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## INSPECTION PROCEDURE 90003

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### CONSTRUCTION SUPPLEMENTAL INSPECTION FOR REPETITIVE DEGRADED CORNERSTONES, MULTIPLE DEGRADED CORNERSTONES, MULTIPLE YELLOW INPUTS OR ONE RED INPUT

PROGRAM APPLICABILITY: 2505, 2506

CORNERSTONES: ALL

**INSPECTION BASIS:** This procedure provides the supplemental response for repetitive degraded cornerstones, multiple degraded cornerstones, multiple yellow inputs, or one red input to the assessment Construction Action Matrix as described in Inspection Manual Chapter (IMC) 2505, "Periodic Assessment of Construction Inspection Program Results." The intent of this procedure is to provide the NRC with supplemental information regarding licensee performance, as necessary to determine the breadth and depth of safety, organizational, and programmatic issues. As such, this procedure is more diagnostic than indicative, and includes reviews of programs and processes not inspected as part of the baseline inspection program. While the procedure allows for focus to be applied to areas where performance issues have been previously identified, the procedure requires that some sample reviews be performed for all key attributes of the affected strategic performance areas. The rationale behind this is that additional NRC assurance is required to ensure public health and safety, and security beyond that provided by the baseline inspection program at those facilities where significant performance issues have been identified. The results of this inspection will aid the NRC in deciding whether additional regulatory actions are necessary to assure public health and safety. These additional regulatory actions could include orders, confirmatory action letters, or additional supplemental inspections, as necessary to confirm that corrective actions to the identified performance concerns have been effective.

This procedure was developed with consideration of the following boundary conditions:

- a. The NRC is performing the inspection, which involves a graded approach to assessing the licensee's safety culture. The scope of the inspection requirements related to safety culture will be based on the results of the validation of the licensee's third party safety culture assessment and root cause evaluation.
- b. The procedure is not intended to be used for event response.
- c. New issues identified by the team will be evaluated using the significance determination process during the course of the inspection; other process issues will be documented in the inspection report.

- d. The procedure is intended to provide insight into the root and contributing causes of performance deficiencies, but is not intended to be a substitute for a more focused root cause analysis (or self-assessment) of specific performance issues to be performed by the licensee or by a third party.
- e. In most cases the licensee will have completed a root-cause, extent-of-cause, and extent-of-condition investigation(s) of the performance deficiencies which prompted this inspection and an independent third-party assessment of their safety culture before the NRC begin this inspection. In some cases NRC inspection of these activities can be deferred when warranted to accommodate a longer time required for the licensee to complete them. Flexibility is afforded to perform inspections and safety culture evaluations in parallel with the conduct of the licensee's root cause evaluation and third-party safety culture assessment. A third party assessment is conducted by individuals who are not employees of the plant or the utility operators of the plant.
- f. Refer to Inspection Procedure (IP) 95003, "Supplemental Inspection For Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs Or One Red Input," to review significance performance degradation in operational programs that have been implemented by the licensee prior to the transition to the Reactor Oversight Process (ROP).

## 90003-01 INSPECTION OBJECTIVES

01.01 To provide the NRC additional information to be used in deciding whether the continued construction activities of the licensed facility are acceptable and whether additional regulatory actions are necessary to change and correct declining performance.

01.02 To provide an independent assessment of the extent of safety-significant issues to aid in the determination of whether an unacceptable margin of safety or security exists.

01.03 To independently assess the adequacy of the programs and processes used by the licensee to identify, evaluate, and correct performance issues.

01.04 To independently evaluate the adequacy of programs and processes in the affected strategic performance areas.

01.05 To provide insight into the overall root and contributing causes of identified performance deficiencies.

01.06 To determine if the NRC oversight process provided sufficient warning to significant reductions in the quality of construction.

01.07 To evaluate the licensee's third-party safety culture assessment and conduct a graded assessment of the licensee's safety culture based on the results of the evaluation.

