INSPECTION PROCEDURE 71152

# IDENTIFICATION AND RESOLUTION OF PROBLEMS

PROGRAM APPLICABILITY: 2515

CORNERSTONES: ALL

INSPECTION BASIS: A fundamental goal of the NRC's reactor oversight process is to establish confidence that each licensee is detecting and correcting problems in a manner that ensures nuclear safety is a top priority and limits the risk to members of the public. A key premise of the Reactor Oversight Process is that weaknesses in licensee's problem identification and resolution (PI&R) programs will manifest themselves as performance issues which will be identified during the baseline inspection program or by crossing predetermined performance indicator thresholds. However, several aspects of PI&R are not specifically addressed by either the individual cornerstone performance indicators or other baseline inspections. These are detailed in the following objectives. Completion of the inspection objectives is accomplished by screening all corrective action program issues, by performing a semiannual trend review, by sampling issues during each inspectible area inspection, by performing focused reviews of four to seven samples per year, and by performing a biennial PI&R team inspection.

## 71152-01 INSPECTION OBJECTIVES

01.01 To provide for early warning of potential performance issues that could result in crossing thresholds in the action matrix.

01.02 To help the NRC gage supplemental response should future action matrix

thresholds be crossed.

01.03 To provide insights into whether licensees have established a safety conscious work environment.

01.04 To allow for follow-up of previously identified compliance issues (e.g., NCVs).

01.05 To provide additional information related to the cross-cutting areas that can be used in the assessment process.

01.06 To determine whether licensees are complying with NRC regulations regarding corrective action programs.

01.07 To verify that the licensee is identifying operator workarounds at an appropriate threshold and entering them in the corrective action program.

## 71152-02 INSPECTION REQUIREMENTS

Within the baseline inspection program, problem identification and resolution (PI&R) activities are reviewed in three discrete but interdependent locations: as part of specific inspectible area inspection procedures (discussed in section 02.01 of this procedure); during follow-up to selected issues via paragraph 02.02 of this procedure; and during a biennial team inspection as specified in paragraph 02.03 of this procedure.

02.01 Routine Review of Identification and Resolution of Problems.

Inspections of problem identification and resolution activities include the following:

a. *Resident inspectors (RIs) should screen of each item entered into the corrective action program* to select the best samples for follow-up*. This review can be accomplished by attending daily corrective action program review board meetings, by viewing computerized corrective action program entries, or by reading hard copies of corrective action program documents. The intent of this review is to be alert to conditions such as repetitive,* long-term, or latent *equipment failures or* cross-cutting components *that might warrant additional follow-up through other baseline inspection procedures or through section 02.02 or 02.03 of this inspection procedure.* Further, *be alert for adverse performance trends and risk significant or repetitive equipment failures. Among the items that might indicate a trend would be repeated entries into technical specifications. The time spent completing this review should be charged to this procedure and should generally be less than 30 minutes per day.* [C1]

b. Verify that corrective actions commensurate with the significance of the issue have been identified and implemented by the licensee.

c. Verify that equipment, human performance, and program issues are being identified by the licensee at an appropriate threshold, and being entered into the problem identification and resolution program.

d. *Perform a semiannual review to identify trends (either NRC or licensee identified) that might indicate the existence of a more significant safety issue. Included within the scope of this review should be repetitive or closely related issues that may have been documented by the licensee outside the normal corrective action program, such as in trend reports or performance indicators, major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenge* lists, issues that challenge operators in performing duties, including workarounds, *system health reports, quality assurance audit/surveillance reports, self assessment reports, maintenance rule assessments, or corrective action backlog lists.* Also consider emerging or existing cross-cutting themes during the semi-annual trend review to develop insights into the licensee's progress in addressing the themes. *This review can be performed by summarizing the results of the licensee's reviews and comparing those results to those identified by the NRC through the baseline or supplemental inspection program, including issues identified as a result of the daily review of corrective action program items discussed above. If a biennial PI&R inspection is scheduled within six months of the semiannual review, the senior resident inspector could forward any concerns to the PI&R team. This information should be incorporated into the scope of the team inspection. The results of this review should be documented as per paragraph 03.01c of this procedure.* [C1]

One of the primary goals of these routine reviews is to verify that licensees are identifying issues at an appropriate threshold, entering issues into the corrective action program. This can be assessed by comparing those issues identified by the NRC during the conduct of the plant status and inspectible area portions of the program with those issues identified by the licensee. This requirement is normally to be accomplished by resident inspectors and region-based inspectors responsible for conducting plant status and baseline inspections. These routine reviews, along with those reviews conducted via section 02.02 of the procedure also allow for follow-up to selected issues and operational occurrences to ensure that corrective actions commensurate with the significance of the issues have been identified and implemented by the licensee.

