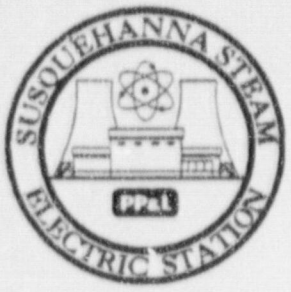
PROCEDURE COVER SHEET

	NUCLEAR DEPARTMENT PROCEDURE **CORRECTIVE ACTION PROCESS EFFECTIVENESS ASSESSMENT**	NASI-00-507 Revision 0 Page 1 of 18

QUALITY CLASSIFICATION: ☐ QA Program ☒ Non-QA Program	APPROVAL CLASSIFICATION: ☐ Plant ☐ Non-Plant ☒ Instruction

EFFECTIVE DATE: 10-22-97

PERIODIC REVIEW FREQUENCY: N/A

PERIODIC REVIEW DUE DATE: N/A

RECOMMENDED REVIEWS:

None.

Procedure Owner: W. L. Brown - APS Senior Engineer

Responsible Supervisor: APS Supervisor

Responsible FUM: NAS Manager

Responsible Approver: NAS Manager

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Procedure Revision Summary

Title: Corrective Action Process Effectiveness Assessment

New Issue

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1.0 PURPOSE

The purpose of this instruction is to describe a consistent approach for periodically assessing the effectiveness of the Corrective Action Process.

2.0 POLICY/DISCUSSION

Effectiveness of the Corrective Action Process should be determined through follow-up of examples of potentially ineffective corrective actions and analysis of Corrective Action Process indicators. Corrective action effectiveness should be determined through information on the current frequency and significance of previously identified problems. This information can be obtained by conducting observations in the problem areas and conducting interviews with individuals familiar with the problem areas.

An optimum approach to determine the effectiveness of the Corrective Action Process is to use a combination of compliance-based and performance-based assessment techniques.

Compliance-Based Approach Includes:

- Review of related procedures.
- Evaluation to determine if procedures meet the requirements.
- Evaluation to determine if the procedures are adequately implemented.
- Identification and correction of gaps.

Performance-Based Approach Includes:

- Review of performance results.
- Evaluation to determine if problems are adequately fixed.
- Cause determination for problems not fixed.
- Correction of problems and causes of problems.

The general objectives of conducting an assessment of the Corrective Action Process are to:

- Determine the overall effectiveness of the Corrective Action Process.
- Identify process strengths and weaknesses.
- Identify conditions adverse to quality.
- Recommend solutions to fix problems and causes of problems.

3.0 REFERENCES

3.1	NDAP-00-0110	Nuclear Department Self-Assessment
3.2	NDAP-QA-0702	Condition Report
3.3	NASP-00-501	Conduct of Assessment Projects
3.4	NASI-00-501	Assessment Project Plans
3.5	INPO 96-006	Performance Objectives & Criteria for Nuclear Generating Stations

4.0 RESPONSIBILITIES

4.1 Supervisor-APS

4.1.1 Ensures that APS personnel are provided with the resources and training necessary to achieve effective implementation of this instruction.

4.1.2 Assists APS personnel in scoping and planning the assessment project.

4.1.3 Provides support in formation of an adequate assessment team.

4.1.4 Participates in meetings and/or discussions with customer to help focus customer expectations, APS role in the assessment and obtaining commitment from the customer to develop an action plan in response to the assessment report.

4.1.5 Assures implementation of this procedure.

4.2 Assessment Team Leader/Facilitator

4.2.1 Obtains customer's expectations for the assessment (schedule requirements, cost limits, special project deliverables, etc.).

4.2.2 Prepares an assessment plan using the guidance contained in NASI-00-501 that includes the following items.

- Objective (e.g., to determine the effectiveness of the Corrective Action Process and improve process and corrective action effectiveness).

- Scope (should include full assessment of complete Corrective Action Process and a review of follow-up effectiveness).
- Identification of customer and process owner.
- Methodology (This procedure can be referenced as the methodology to be used.)
- Assessment Team (Identification of team members and their qualifications.)
- Deliverables.