## 90003-02 INSPECTION REQUIREMENTS

The intent of this procedure is to allow the NRC to obtain a comprehensive understanding of the depth and breadth of safety, organizational, and performance issues at facilities where data indicates the potential for serious performance degradation. Considerable leeway has been built into the procedure to allow it to be customized to better reflect the specific nature of the previously identified performance issues.

This procedure was written with the assumption that supplemental inspections (either Inspection Procedure (IP) 90001 or IP 90002) have been conducted to evaluate the licensee's root cause, extent-of-cause, and extent-of-condition evaluations and associated corrective actions for greater than "green" inspection findings. If such supplemental inspections have not been conducted, the scope of this inspection should include inspection of the licensee's evaluation of those issues.

### 02.01 Identification of Strategic Performance Areas Affected.

- a. Using the information contained in the Construction Action Matrix, identify the strategic performance areas for which performance has significantly declined (i.e. Construction Reactor Safety, Safeguards Programs, or Operational Readiness). The scope of this inspection will generally include attributes of the degraded strategic performance area(s). Specific inspection requirements pertaining to each strategic performance area are contained in Sections 02.03, 02.04, and 02.05 of this procedure.
- b. Inspection Requirements 02.02, and 02.06 - 02.11 should always be performed regardless of the strategic performance areas selected for review.

02.02 Review of Licensee Programs for Identifying, Assessing, and Correcting Performance Deficiencies. Once significant performance concerns have been identified in the Construction Action Matrix, the NRC must ensure that licensee programs for identifying, assessing, and correcting performance deficiencies are sufficient to prevent further performance degradation. The following inspection requirements evaluate whether licensee programs are sufficient to prevent further decline in the quality of construction that could result in a plant not being built in accordance with the approved design.

- a. Determine whether licensee evaluations of, and corrective actions to, significant performance deficiencies have been sufficient to correct the deficiencies and prevent recurrence.
- b. Evaluate the effectiveness of audits and assessments performed by the quality assurance group, line organizations, and external organizations. Focus on how the performance data is integrated with other data to arrest declining performance.
- c. Determine whether the process for allocating resources provides for appropriate consideration of safety and compliance, and whether appropriate consideration is given to the management of ITAAC maintenance, design change backlogs and work-around corrections.

- d. Evaluate whether licensee performance goals are congruent with those corrective actions needed to address the documented performance issues.
- e. By reviewing selected aspects of the employee concerns program and the results of surveys or other workplace environment evaluations, ensure that employees are not hesitant to raise safety concerns and that safety significant concerns entered into the employee concern program receive an appropriate level of attention.
- f. Determine whether there is a mechanism for all members of the workforce to suggest improvements and explain their disagreements with technical resolutions of identified deficiencies. Determine whether there is a feedback mechanism in which the evaluation of deficiencies and follow-up corrective actions are reported back to the identifying workers.
- g. Evaluate the effectiveness of the organization's use of industry information for previously documented performance issues.

02.03 Assessment of Performance in the Construction Reactor Safety Strategic Performance Area (Design/Engineering, Procurement/Fabrication, Construction/Installation, Inspection/Testing)

- a. Inspection Preparation
  - 1. Develop an information base to allow the review of the effectiveness of corrective actions.
  - 2. Select an area of construction or work process (i.e. piping, cabling, concrete, module installation, testing, etc.) for focus using the issues identified as part of the performance information developed above.
  - 3. Perform the following inspection requirements for each key attribute focusing on the area of construction or work process selected above. While the inspectors should focus on the selected area, other construction or work process areas may be reviewed as necessary to assess licensee performance for the following key attributes.

b. Key Attribute – Process Control.

Complete the following inspection requirements as they apply to the significant performance concerns identified in the Construction Action Matrix:

- 1. Review a sample of procurement or fabrication documents and changes to those documents against the requirements of the licensed design. Determine that the documents accurately state design requirements and that the change process is adequate in correcting identified deficiencies and maintaining plant design requirements. Assess the effectiveness of corrective actions for deficiencies impacting procurement documents or fabrication records.