During inspector reviews of plant status and during inspections, inspectors should be alert for potential performance deficiencies such as equipment failures, inadequate maintenance work practices, personnel errors, inadequate risk assessment, management and emergent work control problems, procedure deficiencies, or noncompliances with procedures or regulatory requirements. When inspectors note such conditions, inspectors should examine the licensee's corrective action program records and/or attend licensee corrective action program meetings, to verify that the licensee identified the conditions noted by the inspector, and entered those conditions into the licensee's corrective action program. Inspectors should also be aware of the contribution that the cross-cutting components (as described in IMC 0305) make to these performance deficiencies, and consider insights that these issues may provide into the licensee's progress in addressing any developing or existing cross-cutting themes.

*In addition to the screening review that is required of all issues entered into the corrective*

*action program, inspectors should also review a sample of issues to verify that the licensee has appropriately classified the issue and has taken appropriate short term corrective actions.* [C1]

Inspectors should remain alert to problems/conditions which are potentially not minor and for which the licensee's investigation, conclusions, and/or corrective actions appear to be, in some way, inadequate. Inspectors should also review the circumstances associated with the licensee's investigation and disposition of the problem/condition, to determine the reason(s) why the licensee's results were not adequate. The selected samples should be reviewed against the performance attributes contained in paragraph 03.01.b, as applicable.

When inspectors find that the licensee's identification, classification, immediate disposition, and/or final disposition of a condition adverse to quality are not in compliance with the licensee's procedures and/or regulatory requirements, the inspectors should assess the significance of that finding in accordance with IMC 0609.

*Document the results in accordance with the quarterly inspection report guidance contained in IMC 0612, Section 4OA2 of the sample inspection report, and section 03.01.c. of this procedure.* [C1]

02.02 Selected Issue Follow-up Inspection.

In addition to the above reviews which are performed as part of "plant status" or other baseline inspection procedures, a sample of four to seven issues per year should be selected for a more in-depth periodic review. One of these samples must be an in-depth review of the operator workarounds. These samples need not be directly tied to the other baseline inspection procedure attachments and should generally be spread across the cornerstones of safety.

The operator workaround review shall verify that the licensee is identifying operator workaround problems at an appropriate threshold and entering them in the corrective action program, and has proposed or implemented appropriate corrective actions. Use the general guidance contained in section 71152-03 as an aid in selecting samples for review.

*The selected samples should be reviewed against the performance attributes contained in paragraph 03.01.b. Document the inspection results in accordance with the quarterly inspection report guidance contained in IMC 0612, Section 4OA2 of the sample inspection report, and section 03.02.d. of this procedure.* [C1]

02.03 Biennial Problem Identification and Resolution Inspection.

Perform a biennial inspection of the problem identification and resolution activities as follows:

a. *Select a sample of risk significant issues that have been processed through the corrective action process. To the extent available, the sample selected should*

*include (1) conditions adverse to quality which are in the licensee's corrective action program, (2) cited or noncited violations of regulatory requirements and other documented findings, (3) issues identified through NRC operating experience, (4) issues identified through industry operating experience, which have been placed in the licensee's corrective action program, and (5) licensee audits and assessments. Refer to section 3.3 of* *OEDO Procedure - 0220: Coordination with the Institute of Nuclear Power Operations* *, for guidance prior to reviewing any INPO documents. INPO findings, recommendations, corrective actions, and operating experience which are placed in the licensee's corrective action program, can be considered appropriate for inspection. In addition, for a subset of the samples chosen for review, the scope of the review should be expanded to at least five years. Use general guidance contained in sections 71152-03 and 03.03.b as an aid in sample selection.* [C1]

b. Review each condition/problem selected for review using the performance attributes contained in paragraph 03.03.c of the procedure.

c. Review the results of recent audits and/or assessments of the licensee's corrective action program, and compare and contrast the results of those audits and/or assessments with the results developed through this inspection.

d. *Review issues that pose challenges to the free flow of information for adequate resolution.* [C2]

e. Complete the following items:

   1. Perform an assessment of the effectiveness of the licensee's corrective action program in identifying, evaluating, and correcting problems.

   2. Perform an assessment the licensee's use of operating experience information.

   3. Perform an assessment of completed licensee audits and self assessments.

   4. *Perform an assessment of the licensee's safety conscious work environment for indication that licensee personnel are reluctant to report safety issues, using the guidance contained in paragraph 03.03.d.* [C2]

   Base these assessments on the inspection results developed through steps a. through d.

When conducting these inspections the inspector should be aware of the contribution that cross-cutting components make to performance deficiencies, and consider insights that these issues may provide into the licensee's progress in addressing any developing or existing cross-cutting themes.

