Assessments that focus on the effectiveness of training program updates implemented by this Action Plan.	Tim Donovan	3Q/03	4Q/03*	Completed assessment report. Issues identified entered in Corrective Action Program for resolution.
10	<u>Change Management</u>  Establish a Change Management Plan in accordance with the CNS Change Management Guideline that communicates and reinforces the changes to expectations, requirements, roles and responsibilities.	Linda Dewhirst	4Q/02	1Q/03	A written Change Management Plan approved by the Assistant to the Vice-President.

\* Actual Date is dependent upon INPO accreditation team visit schedule, which has not yet been determined.

NO.	ACTION	ACTION OWNER	START DATE	END DATE	DELIVERABLE
11	<u>Monitoring – Self-Assessments</u> Perform Self-Assessments per Action 9 to determine the effectiveness of the individual actions taken to improve maintenance of training programs to industry standards. Revise Action Plan based upon this assessment, as required, to improve effectiveness. Self-Assessments to be performed in accordance with 0-CNS-25, Self-Assessment.	Linda Dewhirst	4Q/02	4Q/03	Interim Assessments are performed to determine effectiveness of actions taken. Action Plan is revised as required based upon results of the Interim Assessments.
12	<u>Verification – Final Assessment</u> Perform Final Effectiveness Assessment in accordance with 0-CNS-25, Self-Assessment per Action 9 to determine the stated Action Plan Objectives have been met.	Linda Dewhirst	4Q/03	4Q/03	Final Effectiveness Assessment performed; end state is consistent with the stated Objectives.