2. Select several design change packages and determine whether or not the changes meet regulatory requirements, and that the affected SSC(s) is/are capable of meeting its design function and that specified safety margins were maintained.
  3. Determine if the licensee has effectively implemented programs for document control. Verify that procedures or installation instructions in use have been officially released by the licensee, and the proper level of management is providing oversight for each work process task.
  4. Review a sample of quality control records applicable to the work process being inspected (i.e. electrical, piping, concrete, module installation, etc.) to determine the effectiveness of the licensee's quality control program.
  5. Assess the decision-making process for identification of problems and verify that the licensee is correctly identifying conditions adverse to quality per the established criteria (i.e. whether conservative decisions were made, the CAP was effectively used, and decisions supported the construction of the plant in accordance with the design).
  6. Determine whether inadequate resources were a cause or contributed to any inappropriate delay in resolving significant performance deficiencies.
  7. Ensure the licensee's stop-work order process can be implemented without hindrance from management or poorly established thresholds.
  8. Select a sample of inspections and tests to determine if the scope of their adequately ensures that the acceptance criteria for the ITAAC associated with the applicable SSC are met.
  9. Review the ITAAC maintenance program to ensure it is properly implemented and ITAAC maintenance requirements are met.
  10. Evaluate the interfaces between management, engineering, quality assurance, ITAAC maintenance, vendors and plant support groups.
- c. Key Attribute - Procedure Quality. Inadequate procedures can lead to plant construction outside of the current licensing basis. To the extent that there are procedure deficiencies associated with the above noted activities, they should be identified as causes of problems in other key attributes.

Determine the technical adequacy of procedures by verifying that they are consistent with desired actions by completing the following inspection requirements:

1. Assess the effectiveness of corrective actions for deficiencies involving procedure quality.

2. Evaluate the quality of procedures and, as applicable, determine the adequacy of the procedure development and revision processes.

02.04 Assessment of Performance in the Safeguards Programs Strategic Performance Area (Security Programs for Construction Inspection and Operations)

Refer to IP 95003, Section 02.06, "Assessment of Performance in the Safeguards Strategic Performance Area (Security Cornerstone)," for inspection requirements in the Safeguards Programs strategic performance area.

02.05 Assessment of Performance in the Operational Readiness Strategic Performance Area (Operational Programs)

Refer to IP 95003, Section 02.03, "Assessment of Performance in the Reactor Safety Strategic Performance Area (Initiating Events, Mitigation Systems, Barrier Integrity, and Emergency Preparedness Cornerstones);" 02.04, "Assessment of Performance in the Radiation Safety Strategic Performance Area - Occupational Radiation Safety;" or 02.05, "Assessment of Performance in the Radiation Safety Strategic Performance Area - Public Radiation Safety (Radiological Effluent Monitoring, Radioactive Material Control, and Transportation of Radioactive Material)," as they apply to the performance degradation in operational programs that have been implemented by the licensee prior to the transition to the ROP.

02.06 Evaluate the Licensee's Third-Party Safety Culture Assessment.

Refer to IP 95003, Section 02.07, "Evaluate the Licensee's Third-Party Safety Culture Assessment," for inspection requirements for the evaluation of the licensee's third-party safety culture assessment.

02.07 Determine Scope of and Plan for NRC Graded Safety Culture Assessment.

Refer to IP 95003, Section 02.08, "Determine Scope of and Plan for NRC Graded Safety Culture Assessment," for inspection requirements for the scope and plan for the NRC graded safety culture assessment.

02.08 Perform NRC's Graded Safety Culture Assessment.

Refer to IP 95003, Section 02.09, "Perform NRC's Graded Safety Culture Assessment," for inspection requirements for the performance of the NRC's grades safety culture assessment.

02.09 Performance Deficiency Cause Analysis.

Refer to IP 95003, Section 02.10, "Performance Deficiency Cause Analysis," for inspection requirements for the performance deficiency cause analysis.