71152-03 INSPECTION GUIDANCE

General Guidance

To the extent possible, this inspection should follow a performance-based approach. Evaluate products and results of the licensee's corrective action program, including the use of operating experience and assessments/audits. Focus on the results associated with risk and safety significant issues. For the issues that are determined to be performance deficiencies, evaluate the causes that relate to cross-cutting components for insights on performance. Inspections performed under this procedure should concentrate on the identification of problems and the effectiveness of corrective actions for risk significant issues rather than on reviewing the administrative aspects of the corrective action program and associated procedures.

In selecting issues for inspection, inspectors should seek the broadest range of examples within cornerstones, including the following considerations:

1. Licensee identified issues, including issues identified during audits or self assessments, and LERs. Include a sample of the corrective actions with the highest priority. The licensee's root cause analyses associated with these high significance level corrective action items should be assessed using the inspection guidance contained in Inspection Procedure 95001 as an aid.*

2. NRC identified issues during routine, team, supplemental (programmatic weaknesses identified during IP95001 and IP95002 inspections are mandatory sample items*), and special inspections. Discuss such issues with respective NRC inspectors and management as part of inspection preparations.

3. Issues related to NCVs (for the biennial inspection it is mandatory to review the licensee's response to a sample of NCVs unless no NCVs were issued in the cornerstone).*

4. Issues identified through NRC generic communications.*

5. Issues identified through industry operating experience exchange mechanisms (including Part 21 reports, NSSS vendor reports, EPRI reports, experience reports from similar facilities).*

6. Specific or cross-cutting issues identified by safety review committees or other management oversight mechanisms.

7. *Issues identified through alternative avenues, such as an employee concerns or similar programs.* [C2]

8. Issues that challenge operator performance.

9. Issues identified through self assessments and audits.*

* mandatory samples during biennial inspection only

Other than for the mandatory samples indicated above, it is not required to select one of

each type of issue listed. The guidance is intended to help ensure that, over the course of an assessment cycle and through the performance of the baseline inspections, an appropriate sample will be obtained by which the NRC can obtain indication of the performance of the various elements of a licensee's corrective action program.

In selecting issues for review, inspectors should also use relevant risk insights such as:

1. Maintenance Rule program basis documents;

2. Current licensee risk analysis results or insights; and

3. Significance Determination Program (SDP) Phase 2 worksheets for the plant.

For example, in considering the inspection of licensee corrective actions associated with post maintenance testing (as required by IP 71111, Attachment 19), inspectors should review issues associated with high risk mitigating systems. Additional insights for determining appropriate samples can be obtained by region-based inspectors through discussion with resident or regional inspectors who are familiar with site issues and who are familiar with the licensee's problem identification and resolution process.

Review completed self assessment/audits to determine whether the results are consistent with the data collected. If substantial differences exist between results from the subject assessment/audit and the results of previous assessment/audits, verify that the reasons for those differences are reasonable. Review the licensee's response to the assessment/audits to determine whether corrective actions were appropriate for resolving identified issues, and were tracked and timely.

*If the licensee performs a safety culture self assessment after the PI&R inspection, the NRC inspector may review the assessment as a quarterly sample of section 02.02. A safety culture assessment may also be considered as a composition of separate assessments of smaller scope.* [C2]

Detailed Review Guidance

The following additional guidance should be used in conducting a review of licensee problem identification and resolution activities.

03.01 Routine Review of Identification and Resolution of Problems.

a. Baseline Inspection Procedures. Most of the attachments to baseline inspection procedures contain a requirement to inspect problem identification and resolution performance within the attachment's area. The routine inspection of PI&R performance as part of baseline inspections is intended to ensure that, over the course of an assessment cycle, a sample of PI&R performance in all cornerstones is obtained. As stated in paragraph 02.01, the primary focus of this portion of the PI&R review should be on verifying that licensees are identifying issues at an appropriate threshold and entering them into their corrective action program.

b. Performance Attributes. When evaluating the effectiveness of licensee corrective

actions for a particular issue, the licensee's actions must be viewed against the nature and significance (or potential significance) of the identified problem. While licensee corrective action programs may appropriately consider monetary, plant availability, and other concerns as factors in determining significance, risk should be a primary factor in the licensee's significance determination. Attributes to consider during review of licensee actions associated with individual issues include:

1. Complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery.

2. Evaluation and disposition of operability/reportability issues.

3. Consideration of extent of condition, generic implications, common cause, and previous occurrences.

4. Classification and prioritization of the resolution of the problem commensurate with its safety significance.

5. Identification of root and contributing causes of the problem (this attribute will typically only be assessed for <u>significant</u> conditions adverse to quality and may be deferred to the biennial inspection or in-depth reviews performed elsewhere in this procedure).

6. Identification of corrective actions which are appropriately focused to correct the problem (may be deferred to biennial inspection).

7. Completion of corrective actions in a timely manner commensurate with the safety significance of the issue (may be deferred to biennial inspection). If permanent corrective actions require significant time to implement, then verify that interim corrective actions and/or compensatory actions have been identified and implemented to minimize the problem and/or mitigate its effects, until the permanent action could be implemented.