4.2.3 Assures that an adequate team is assembled to perform the assessment.

4.2.4 Schedules and conducts a team kick-off meeting. The following items should be presented and addressed at the kick-off meeting.

- Overview of assessment project plan and schedule.
- Team member responsibilities, roles, availability, and commitment.
- Overview of methodology or indoctrination and training of the team. (The Corrective Action Process Effectiveness Checklist contained in Attachment A should be used.)
- Other items, as appropriate.

4.2.5 Assures that the assessment plan is followed and the steps outlined in the Corrective Action Process Effectiveness Checklist contained in Attachment A are accomplished.

4.2.6 Assures that the Corrective Action Process Effectiveness Evaluation Form (Attachment B) is completed.

4.2.7 Prepares a final assessment report.

4.2.8 Assures implementation of this procedure.

4.3 Assessment Process Services (APS) personnel are responsible for implementing this procedure for assigned projects.

5.0 DEFINITIONS

Definition of Key Terms can be found in NASP-00-501, Paragraph 5.0.

5.1 Problem Area Classification - The process of reviewing and evaluating a sample of Condition Reports to identify similar recurring conditions and grouping those examples under deficiency headings that relate to a weakness in one of the attributes of an effective Corrective Action Process.

5.2 Process Owner - An individual with responsibility for the process assessed and with the authority to implement appropriate corrective action.

5.3 Customer - The individual who requests or directs that an assessment project be conducted. The Customer sets the expectations for the project and is the person to whom the assessment project results are directed.

6.0 PROCEDURE

6.1 **Project Initiation** - Assessment activities to evaluate the effectiveness of the Corrective Action Process are performed on a periodic basis. Corrective Action Process Effectiveness Assessments will be initiated by either the Manager-NAS and/or the Corrective Action Process Owner.

6.2 **Team Identification and Commitment** - The Supervisor-APS, assessment customer, team leader and/or team facilitator should work together to build an assessment team that will be sufficient in numbers and contain the necessary expertise, knowledge and experience to assure success of the assessment. The Supervisor-APS and the assessment customer should assure that the selected team members will be sufficiently excused from their regular duties to meet the demands of the assessment. The customer and the team leader and/or facilitator should assure that the appointed team members are able to, and do commit to, their role in conducting the assessment.

6.2.1 Criteria for Team Leader/Facilitator

- Experience in assessment techniques and methodology.
- Knowledge of Corrective Action Process.
- Broad perspective of plant operation.
- Credibility with Management, Supervision and Team.
- Good communication skills.
- Management skills needed to keep team focused on objectives.
- High standards.

6.2.2 Criteria for Team Members

- Knowledge of assessment techniques and methodology.
- Experience and/or knowledge of Corrective Action Process.
- Good communication skills.
- High standards.

6.3 Assessment Preparation

The following information should be obtained and reviewed by the team prior to starting the assessment.

6.3.1 Description of the Corrective Action Process, NDAP-QA-0702, Condition Report.

6.3.2 List of CRs since last assessment or some predetermined date.

6.3.3 List of adverse trends identified by the Corrective Action Process.

6.3.4 LERs and other high level events.

6.3.5 Previous Corrective Action Effectiveness Assessments or Evaluations.

6.3.6 INPO evaluations and assists in area, if any.

6.3.7 NRC Corrective Action Process Audits, Inspections, etc.

6.3.8 Internal Corrective Action Process QA Audits.

6.3.9 List of problem areas that indicates either ineffective corrective actions or programmatic problems that could result in ineffective corrective actions.

6.3.10 Other related information from internal sources (QA, ISES, QC, ERTs, Self Assessments, etc.).

6.3.11 Other related information from external sources (Industry Events, CMAP, etc.).

NOTE: Start a list of potential problem areas.

6.4 Problem Area Classification

Using a sample of Condition Reports selected and other gathered information, sort the data into functional areas. Then, group the data with common symptoms of observed performance weaknesses into categories. Grouping such as:

- Mispositionings
- Contamination Control
- Control of Temporary Modifications
- Maintenance Practices, etc.