02.10 NRC Assessment.

Refer to IP 95003, Section 02.11, "NRC Assessment," for inspection requirements for the NRC assessment.

## 02.11 Document Inspection Results.

Refer to IP 95003, Section 02.12, "Document Inspection Results," for documentation requirements.

## 90003-03 INSPECTION GUIDANCE

### General Guidance.

Refer to IP 95003, Section 03 for general guidance for this inspection.

### Specific Guidance.

03.01 Strategic Performance Area(s) Identification. No additional guidance provided.

03.02 Review of Licensee Programs for Identifying, Assessing, and Correcting Performance Deficiencies.

- a. The inspectors should evaluate whether licensee evaluations of significant deficiencies are of a depth commensurate with the significance of the issue. Evaluations should ensure that the root and contributing causes of safety significant deficiencies are identified. Corrective actions should be taken to correct immediate problems and to prevent recurrence. Include in the sample to be reviewed the licensee's evaluations associated with "white" or greater inspection findings that were not previously inspected. Use the guidance contained in supplemental IP 90001 to help in evaluating the adequacy of the licensee's evaluations.

To the extent possible, include in the sample licensee evaluations and assessments associated with construction programs, any implemented operational programs, and organizational deficiencies, as well as those related to specific performance deficiencies. Consider the results of NRC's evaluation of licensee root cause analyses performed as part of Appendix 16 to IP 35007, "Inspection Guide for Criterion XVI - Corrective Action"

- b. Line organization, quality assurance, and external audits and assessments should be reviewed to determine whether the licensee has demonstrated the capability to identify performance issues before they result in actual degradation in the quality of construction. The findings of these audits and assessments should be integrated with more quantitative performance metrics and compared to those findings identified during this and other NRC inspections. The inspectors should evaluate management's support for the audit and assessment process, as evidenced by staffing of the quality organization, responsiveness to audit and assessment findings, and contributions of the quality organization to improvements in licensee activities.

- c. Processes for authorizing changes and allocating resources for completing work should give adequate consideration to the impact on the design features of the affected SSC and the need for abiding by regulatory requirements. The authorization and allocation processes should provide for a manageable construction backlogs and prevent the need for multiple work-arounds that could increase the likelihood of deviating from the design requirements.
- d. The inspectors should ensure that licensee performance goals are not in conflict with the actions needed to correct performance issues and are in alignment throughout the organization. To complete this requirement, a review should be performed of corporate, site, and organizational strategic plans, as well as other associated licensee documents.
- e. Using the guidance contained in IP 40001, "Resolution of Employee Concerns," perform a limited review of the licensee's program for the resolution of employee concerns. In selecting samples for review, focus on those concerns and programs specifically applicable to the construction areas which are the subject of this inspection. The intent of this review is to determine: (1) whether weaknesses in the employee concerns program have contributed to previously identified deficiencies; (2) whether additional construction quality issues exist that have not been adequately captured by the corrective action program; and, (3) whether weaknesses in the employee concerns program have resulted in issues associated with the maintenance of a safety conscious work environment.
- f. No specific guidance provided.
- g. The team's review of licensee industry information programs should be limited to those problems that might have contributed to the previously identified performance concerns. Determine whether the licensee has adequately implemented actions as necessary to address the issue. For example, weaknesses in licensee programs to review and assess vendor information may have contributed to the installation of SSC not meeting the design requirements.

03.03 Assessment of Performance in the Construction Reactor Safety Area.

- a. Inspection Preparation
  - 1. Compile performance information from the licensee's corrective action program, audits, self-assessments, construction deficiency reports, and the inspection report record for the time period determined by the team manager. To the extent possible keeping in mind the needs of the inspection team, maximize the use of electronic data from the licensee and minimize the impact of the data request on the licensee.

Review the compiled information and sort the issues by the key attributes listed below. Licensee corrective actions for the issues should be assessed as part of the following key attribute reviews.