It is not expected that the inspectors assess each attribute for every issue selected for followup during these routine reviews. Rather, inspectors may choose to assess licensee performance against selected attributes, as necessary to be most effective.

c. <u>Documentation</u>. In order to help focus the biennial PI&R inspection on areas where concerns have been identified and to provide a more complete assessment of the effectiveness of the licensee's PI&R program, it is important that the NRC document findings resulting from the PI&R inspections conducted as part of the baseline procedure attachments. In general, findings associated with the PI&R program itself should be documented in the PI&R section of the inspection report. Findings associated with the inspectible area and cornerstone should be documented in the associated areas of the inspection report.

In addition, semiannually, a section should be added to the quarterly resident inspection report to document the inspectors' assessment of trends that might

indicate the existence of a more significant safety issue. Unlike the level of documentation for the routine reviews above, the level of documentation for the trend review should include trends that might not rise to the level of an inspection finding.

Additional guidance regarding documenting the inspection scope, the semiannual trend review, and the thresholds for PI&R issues is contained in IMC 0612 and its exhibits.

d. Level of Effort. While it is expected that routine reviews of PI&R activities should equate to approximately 10-15 percent of the resources estimated for the associated baseline cornerstone procedures, this is a general estimate only based upon the overall effort expected to be expended in each strategic performance area. It is anticipated that the actual hours required to be expended may vary significantly from attachment to attachment, depending upon the nature and complexity of the issues that arise at the particular facility. Overall, an effort should be made to remain within the 10 to 15 percent estimate on a strategic performance area basis. Inspection time spent assessing PI&R as part of the baseline procedure attachments should be charged to the corresponding baseline procedure attachment.

The daily review of corrective action items should take approximately 30 minutes. The semiannual trend review should take an average of 16-24 hours per year. The time spent performing these reviews should be charged to this procedure.

03.02 Selected Issue Follow-up Inspection.

a. An additional sample of the four to seven issues per year should be chosen for more in-depth review, as necessary to verify that the licensee has taken corrective actions commensurate with the significance of the issue. One of these issues shall be an operator workaround which may include cumulative effects of existing workarounds. These issues can be chosen using information obtained from condition report reviews and from reviews conducted as part of the baseline inspection procedure attachments, but need not be limited to those issues that are directly related to the inspection procedure attachments. Issues may also be chosen from the list contained in section 71152-03 of this procedure. The inspectors may also select an issue that is tracked by a performance indicator, for which a color change has yet to occur. Also consider emerging or existing cross-cutting themes for a selected issue follow-up inspection to develop insights into the licensee's progress in addressing the themes. The review should be scheduled at a time that will provide meaningful input to the assessment process.

b. An operator workaround is defined as operator action(s) taken to compensate for a degraded or non-conforming condition that complicates the operation of plant equipment. A risk significant operator workaround is defined as operator action(s) taken to compensate for a degraded or non-conforming condition which could result in an increase in the baseline core damage or large early release frequency and, if such actions could not be implemented effectively, would be a finding with

potentially greater than green significance.

The intention is to evaluate operator workarounds for mitigating systems to determine if the mitigating system function is affected or the operator's ability to implement abnormal and emergency operating procedures is affected. Inspectors should be cognizant of: (1) operator workarounds that have not been evaluated by the licensee, (2) operator workarounds that have been formalized as the long-term corrective action for a degraded or non-conforming condition (and therefore may not be tracked by the licensee as an operator workaround), and (3) operator workarounds that increase the potential for personnel error, including operator workarounds that:

1. Require operations contrary to past training or require more detailed knowledge of the system than routinely provided.

2. Require a change from longstanding operational practices.

3. Require operation of system or component in a manner dissimilar from similar systems or components.

4. Create the potential for the compensatory action to be performed on equipment or under conditions for which it is not appropriate.

5. Impair access to required indications, increase dependence on oral communications, or require actions under adverse environmental conditions.

6. Require the use of equipment and interfaces that had not been designed with consideration of the task being performed.

c. Performance Attributes. When evaluating the effectiveness of licensee corrective actions for a particular issue, the licensee's actions must be viewed against the nature and significance of the identified problem. While licensee corrective action programs may appropriately consider monetary, plant availability, and other concerns as factors in determining significance, the potential impact on nuclear safety and risk should be primary factors in the licensee's significance determination. Attributes to consider during review of licensee actions associated with individual issues include:

1. Complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery.

2. Evaluation and disposition of operability/reportability issues.

3. Consideration of extent of condition, generic implications, common cause, and previous occurrences.

4. Classification and prioritization of the resolution of the problem commensurate with its safety significance.

5. Identification of root and contributing causes of the problem (this attribute will typically only be assessed for significant conditions adverse to quality). Use inspection guidance contained in Inspection Procedure 95001 as an aid in assessing the adequacy of licensee root cause analyses.