Note: The INPO Performance Objectives can be used.

At this initial stage, do not group items for more complex issues, such as procedure compliance, supervisory involvement, etc.

6.4.1 Classify this raw information under appropriately selected deficiency headings.

a. Post the deficiency heading.

b. Place each sample under a deficiency heading. Include the date, a brief description, and the reference (CR number).

c. As the number of examples grow, the deficiency starts to become a developing potential problem area.

d. Move examples around. If a number of examples start to form a new pattern, or finer deficiency, create a new deficiency heading.

e. Avoid developing a potential problem area with one or two examples, unless they are very significant on their own.

6.4.2 Compile a list of potential problem areas using the deficiency headings and examples generated above.

6.5 Evaluate Potential Problem Areas

Review the list of problem areas for the following:

6.5.1 Review the chronological development of the potential problem areas.

6.5.2 Determine if repeat incidents have occurred. If so, why?

6.5.3 Determine if documented evidence (or preventive) actions were of sufficient quality and timeliness to prevent recurrence.

6.5.4 Determine if documented cases (or industry assessments) were of sufficient quality and timeliness to prevent recurrence.

6.5.5 Determine if the list and analysis of previous occurrences were of sufficient quality and timeliness to identify potential adverse trends.

6.5.6 Determine if adverse trends were identified and if broader corrective actions were taken as a result of the adverse trend.

6.5.7 Evaluate and then categorize the identified problem areas and associated examples using the following attributes of effective Corrective Action Processes.

- Examples that may indicate problems with **condition identification**.
- Examples that may indicate problems with **condition evaluation**.
- Examples that may indicate problems with the identification or correction of **adverse trends**. Include CFAR (an NPRDS application) in this area.
- Examples that may indicate problems with timeliness or effectiveness of **corrective actions**.
- Examples that may indicate problems with inadequate follow-up on the **effectiveness or monitoring of corrective actions**.
- Examples that may indicate problems with effectively incorporating **industry experience**.

Also note examples that indicate that the attributes are routinely met or exceeded.

6.6 Interview Line Management and Process Owner

6.6.1 Interview line management in the particular area being assessed and ask for their perceptions on the effectiveness of the Corrective Action Process and ask for any particular examples of observed weaknesses. Update the list of potential problem areas to include these examples for follow-up.

During the interviews, emphasize the following:

- Topics where managers/supervisors suspect improvements could be made (ask for examples, if possible).
- Topics of special interest to manager/supervisor.
- Topics where manager/supervisor believes performance is strong.

6.6.2 Provide a copy of the Problem Area List to the Process Owner and obtain his/her comments and perspective.

6.7 Evaluation of Key Attributes to the Effectiveness of Corrective Actions

Identify items that can not be obtained from reviewing Condition Reports by implementing the following activities. Update the list of problem areas as appropriate.

6.7.1 Conduct observations of field activities and conditions and conduct interviews with personnel to verify that conditions meeting the criteria for reporting are being identified and reported.

6.7.2 Obtain and analyze precursor adverse trends that should be included as a part of line self-assessment activities and reported as Level 3 Condition Reports.

6.7.3 Conduct interviews with line personnel to ensure that lessons learned from previous industry or in-house experience is being effectively communicated and incorporated.

6.8 Verify and Validate Problem Areas

Verify and validate the examples documented in the problem area list to determine if they are applicable examples. Place valid examples under the appropriate attribute category. Note: To assess the area of **condition evaluation**, additional follow-up and observations of the CR process will have to be performed.

6.9 Develop Observations

Evaluate the data gathered in performing the activities described in 6.4 through 6.8 and document the results as "observations". These observations will provide the basis for grading and commenting on the effectiveness of the Corrective Action Process. (See Attachment B).

Follow-up on the examples included in the documented observations to understand why the particular step(s) of the Corrective Action Process was ineffective. Document these results in the observations.

Use the following guidance when developing observations.

6.9.1 Document the chronological development of the examples and the corrective actions.

6.9.2 Provide sufficient details to determine problem (programmatic cause) with the Corrective Action Process. Consider using key words to help focus on the problem.