2. During the planning process, the team leader should select a work process(es) based on the plant construction schedule, past construction inspections that may have already been performed on a work process(es) by the licensee or by other NRC teams, and through review of issues contained in the Construction Action Matrix.

The team should select a number of electrical, mechanical, and instrumentation and control components for detailed review. The majority of these components should be from the principal system or structure with the remainder from support systems or structures which are necessary for meeting the design function of the principal system or from interfacing safety systems served by the principal system.

3. No additional guidance provided.

- b. Key Attribute – Process Control. The failure to assure that the applicable regulatory requirements, design bases, and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment, and service, and the failure to properly fabricate SSCs can result in the plant being constructed outside of the approved design.

Inadequacies in the design change process can cause SSCs to be in nonconformance with the approved design and can affect the design function or the margin of design safety of the respective SSC(s).

An inadequate process for construction and installation can result in a degradation of construction quality and the as-built plant not meeting the approved design. Poor construction quality can be identified by assessing the effectiveness of the different work processes in place by the licensee. Work processes should have established programs for identifying problems, an effective corrective action program, and a procedure change process. These programs should be capable of addressing adverse impacts on the ITAAC, design changes, and procedure revisions, and should provide for effective communication between the work processes. Communications between the work processes should ensure each group is informed of lessons learned, impacts to their construction area due to work being done by other construction groups, design or procedure changes that could impact their area, and proper turnover of construction activities when a vendor has completed its contract.

Inadequate inspection and testing can lead to the failure to verify that the plant was constructed in accordance with the approved design. Verifying that SSCs are installed and maintained in the proper configuration and ensuring that SSCs are capable to perform satisfactorily in service should be a priority of an effective inspection and testing program.

The process control portion of the inspection should be performed by inspectors (or technical staff/contractors) with extensive nuclear plant design experience. It is also important that the inspectors performing the process control portion of the inspection

have a good understanding of plant construction, testing, and quality assurance so that they are able to relate their findings to the other areas being inspected.

The inspectors should focus their review on the area of construction or work process selected in paragraph 02.03.a.2. Prior to evaluating the selected area or specific SSC, the inspectors should review the design basis documents such as calculations and analyses. The review should provide the inspectors an understanding of the functional requirements for each applicable SSC. The intent is to focus on the quality aspects of proper design and engineering actions that could contribute to the degradation of construction quality. The inspection is not intended to be a re-validation of the original design.

Appendix B to 10 CFR Part 50 contains 18 criteria that must be a part of the licensee's quality assurance program for safety-related SSCs. The licensee's QA program and implementing procedures comprise all those planned and systematic actions necessary to provide adequate confidence that a structure, system or component will perform satisfactorily in service. QA programmatic deficiencies, inadequate procedures, and/or improper implementation have all resulted in major problems relating to the quality of design and/or construction.

1. Refer to applicable guidance in IP 35007, Appendix 4, and "Inspection Guide for Criterion IV - Procurement Document Control."
2. Refer to applicable guidance in IP 35007, Appendix 3, and "Inspection Guide for Criterion III - Design Control." Also, in selecting a sample of design changes to be reviewed, the inspectors should concentrate on those changes with the potential to significantly alter the applicable SSC(s). The sample should include changes involving vendor supplied products or services where practicable, since the licensee's ability to oversee vendor supplied services is an important aspect of design control. Inspectors should consider expanding the sample of changes if significant problems are found. This expansion should consider other similar changes and should not be limited to the initially selected SSC(s).
  - (a) Verify that the design and licensing input and output information has been properly controlled.
  - (b) Check the adequacy of design calculations for the selected changes. As an example an inspector could consider the following when evaluating the calculation design parameters of the following components:
    - (1) For valves: Were interlocks changed? Are there new differential pressures for valve strokes? What is the source of control and indication power? Was there an impact on the control logic? Were the specified manual actions required to back up and restore a degraded function changed? Could the change subject to the valves to pressure locking? Are the valves addressed in emergency or abnormal operating procedures? If so, can the valves still function as specified in these procedures?