6. Identification of corrective actions which are appropriately focused to correct the problem.

7. Completion of corrective actions in a timely manner commensurate with the safety significance of the issue. If permanent corrective actions require significant time to implement, then verify that interim corrective actions and/or compensatory actions have been identified and implemented to minimize the problem and/or mitigate its effects, until the permanent action could be implemented.

In addition to the general performance attributes contained above, inspectors should refer to Inspection Procedure 95001 for additional guidance on assessing licensee evaluations of significant performance issues. It is not expected that inspectors assess each attribute for every issue selected for followup during these routine reviews. Rather, inspectors may choose to assess licensee performance against selected attributes, as necessary to be most effective.

d. Documentation. The basis for selection and the scope of review of each sample should be documented in the "Scope" section of 4OA2 of the inspection report. In general, issues associated with PI&R programs should be documented in the "Findings" section of 4OA2 of the report. This documentation should include factual information that relates to the performance attributes listed in 03.01.b, if that information indicates licensee performance weaknesses. This documentation standard is different from the standard used to document issues elsewhere in the quarterly inspection reports. Assessments of PI&R program effectiveness will not be done during these inspections; such assessments will be done only during the periodic team inspection. Only green or greater findings will be included in the summary of findings of the inspection report. Technical issues associated with other inspectible areas and cornerstones should also be documented in those sections of the report.

e. Level of Effort. The review of four to seven samples should take an average of 125 hours for a 1-unit site, 167 hours for a 2-unit site, and 208 hours for a 3-unit site annually in direct inspection effort and may be completed by resident and/or regional inspectors. Inspection time associated with this review should be charged to this procedure.

03.03 Biennial Problem Identification and Resolution Inspection.

The biennial inspection of problem identification and resolution is intended to complement and expand upon the reviews described in Section 03.01 and 03.02 of this procedure by:

1. Evaluating additional examples of licensee problem identification and resolution.

2. Reviewing the resolution of issues that earlier had been assessed for the licensee's identification efforts only.

3. Comparing the NRC's results against the licensee's own assessment of performance in the PI&R area.

4. Assessing whether PI&R deficiencies exist that might indicate potential programmatic issues.

a. Planning. Obtain licensee administrative procedures that control the identification, evaluation, and resolution of problems. Selected licensee documents needed to support the inspection may be obtained prior to the inspection. These documents should only be reviewed to provide the inspectors with sufficient knowledge of the licensee's programs and processes, as necessary to conduct an effective and efficient inspection.

Obtain and review documents for the in-office review, such as a list of corrective action documents issued from the time of the last PI&R inspection (e.g., a list of work orders, work requests, temporary modifications, calibration failures, condition/problem identification reports, operability evaluations and determinations, etc.). Also, obtain relevant licensee corrective action program assessments, program performance information, and trend reports.

Obtain and review procedures and documentation on licensee efforts to identify, resolve and prevent structure, system and component performance problems through performance monitoring, root cause analysis, cause determination and corrective action to meet the monitoring requirements of the Maintenance Rule (MR),10 CFR 50.65.

Obtain and review all NRC inspection reports issued since the last PI&R inspection, including the inspection reports that contain the semiannual resident reviews to determine:

1. the extent to which all cornerstones have been sampled by routine reviews of licensee PI&R activities and determine if additional PI&R samples are warranted in any cornerstone(s);

2. the extent to which licensee actions to NCVs have been sampled by routine reviews of licensee PI&R activities; and,

3. whether there are any trends or patterns in corrective action program or performance issues which may warrant additional sampling to confirm. For example, a series of issues associated with "failure to follow procedures" within one cornerstone may indicate a corrective action performance deficiency within a portion of the licensee's organization; a series of issues associated with failure to follow procedures in multiple cornerstones may indicate a broader concern. Also, a lack of licensee identified corrective action issues within a particular organization may be indicative of a problem

with the identification threshold. Consider the need to follow-up on performance trends documented as a result of the semiannual trend review.

b. Biennial Inspection Sample Selection. Based on the planning review, identify a sample of licensee corrective actions for review.