6.9.3 Provide cause and impact of example (e.g., repeat incident or increased potential for a repeat incident).

6.9.4 Document the extent of the issue based on observations and/or interviews and/or document reviews.

6.10 Development of Problem Statements and Process Strengths

Based on the number and significance of examples found in each area (or performance that consistently meets or exceeds expectations), develop problem statements (and strengths). Verbally present these problem statements and strengths, along with supporting examples and causes to the assessment team for agreement and buy-in. Follow-up and modify, as appropriate.

Use the following guidance when developing problem statements.

6.10.1 Classify identified problems by the step of the Corrective Action Process adversely impacted.

6.10.2 Use the key words developed as part of the observations to assist in classification.

6.10.3 The most frequent and/or most significant examples in a particular area are the candidates for problem statements.

6.10.4 Typically need at least three examples to develop problem statements.

6.11 Finalize Results

Finalize the observations, problem statements and strengths. Using Attachment B, Corrective Action Process Effectiveness Evaluation, provide an assessment grade and comment in each of the attribute areas. Team leader will compile and integrate the results and present results to the customer.

Key Points to Use When Finalizing Results

- Must be readable to customer and plant management.
- Communicate the facts with appropriate perspective (a problem or opportunity to improve).
- Answer the question "SO WHAT?", i.e., "So what if this condition exists, what are the adverse consequences?"
- Provide the extent as well as the significance of each fact.
- Present causes of problems that are known.

6.12 Initiate Corrective Action

Based on results, team leader will request that the customer initiate corrective action whenever a 4 or 5 grade is obtained to improve process performance or escalate the issue if more than one effectiveness review indicates that performance remains at the 4 or 5 grade level (i.e., the problem is not being resolved). The next periodic assessment will follow-up on previously identified effectiveness review issues.

6.13 Future Assessment Improvement

Based on experience using this process, update the attributes, grading criteria and overall process to improve its effectiveness for the next assessment.

7.0 RECORDS

There are no QA records generated as the result of this procedure.

CORRECTIVE ACTION PROCESS EFFECTIVENESS CHECKLIST

COMPLETED?	ACTIVITY
_____	1. Obtain and review NDAP-QA-0702 to obtain an understanding of the overall process. If the NDAP is in the process of being updated, obtain a draft copy.
_____	2 Obtain and review the results from previous corrective action effectiveness reviews, evaluations, audits, etc. This may include external assessments (e.g., NRC, INPO). Identify problem areas that indicate either ineffective corrective actions or programmatic problems that could result in ineffective corrective actions. Develop problem area list.
_____	3. Obtain Condition Reports since the last effectiveness review (or the time period scoped for the assessment). Sort the Condition Reports into the areas that are included in the scope of the assessment (e.g., Operations, Maintenance, System Engineering, Health Physics, Chemistry, etc.).
_____	4. Using the method of Symptom Classification, sort the Condition Reports into the following categories based on attributes of effective corrective action processes: a. Examples that may indicate problems with **condition identification**. b. Examples that may indicate problems with **condition evaluation**. c. Examples that may indicate problems with the identification or correction of **adverse trends**. If applicable, include CFAR (an NPRDS application) in this area. d. Examples that may indicate problems with the timeliness or effectiveness of **corrective actions**. e. Examples that may indicate problems with inadequate follow-up on the **effectiveness or monitoring of corrective actions**. f. Examples that may indicate problems with effectively incorporating **industry experience** (if industry experience is included in the scope). Also note examples that indicate that the attributes are routinely met or exceeded.
_____	5. Document the examples and add to the problem area list to be reviewed later.
_____	6. Interview line management in the particular area being assessed and ask for their perceptions on the effectiveness of the corrective action process and ask for any particular examples. Update the problem area list to include these examples for later follow-up.
_____	7. Update the problem area list to include items that could not be obtained from a review of Condition Reports, but that are key attributes to the effectiveness of corrective actions, including: a. Observations of field activities and conditions and interviews with personnel to verify that conditions meeting the criteria for reporting are being identified and reported. b. Obtaining and analyzing precursor adverse trends that should be included as a part of line self-assessment activities and reported as Level 3 Condition Reports. c. Interviews with line personnel to ensure that lessons learned from previous industry or in-house experience is being effectively communicated and incorporated.