- (2) For pumps: Did the flow paths the pump will experience during accident scenarios change? Where there changes to the permissive interlock and control logic? What suction and discharge pressure is the pump expected to experience during accident conditions with the new design? Do vendor data and specifications support the new parameters of the design?
  - (c) Compare the as-built configuration with the current design basis and the licensing requirements for the selected SSC and consider the following:
    - (1) Verify that the changes do not invalidate assumptions made as part of the original design and the accident analyses, including interfaces with supporting SSCs. For example, are service water flow capacities sufficient with the minimum number of pumps available under accident conditions? Are the voltage studies accurate and will the required motor operated valves (MOVs) and relays operate under end-of-life battery conditions and degraded grid voltages? Are fuses and thermal overloads properly sized? Are current loads within the capacity of the station batteries? Are test results for the SSC consistent with the design assumptions?
    - (2) Do the changes invalidate design input parameters provided to accident analyses vendors?
    - (3) Have modified structures surrounding safety equipment, components, or structures been evaluated for seismic 2-over-1 considerations? Has modified equipment or components under the scope of 10 CFR 50.49 been thoroughly evaluated for environmental equipment qualification considerations such as temperature, radiation, and humidity?
  - (d) Verify whether the selected changes have introduced an unreviewed safety question.
  - (e) For the selected SSC(s), review that the changes have not introduced new design parameters that could adversely impact the developed maintenance procedures and operating procedures. Confirm that any such design changes have been subjected to the formal design change process in accordance with 10 CFR 52.
  - (f) Ensure that verification and validation of computer programs used for design and engineering calculations has been adequately accomplished.
3. Refer to applicable guidance in IP 35007, Appendix 6, and "Inspection Guide for Criterion VI - Document Control."

4. Refer to applicable guidance in IP 35007, Appendix 17, and “Inspection Guide for Criterion XVII - Quality Assurance Records.”
5. Refer to applicable guidance in IP 35007, Appendix 16, and “Inspection Guide for Criterion XVI - Corrective Action.”
6. No additional guidance provided.
7. No additional guidance provided.
8. Refer to applicable guidance in IP 35007, Appendix 11, and “Inspection Guide for Criterion XI - Test Control.”
9. Refer to applicable guidance in IP 40600, “Licensee Program for Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Management.”
10. Evaluate the interfaces between management, engineering, quality assurance, ITAAC maintenance, vendors and plant support groups.
  - (a) Assess the ability to communicate accurate information on the status of design changes. Plant policies on updating design related material may not support timely documentation of design changes. Verify that provisions are in place and being followed to assure the accurate recording of the as-designed and as-built conditions during the interim period between change implementation and incorporation into the plant design basis documents.
  - (b) Verify that applicable management, engineering, quality assurance, ITAAC maintenance, vendors and affected work process groups are involved in the evaluation and concurrence process for approving:
    - (1) Performance of non-routine maintenance activities
    - (2) Temporary changes
    - (3) Field change requests
  - (c) Review the licensee’s control of vendor supplied services and products including the evaluation for technical adequacy and quality assurance. The licensee’s evaluation and control of vendor supplied services and products should be multi-disciplinary in its approach.
  - (d) Verify that self-revealing deficiencies and those identified by the licensee’s vendor control process are properly communicated to the vendor.

c. Key Attribute – Procedure Quality.

1. Evaluate to what extent procedure quality has contributed to previously identified construction issues. In performing this evaluation, select a sample of documents which reflect instances where problems with a procedure have been documented in construction deficiency reports, NRC inspection reports, or licensee assessments or audits. Focus on the technical adequacy of the documents using the following guidance as applicable. Evaluate the licensee's actions to address the identified inadequacies.
2. Development and review of procedures.
  - (a) When reviewing procedures, the inspector should assess the technical adequacy of the procedures and determine if the procedural steps or information being communicated in procurement documents will ensure that applicable SSCs meet their design specifications.
  - (b) Determine whether the procedures will accomplish the activity within the design characteristics and regulatory requirements. During this evaluation, the review may include UFSAR descriptions, vendor manuals, design information, piping and instrumentation drawings (P&IDs), and instrumentation and electrical wiring and control diagrams.
  - (c) Review receipt documentation to assess the licensee's effectiveness to ensure the SSC received meets the design requirements. Determine if the procedures allows for the identification and evaluation of SSC deficiencies. Verify the use of quality verification of important attributes. Verify that important vendor manuals are complete and up-to-date. Documents, such as vendor manuals, equipment operating and maintenance instructions, or approved drawings with acceptance criteria, may by reference be part of a procedure. If these documents are so used, the documents (or applicable portions) require the same level of review and approval as the procedure that references it.
  - (d) Verify that personnel have the ability to reference an up-to-date and accurate copy of procedures. This is necessary because design changes may not be reflected immediately in the documentation upon completion of the design review. In such situations, the inspector should verify that design changes are captured in a timely manner following the changes in the procurement system.
  - (e) Procedure changes should be in accordance with licensee processes and regulatory requirements. Verify the adequacy of all procedure changes which resulted from recent (within the last year) license change(s).

- (f) Verify procedure changes are in conformance with a 10 CFR 50.59-like change process. This item applies only to changes to procedures which are described or summarized in the UFSAR, normally a small portion of the procedures in use at the facility. General guidance and contrasting examples relating to the procedure changes which can be made by the licensee are described in NRC Inspection Manual Part 9900, "Guidance on 10 CFR 50.59 Changes to Facilities, Procedures, and Tests (or Experiments)."
- (g) Through discussions with personnel and a review of approved procedures, determine if skilled craft, engineering, and technical support personnel contribute to the development, review, and approval of procedures. Are special or complex procedures "dry run" and discussed with all participating workers in a pre-job brief prior to use?
- (h) Incorporating accepted human factors principles about format and writing style into procedures increases the likelihood that the procedures will be easier to use and follow, and decreases the likelihood of human error while executing the procedure. Standards for format and writing style can usually be found in the licensee's writer's guide. Usability should be determined by evaluating the degree to which procedures follow the guidance outlined in the writer's guide.
- (i) When a writer's guide is not available or if the quality of the writer's guide is in question, procedure usability can be determined by evaluating the elements of writing style, format, and organization described in IP 42700, "Plant Procedures."
- (j) Verify temporary procedures were properly approved and did not conflict with regulatory requirements. Review a sample of temporary procedures and temporary procedure changes issued during the past year to determine if the approval and subsequent review requirements are being followed. Determine whether the licensee has procedural limitations on how long a temporary procedure or a temporary procedure change can be in effect, and compare this with observed practices. Verify that temporary procedure changes disseminated through night orders, standing orders, or work orders have been reviewed and approved per the licensee's procedures by the proper level of licensee supervision/management.

03.04 Assessment of Performance in the Safeguards Programs Strategic Performance Area (Security Programs for Construction Inspection and Operations)

Refer to the specific guidance specified in IP 95003, Section 03.06, and "Assessment of Performance in the Safeguards Strategic Performance Area."

03.05 Assessment of Performance in the Operational Readiness Strategic Performance Area (Operational Programs)

Refer to the specific guidance in IP 95003, Section 03.03, "Assessment of Performance in the Reactor Safety Strategic Performance Area (Initiating Events, Mitigation Systems, Barrier Integrity, and Emergency Preparedness Cornerstones);" 03.04, "Assessment of Performance in the Radiation Safety Strategic Performance Area - Occupational Radiation Safety;" or 03.05, "Assessment of Performance in the Radiation Safety Strategic Performance Area - Public Radiation Safety (Radiological Effluent Monitoring, Radioactive Material Control, and Transportation of Radioactive Material)," as they apply to the performance degradation in operational programs that have been implemented by the licensee prior to the transition to the ROP.

03.06 Evaluate the Licensee's Third-Party Safety Culture Assessment.

Refer to IP 95003, Section 03.07, "Evaluate the Licensee's Third-Party Safety Culture Assessment," for inspection requirements for the evaluation of the licensee's third-party safety culture assessment.

03.07 Determine Scope of and Plan for NRC Graded Safety Culture Assessment.

Refer to IP 95003, Section 03.08, "Determine Scope of and Plan for NRC Graded Safety Culture Assessment," for inspection requirements for the scope and plan for the NRC graded safety culture assessment.

03.08 Perform NRC's Graded Safety Culture Assessment.

Refer to IP 95003, Section 03.09, "Perform NRC's Graded Safety Culture Assessment," for inspection requirements for the performance of the NRC's grades safety culture assessment.

03.09 Performance Deficiency Cause Analysis.

Refer to IP 95003, Section 03.10, "Performance Deficiency Cause Analysis," for inspection requirements for the performance deficiency cause analysis.

03.10 NRC Assessment.

Refer to IP 95003, Section 03.11, "NRC Assessment," for inspection requirements for the NRC assessment.

03.11 Document Inspection Results.

Refer to IP 95003, Section 03.12, "Document Inspection Results," for documentation requirements.

#### 95003-04 RESOURCE ESTIMATE

The resource estimates provided are for direct inspection only, based on a three week on-site inspection. Not all areas will be performed during each inspection and the hours required to complete each area may be less for construction sites where previously identified performance issues were isolated. The hours required to complete each area could also be greater based on site-specific circumstances. The resource estimates are not requirements and inspection staffing needs are based upon site-specific circumstances.

| <u>Position/Inspected Area</u>             | <u>Hours</u>               |
|--|----------------------------|
| Team Leader .....                          | 120                        |
| Assistant Team Leader .....                | 120                        |
| Corrective Action Program.....             | 240                        |
| Licensee's Safety Culture Assessment ..... | 120-160                    |
| Safety Culture Assessment Activities ..... | 80-360                     |
| <br>                                       |                            |
| Process Control .....                      | 120                        |
| Procedure Quality .....                    | 120                        |
| Human Performance.....                     | 120                        |
| Safeguards .....                           | TBD                        |
| Review of Assessment Process .....         | 40 (not direct inspection) |

#### 90003-05 PROCEDURE COMPLETION

Meeting the inspection objectives defined in Section 90003-01 of this IP will constitute completion. Refer to IMC 2505 for additional regulatory actions and considerations.

#### 90003-06 REFERENCES

IMC 2503, "Construction Inspection Program: Inspections of Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)"

IMC 2504, "Construction Inspection Program - Inspection of Construction and Operational Programs"

IMC 2505, "Periodic Assessment of Construction Inspection Program Results"

IMC 2506, "Construction Reactor Oversight Process General Guidance and Basis Document"

IMC 0613, "Documenting 10 CFR Part 52 Construction and Test Inspections"

IP 35007, "Quality Assurance Program Implementation During Construction and Pre-Construction Activities"

IP 40001, "Resolution of Employee Concerns"

IP 71841, "Human Performance"

IP 82001.05, "Procedure Quality"

IP 90001, "Construction Regulatory Response Column Inspections"

IP 90002, "Construction Degraded Response Column Inspections"

IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input"

10 CFR 52, Section VIII of Appendix A through D, "Processes for Changes and Departures"

END

Attachment: Revision History for IP 90003

Attachment 1 – Revision History for IP 90003

| Commitment Tracking Number | Accession Number<br>Issue Date<br>Change Notice | Description of Change  | Description of Training Required and Completion Date | Comment and Feedback Resolution<br>Accession Number |
|----------------------------|---|--|--|---|
| N/A                        | ML11340A021<br>02/09/2012<br>CN 12-001          | Initial Issue.   | N/A  | ML11340A019   |
| N/A                        | ML14226A900<br>10/28/14<br>CN 14-026            | Complete revision to include cROP strategic performance areas and attributes. Changed safety culture terms to be consistent with IMC 0613, and the common safety culture terms initiative. | N/A  | N/A   |