*The samples chosen for review should include a range of issues selected from the list in section 71152-03, including those sample types that are designated as requiring a mandatory review. In addition, for a subset of the samples chosen for review, the scope of the review should be expanded to at least five years. Among the samples chosen for this extended review should be those issues whose significance might be age dependent, such as issues associated with erosion of piping, degradation of safety-related raw water systems, boric acid accumulations, aging of electronic components, environmental qualification, etc. This review can be performed by requesting the licensee to perform a corrective action program search (computerized or other) for those items designated by the team for the five-year review.* [C1]

*If the licensee conducted a self assessment of safety culture during the review period, this assessment shall be included along with other self-assessments selected to review for this sample. If the licensee performed several assessments that collectively addressed safety culture issues, then those assessments combined should be considered as one assessment.* [C2]

No specific number of previously reviewed or additional samples is specified. Rather, the biennial inspection team leader should choose as many examples as warranted to complement the routine PI&R inspections and ensure a sufficient basis for evaluating the effectiveness of the licensee's PI&R program. The team should also consider emerging or existing cross-cutting themes for review during the biennial inspection to develop insights into the licensee's progress in addressing the themes. The inspectors, as an option, may consider selecting one or more risk significant systems and using a "vertical slice" approach to picking the inspection sample, so long as the system(s) selected will provide adequate coverage across all cornerstones in the reactor safety strategic performance area. In such cases, additional samples may be required to ensure adequate coverage across cornerstones in the radiations safety or safeguards strategic performance areas. An effort should however be made to maintain the total hours expended in completing this procedure to within the estimated level of resources contained in paragraph 71152-04.

The inspection team should make every effort to walk down applicable portions of the selected systems or perform field verification of selected corrective action samples.

c. Performance Attributes. When evaluating the effectiveness of licensee corrective actions for a particular issue or issues, the licensee's actions must be viewed against the nature and significance of the identified problem. While licensee corrective action programs may appropriately consider monetary, plant availability, and other concerns as factors in determining significance, the potential impacts on

nuclear safety and risk should be a primary factor in the licensee's significance determination. Attributes to consider during review of licensee corrective actions include:

1. Complete and accurate identification of the problem in a timely manner commensurate with its significance and ease of discovery.

2. Evaluation and disposition of operability/reportability issues.

3. Consideration of extent of condition, generic implications, common cause, and previous occurrences.

4. Identification of significant negative trends associated with human or equipment performance.

5. Classification and prioritization of the resolution of the problem commensurate with its safety significance.

6. Identification of root and contributing causes of the problem for significant conditions adverse to quality. Use inspection guidance contained in Inspection Procedure 95001 as an aid in assessing the adequacy of licensee root cause analyses.

7. Identification of corrective actions which are appropriately focused to correct the problem (and to address the root and contributing causes for significant conditions adverse to quality).

8. Completion of corrective actions in a timely manner commensurate with the safety significance of the issue (included within this attribute would be justifications for extending corrective action due dates). If permanent corrective actions require significant time to implement, then verify that interim corrective actions and/or compensatory actions have been identified and implemented to minimize the problem and/or mitigate its effects, until the permanent action could be implemented.

9. In addition, for the above samples that involve maintenance effectiveness, inspectors should verify the following:

   (a) Review repetitive maintenance preventable functional failures (MPFFs) for indications of weaknesses in the licensee's corrective action program. In addition, identify any problems with root cause analysis or cause determination and corrective action for systems, structures, or components experiencing repetitive MPFFs or exceeding their goals or performance criteria.

   (b) Ensure that risk assessment, risk management, and emergent work control problems associated with maintenance are identified and resolved promptly.

10. Operating experience is appropriately applied and applicable lessons learned are communicated to appropriate organizations and incorporated into plant operations.

11. Self assessments and audits are effective at identifying issues. Those issues are evaluated and resolved commensurate with their significance.

Additional guidance relative to the MR can be found in Inspection Procedure 71111.12.

d. Assessment of Safety Conscious Work Environment.

*In conducting interviews with or observing other activities involving licensee personnel during the inspection, be sensitive to areas and issues that may represent challenges to the free flow of information, such as areas where employees may be reluctant to raise concerns or report issues in the corrective action program.* [C2]

Although the licensee may be implementing an employee concerns or similar program regarding the identification of safety issues, the possibility of existing underlying factors that would produce a "chilling" effect or reluctance to report such issues could exist, and inspectors should be alert for such indications. Such factors could go beyond direct retaliation, and could include issues such as inadequate staffing that results in excessive overtime and an unwillingness to raise issues that might result in further increases to an already high workload, or cases where repeat issue identification have not resulted in adequate corrective action causing personnel to be reluctant to identifying additional related issues.

Appendix 1 to this procedure provides a list of questions that can be used when discussing PI&R issues with licensee individuals to help assess whether there are impediments to the establishment of a safety conscious work environment. It is not intended that inspectors conduct formal interviews solely for the purpose of assessing the work environment, but rather, that inspectors make use of the questions in Appendix 1 during discussions with licensee individuals concerning other attributes of the inspection. It is expected that during this inspection, discussions/interviews will be held with both licensee management and staff.

If, as a result of the interviews or observations, inspectors become aware of specific examples of employees being discouraged from raising safety or regulatory issues within the licensee's or contractor's organization or to the NRC, inspectors should inform regional management prior to further follow-up. If inspectors becomes aware of a "chilling" effect or other general reluctance of employees to raise safety or regulatory issues unrelated to a specific event or incident, regional management should be informed prior to further follow-up. At regional management's discretion, questions about raising concerns contained in IP 95003 may be used for further review and follow-up.

e. Development of PI&R Program Performance Insights. By reviewing a sufficient number and breadth of samples, the inspection team should be able to develop

insights into the licensee's corrective action program, use of operating experience, and self assessments/audits to identify, evaluate, and resolve problems. Compare the result of the team's review of PI&R issues with licensee performance reviews, including specific licensee reviews of PI&R programs. Determine whether licensee reviews are consistent with the NRC review of PI&R issues.

The intent of this inspection procedure (both the routine and biennial inspection effort) is to provide insights into licensee performance in the PI&R area based upon a performance-based review of corrective action issues, operating experience and self assessments/audits. More detailed programmatic reviews of licensee performance in the PI&R area will be conducted during supplemental inspections, if established performance thresholds are crossed.

f. Documentation and Evaluation of Program Effectiveness. At the completion of inspection activities, the team should develop a clear and concise discussion of the results of their review. This discussion should be supported by the inspection activities conducted over the assessment cycle including routine inspections, selected sample follow-up inspections, and the biennial inspection of PI&R activities. The discussion should be documented in the inspection report for the biennial PI&R inspection and should be included in the PIM.

There should be a discussion to address (1) the effectiveness of the licensee's corrective action program, (2) use of operating experience and (3) the results of self assessments/audits. Included in the discussion should be conclusions and any issues associated with the conduct of a safety conscious work environment and *any prohibition with the free flow of information that may have been detected during the inspection*. [C2]

Additional evaluation of the licensee's PI&R programs will be conducted as part of the mid-cycle and/or end of cycle plant performance review by assessing licensee performance using the results of this inspection, as well as other information, including performance indicator data and the results of any supplemental inspections. Additional guidance on documenting the biennial problem identification and resolution inspection is contained in Appendix D to IMC 0612.

## 71152-04 RESOURCE ESTIMATE

The effort for daily review of corrective action items is estimated at 30, 40, and 50 minutes for single-, dual-, and triple-unit sites, respectively. This equates to an annual effort of 125 hours, 167 hours, and 208 hours for single-, dual-, and triple-unit sites, respectively. Time spent performing these daily reviews should be charged to IP 71152.

The effort for the semiannual trend reviews is estimated to take, on average, 16-24 hours per year regardless of the number of units on site. The time spent performing these reviews should be charged to IP 71152.

The annual effort for review of the four to seven samples per paragraph 02.02 is estimated to take 56 to 76 hours for a single-unit site, 58 to78 hours for a dual-unit site, and 60 to 80

hours for a triple-unit site. The time spent reviewing the four to seven samples should be charged to IP 71152.

The biennial team inspection is estimated to take, on average, 212 to 288 hours of direct inspection effort. Participation (either full or part time) on the inspection team by a member of the resident inspector staff should be strongly considered. The time spent performing the biennial team inspection should be charged to IP 71152B.

Typical resources for annual samples or the biennial team inspection may be increased if needed to follow-up on safety conscious work environment issues.

## 71152-05 PROCEDURE COMPLETION

Inspection of the minimum sample size will constitute completion of this procedure in the Reactor Program System (RPS). The minimum sample size for the annual inspections is 6 consisting of 2 semiannual trend reviews and 4 annual, in-depth reviews per paragraph 02.02 of this procedure. The minimum sample size for the biennial team inspection is 1 and is defined as the biennial team inspection. These minimum sample sizes apply regardless of the number of reactor units at the site.

## 71152-06 REFERENCES

NRC Inspection Manual Part 9900, "Resolution of Degraded and Non-Conforming Conditions"

OEDO Procedure - 0220, "Coordination with the Institute of Nuclear Power Operations"

END

Appendix 1: Suggested Questions for Use in Discussions with Licensee Individuals Concerning PI&R Issues

Attachment 1: Revision History

APPENDIX 1

## SUGGESTED QUESTIONS FOR USE IN DISCUSSIONS WITH LICENSEE INDIVIDUALS CONCERNING PI&R ISSUES

The following are suggested questions that may be used when discussing PI&R issues with licensee individuals. It is not intended that these questions are asked verbatim, but rather, that they form the basis for gathering insights regarding whether there are impediments to the formation of a safety conscious work environment. In cases where a potential problem with the employees willingness to raise concerns or other SCWE is identified in response to these questions, consult with regional management for directed course of action and, if appropriate, see Inspection Procedure 95003 for more detailed questions for the workforce and management.

Suggested Questions

1. a. Are you willing to raise a safety concern?

   b. Are there any conditions under which you would be hesitant to raise a safety concern?

   c. If yes, does that condition exist here at (Insert Plant Name)? Please elaborate.

2. a. Are you aware of situations where any employee or contractor may be hesitant to raise concerns, internally or externally?

   b. If yes, please explain. (If an NRC inspector is aware of a specific incident that may have caused such hesitation, then ask about it. Focus on whether or not the interviewee or others may be less likely to report concerns since that incident).

3. a. Where would you go to raise a safety issue? [The NRC inspector should be aware of the following avenues for raising concerns, but not prompt the interviewee: supervisor, corrective action program (CAP), alternative program (Employee Concerns Program (ECP)/Ombudsman), NRC, or other avenue.]

   b. Why would you pick this avenue? Have you or others had any experiences, or know of any situations, that have influenced your decision to pick this avenue? If so, please describe.

4. Are there other avenues available to you for raising safety issues? Ask each of the questions listed in the following table for each avenue available.

| | Supervisor | Corrective Action Program | ECP/ Ombudsman | NRC | Other |
|---|---|---|---|---|---|
| Have you ever submitted a safety issue to (insert method) If no, why not? | | | | | |
| If yes, was the issue adequately addressed? Why or why not? | | | | | |
| If not adequately addressed, did you further pursue the issue? If not, why not? | | | | | |
| Given the nuclear safety importance of the issue, did you receive timely feedback? | | | | | |
| Describe any instances in which you know of another employee who submitted an issue to (insert method) and you considered the response unacceptable? | | | | | |

5. Would you say that your management is supportive of the ECP/Ombudsman program?

   a. If yes, how is such support demonstrated?

   b. If no, please describe what has led you to believe that they are not supportive.

6. Are you aware of any actions taken by your management to prevent and detect retaliation and/or chilling effect?

   a. Are their actions effective?

   b. Has management's handling of any chilling effect issues been consistent?

7. Are you aware of any instances in which another individual experienced a negative reaction for raising a safety issue? If yes, please describe the incident, including any information conveyed by management concerning the incident.

8. Would you say that your management is supportive of the SCWE policy?

   a. If yes, how is such support demonstrated?

   b. If no, please describe what has led you to believe they are not supportive.

9. Have events or circumstances occurred in the past six months that have reduced:

   a. Your willingness to identify or raise safety issues?

   b. Your confidence in the corrective action program?

   c. Your willingness to challenge actions or decisions you believe are unsafe?

END

ATTACHMENT 1

Revision History to IP 71152

| Commitment Tracking Number | Issue Date | Description of Change | Training Needed | Training Completion Date | Comment Resolution Accession Number |
|---|---|---|---|---|---|
| N/A | 03/06/2001 CN 01-006 | Revised to delete certain inspection requirements (collective risk of maintenance backlog and equipment unavailability accounting), eliminate duplication within the procedure, and provide additional guidance concerning the review of a safety conscious work environment. | NO | N/A | N/A |
| N/A | 01/17/2002 CN 02-001 | Revised to include changing the inspection frequency to biennial and add guidance on the conduct of inspections of 3 to 6 samples per year outside of the team inspections. | NO | N/A | N/A |

| | | | | | |
|---|---|---|---|---|---|
| C1 | 09/08/2003<br>CN 03-032 | Revised to incorporate recommendations made by the PI&R focus group to address several items from the Davis Besse Lessons Learned Task Force. The changes include enhanced requirements regarding the routine PI&R reviews conducted by resident inspectors, biennial reviews of longstanding issues, and biennial reviews of operating experience issues. | YES | 09/24/2003 | N/A |
| N/A | 01/05/2006<br>CN 06-001 | A requirement to inspect for cumulative effects of operator workarounds to IP 71152 as one of its annual samples was added. Also, the annual sample size and the estimate inspection resources required to complete this IP was increased to support review of operator work arounds. Completed historical CN search. | NO | N/A | N/A |

| | | | | | |
|---|---|---|---|---|---|
| N/A<br><br>C2 | 06/22/06<br>CN 06-015 | Guidance added for procedure completion regarding annual sample size<br><br>Procedure now requires that the time spent to review condition reports to be charged to IP71152 instead of the plant status procedure<br><br>Hours have been increased for condition report reviews<br><br>Incorporate safety culture initiatives described in, Staff Requirements - SECY-04-0111 - "Recommended Staff Actions Regarding Agency Guidance in the Areas of Safety Conscious Work Environment and Safety Culture" dated August 30, 2004 | NO<br><br>YES | N/A<br><br>July 1, 2006 | ML061570086 |
| N/A | 09/20/07<br>CN 07-029 | IP 71152 has been revised to add guidance on NRC use of INPO documents. | NO | N/A | ML071560246 |
| N/A | 01/10/08<br>CN 08-001 | IP revised to address ROP Feedback Form 95001-1125 and some enhancements identified by the Problem Identification and Resolution Best Practices draft report. | NO | N/A | ML073540274 |