8. Provide a copy of Problem Area List to the Process Owner and obtain customer's comments and perspective.

9. Perform observations of field activities and conditions to identify if the following is consistently occurring:

   a. Conditions are being identified and reported as required.

   b. Corrective actions from previous problems have been taken and are effective.

   c. Lessons learned from industry and in-house experience are being effectively communicated and incorporated into day-to-day activities.

   Also identify new examples that could indicate problems with the effectiveness of corrective actions.

10. Follow-up on previously identified examples in the problem area list to verify and validate if they are applicable examples and, if so, which of the various attribute categories the examples belong. To assess the area of **condition evaluation**, additional follow-up and observations of the CR process will have to be performed.

11. Document the results of Steps 4 and 10 as "observations". These observations will provide the basis for the grades and comments on the Corrective Action Process Effectiveness Evaluation Forms contained in Attachment B.

12. Follow-up on the examples included in the observations to understand why the particular step(s) of the corrective action process was ineffective. Document these results in the observations.

13. Based on the number and significance of examples found in each area (or performance that consistently meets or exceeds expectations), develop problem statements (and strengths). Verbally present these problem statements and strengths, along with supporting examples and causes to the assessment team for agreement and buy-in. Follow-up and modify appropriately based on this discussion.

14. Present the results to the customer for review and comment. Based on this discussion, follow-up and modify the results as appropriate.

15. Complete the observations, problem statements and strengths. Using the Corrective Action Process Effectiveness Evaluation Forms contained in Attachment B, provide an assessment grade and comment in each of the attribute areas. Provide all of this information to the team leader for review and approval. Team leader to compile and integrate the results and present it to the customer.

16. Based on results, team leader will request that the customer initiate corrective action whenever a 4 or 5 grade is obtained to improve performance or escalate issue if more than one effectiveness review indicates that performance remains at the 4 or 5 grade level (i.e., the problem is not being resolved). The next periodic assessment will follow-up on previously identified effectiveness review issues.

17. Based on experience using this process, update the attributes, grading criteria and overall process to improve its effectiveness for the next assessment.

CORRECTIVE ACTION PROCESS EFFECTIVENESS EVALUATION

NO - Not observed; 1 - Meets or exceeds the Standard; 2 - A minor problem implementing the Standard; 3 - Two or three minor problems implementing the Standard; 4 Does not consistently meet standard (4-5 - examples); 5 - Significant problem implementing standard (either significant problem, or >5 examples).

STANDARDS AND CRITERIA	GRADES AND COMMENTS
1. **Condition Identification.** Conditions that meet the criteria for Level 1, 2, 3 CR reporting are self-identified and quickly and consistently entered into the process. a. The time between the condition being discovered and the reporting are minimized (by the end of the shift or end of the day). b. Precursor adverse trends are identified and reported before more significant conditions occur. c. Conditions are consistently identified by the directly involved work group (including 1st line supervisors). Some conditions are identified by impacted work groups. A few conditions are identified by 2nd line supervision and above and internal QA. External groups do not identify Level 1, 2, and 3 conditions that have not been previously identified.	NO 1 2 3 4 5 COMMENTS:
2. **Condition Evaluation.** Conditions are assigned the appropriate significance level, the generic implications and root causes are appropriately determined, the appropriate actions are identified and communicated, and important results (significance review and CR investigation) are binned for trending in a timely manner. **Note that this attribute is assessed by following-up on the effectiveness of corrective actions.** a. The significance level is assigned within 3 days of condition identification and the appropriate investigation type is assigned. b. Actual and potential consequences and generic implications are appropriately and consistently determined and factored into the significance level. c. Previous internal operating experience is used to help determine the generic implications of the condition and is factored into the significance level. d. Root cause analysis and cause determination are appropriate to prevent recurrence. For Level 1 conditions and Level 2 conditions requiring a root cause, the reasons why previous corrective actions from in-house or industry operating experience were ineffective are identified (if applicable). e. Recommended actions are determined, approved, and appropriately assigned within 30 days. The actions appropriately address the causes, are communicated and assigned to the appropriate individuals. (Reportable Level 1 conditions are completed within 20 days of being assigned.)	NO 1 2 3 4 5 COMMENTS:
3. **Adverse Trends.** Adverse trends are identified, causes determined, and actions assigned in a timely manner. a. Potential adverse trends are identified by on-line CR review of previous similar problems and assigned for investigation within 3 days. The trend is verified and validated and, if valid, the causes and actions are identified, assigned, agreed to and approved within 30 days. b. Potential adverse trends are identified by quarterly reviews of the CR database and assigned for investigation within 3 days. The trend is verified and validated and, if valid, the causes and actions are identified, assigned, agreed to and approved within 30 days. c. Precursor conditions are analyzed (Level 4), adverse trends are identified, verified, and validated by quarterly reviews of precursor conditions and are entered as Level 3 conditions. The causes and actions are identified, assigned, agreed to and approved within 30 days. **Note that sources of information other than CR (e.g., self-assessment results) will have to be reviewed.**	NO 1 2 3 4 5 COMMENTS:

STANDARDS AND CRITERIA	GRADES AND COMMENTS
4. **Corrective Actions.** Corrective actions are taken in a timely and effective manner. a. Immediate corrective actions and actions to correct conditions are taken so that the consequences of the immediate problem are mitigated and the chance of immediate recurrence is reduced. These actions are taken before another activity occurs which can have it happen again and could include compensatory actions until longer term corrective actions are implemented. b. Longer term corrective actions (actions to prevent recurrence) are taken before activities or conditions exist which increase the chance of a recurrence or within 6 months after the actions are assigned. Some longer term actions (e.g., needing outages or modifications) may take longer. c. If corrective actions to prevent recurrence for Level 1 and 2 conditions have not been implemented and another condition occurs, either: • A risk determination is made to justify the original timing of the corrective actions. • Compensatory actions are taken to minimize recurrence until corrective actions are complete. • The timing of the corrective actions is modified to prevent further recurrence. d. The longer term corrective actions address the causes and extent of the problem such that problem recurrence is eliminated (i.e., these are the right corrective actions). e. Ineffective or untimely corrective actions are identified, communicated, and appropriately escalated. f. Action item backlogs are effectively prioritized and periodically reviewed to minimize the probability of recurrence.	NO 1 2 3 4 5 COMMENTS:
5. **Effectiveness of Corrective Actions.** The effectiveness of corrective actions from level 1 and 2 conditions and adverse trends are monitored and followed-up to adjust corrective actions to prevent recurrence. a. On-line CR reviews are conducted for 3 years following completion of corrective actions taken to prevent recurrence of level 1 and 2 conditions and adverse trends. If the condition or adverse trend recurs, an investigation is conducted and completed within 30 days that explains why previous corrective actions and previous industry preventive actions were ineffective and to identify additional corrective actions to eliminate recurrence. b. Follow-up effectiveness checks are conducted for level 1 and 2 conditions and adverse trends. These include observations of activities and conditions, interviews, and document and data reviews. Problems identified are feedback to course correct and adjust previous corrective actions and prevent future recurrence.	NO 1 2 3 4 5 COMMENTS:
6. **Lessons Learned from Industry Experience.** Preventive actions from Industry Experience are effectively implemented to preclude a similar in-house event. a. Industry Experience is appropriately assessed for applicability and in a timely manner. This includes an SSES programmatic review and a review of SSES program effectiveness. b. Preventive actions are taken in a timely and effective manner (see #4. above). c. Periodic effectiveness reviews are performed to adjust actions to preclude in-house events (see #5 above).	NO 1 2 3 4 5 COMMENTS:

OVERALL ASSESSMENT (Average of all areas):

MONTH OF ASSESSMENT:

AREA OR FUNCTIONAL GROUP ASSESSED:

ASSESSMENT PERFORMED BY:

PROVIDE COPY OF COMPLETED FORM TO: