

APPENDIX B

SUPPLEMENTAL INSPECTION PROGRAM

A. OBJECTIVES AND PHILOSOPHY OF THE SUPPLEMENTAL INSPECTION PROGRAM

The supplemental inspection program is designed to support the NRC's goals of maintaining safety, enhancing openness, improving the effectiveness, efficiency and realism of the regulatory process, and reducing unnecessary regulatory burden. While the baseline inspection program and performance indicators should provide sufficient information to allow the NRC to meet the goal of assuring licensee's are maintaining safety at facilities with an absence of risk significant performance issues, additional supplemental inspections are required¹ to provide enhanced information regarding safety at facilities where risk significant performance issues have been identified. These performance issues may be identified either by inspection findings evaluated using the significance determination process (SDP) or when performance indicator thresholds are exceeded.

The breadth and depth of the supplemental inspections increase in proportion to the relative risk significance of the identified performance issues and will be based upon the guidance provided in the NRC's assessment "Action Matrix" and the Supplemental Inspection Selection Table.

B. APPLICABILITY

The supplemental inspections contained in this Appendix apply to all strategic performance areas and associated cornerstones of safety. The inspection report written for the supplemental inspections should contain the NRC's assessment for each inspection requirement. These inspection requirements are independent of whether the performance issues were the result of performance indicators or inspection findings. The resource estimates provided in each supplemental inspection procedure are estimates only, and may vary considerably due to the complexity of the issue(s) and the thoroughness of the licensee's own evaluations and proposed corrective actions.

C. DESCRIPTION OF SUPPLEMENTAL INSPECTION PROGRAM

The supplemental inspection program contains three procedures which become deeper and broader as the safety significance of the performance issues increases. For one or two white inputs in a strategic performance area (different cornerstones), supplemental inspection is limited to a thorough oversight of the licensee's evaluation.

¹ Note that the assessment process allows the option of not performing a supplemental inspection for a white issue identified as part of a licensee self assessment activity. This is not considered a deviation from the action matrix.

SUPPLEMENTAL INSPECTION SELECTION TABLE

| | | | |
|---|--|--|--|
| | One or two white inputs (in different cornerstones) in a strategic performance area | One degraded cornerstone (two white inputs or one yellow input) or any three white inputs in a strategic performance area | Repetitive degraded cornerstone, multiple degraded cornerstones, multiple yellow inputs, or any one red input |
| Supplemental Inspection Procedure and Scope | Inspection Procedure 95001 consisting of review of the licensee's evaluation of root cause and extent of condition; plus review of proposed corrective actions. Follow-up NRC inspection to determine effectiveness of corrective actions. Inspection limited to specific issue(s) or performance area of concern. | Inspection Procedure 95002 consisting of review of the licensee's evaluation of root cause and extent of condition, plus review of proposed corrective actions for both individual and collective issues. Independent NRC inspection to assess validity of licensee's extent of condition. Follow-up NRC inspection to evaluate adequacy of licensee corrective actions. | Inspection Procedure 95003 consisting of a large multi-disciplined NRC team inspection(s). Inspection focused on all key attributes associated with effected strategic performance areas. |
| Assessment of Supplemental Inspection Findings | Significant weaknesses in the licensee's evaluation may result in expansion of the inspection to independently acquire the information necessary to satisfy the inspection requirements. The original issue may also not be removed from the action matrix until the weaknesses in the evaluation are addressed. | Significant weaknesses in licensee evaluation may result in expansion of the inspection to independently acquire the information necessary to satisfy the inspection requirements. The original issue may also not be removed from the action matrix until the weaknesses in the evaluation are addressed. | Results of this supplemental inspection will be assessed to determine if additional agency actions are warranted and whether the facility should be ordered to shut down and be placed under Inspection Manual Chapter 0350. |

For one degraded cornerstone or any three white inputs in a strategic performance area, the supplemental inspection will also review the licensee's collective evaluation for multiple issues. In addition, the portions of the licensee's evaluation concerning extent of condition will be assessed independently by the NRC. This independent assessment will be conducted using inspection procedures selected from tables that list the procedures by cornerstone and key attribute provided in Attachment 1 to this Appendix. The objective of this inspection will be to ensure that the licensee has properly identified the scope (extent) of the issues and that the proposed corrective actions are sufficiently comprehensive. The inspection procedures listed in the Attachment 1 tables include: baseline inspection procedures (portions of which can be repeated with additional samples); procedures that were part of the core, regional initiative, and temporary instruction portions of the old inspection program; and new inspection procedures written solely for the purpose of performing supplemental inspection. A combination of procedures or portions of procedures can also be used as appropriate. Inspection hours utilized in fulfilling this inspection requirement should be charged to inspection procedure 95002, regardless of the specific procedure(s) chosen for implementation.

D. ASSESSING INSPECTION FINDINGS

If during implementation of Inspection Procedures 95001 or 95002, significant weaknesses are identified in the licensee's evaluation of the performance issue, the inspection may be expanded as necessary to independently acquire the information necessary to satisfy the inspection requirements. Also, the original performance issue will remain open and will not be removed from the action matrix until the weaknesses in the evaluation are addressed and corrected. Programmatic weaknesses associated with the licensee's evaluation of the performance issue will also be documented in the inspection report and additional focus will be given to those areas during the next annual problem identification and resolution baseline inspection.

Should new or additional examples of performance issues (non-programmatic) be identified during supplemental inspections, the new issues will be categorized using the SDP, and if indicated, the corresponding supplemental inspection procedure will be performed. Supplemental inspections will also be performed if additional examples of performance issues are reported via PIs that result in crossing a new PI threshold. Additional supplemental inspections will generally not be performed if the new or additional examples of performance issues reported via PIs do not result in crossing a new PI threshold.

Significant weaknesses identified during performance of Inspection Procedure 95003 will be assessed to determine if additional agency actions are warranted and whether the facility should be ordered to be shut down. In such cases, the facility will be placed under Inspection Manual Chapter 0350.

END

ATTACHMENT 1

**INSPECTION PROCEDURES TO BE USED FOR
ASSESSING EXTENT OF CONDITION**

INITIATING EVENTS

| Protection Against External Events | Human Performance | Procedure Quality | Equipment Performance | Design | Configuration Control |
|--|----------------------------------|-------------------|---|--|--|
| 71111.01 71111.05 71111.06 | 41500 71707 71715 71841 | 42700 72701 | 50002 55050 55100 56700 61726 62700 62706 62709 71111.07 71111.08 71111.12 71111.13 93805 | 50002 52003 93803 93807 93811 | 62709 71111.04 71111.13 71111.20 71707 |
| <p>General Procedures</p> <p>90700 90712 92700 93801 93802 93806 93808</p> | | | | | |

MITIGATING SYSTEMS

| Design | Protection Against External Events | Configuration Control | Equipment Performance | Procedure Quality | Human Performance |
|---|------------------------------------|--|--|----------------------------------|--|
| 52003 56700 62710 71111.02 71111.17 71111.21 71111.23 93803 93807 93810 93811 | 71111.01 71111.05 71111.06 | 62709 71111.04 71111.13 71111.20 71707 | 38703 49001 55050 55100 56700 57050 57060 57070 57080 57090 61726 62002 62700 62706 62708 62709 62710 70370 71111.07 71111.12 71111.13 71111.15 71111.17 71111.19 71111.21 71111.22 71111.23 73756 93805 93810 93811 | 42001 42700 72701 73052 | 41500 71111.11 71707 71715 71841 |
| General Procedures 90700 90712 92700 93801 93802 93803 93804 93806 93808 | | | | | |

BARRIER INTEGRITY

| Fuel Cladding Performance | RCS Equip. & Barrier Perf. | Containment SSC & Barrier Perf. | Human Performance | Procedure Quality | Design Control | Configuration Control |
|---------------------------|----------------------------|---------------------------------|-------------------|-------------------|----------------|-----------------------|
| 61705 | 55050 | 38703 | 41500 | 42700 | 50002 | 62709 |
| 61706 | 55100 | 49001 | 71111.11 | 70307 | 71111.02 | 71111.04 |
| 61707 | 56700 | 50002 | 71707 | 72701 | 71111.17 | 71111.13 |
| 61708 | 57050 | 55050 | 71715 | 73052 | 71111.23 | 71111.20 |
| 61709 | 57060 | 55100 | 71841 | | 93803 | 71707 |
| 61710 | 57070 | 56700 | | | 93811 | |
| | 57080 | 57050 | | | | |
| | 57090 | 57060 | | | | |
| | 61728 | 57070 | | | | |
| | 62700 | 57080 | | | | |
| | 62706 | 57090 | | | | |
| | 62709 | 61715 | | | | |
| | 71111.08 | 61720 | | | | |
| | 71111.12 | 62002 | | | | |
| | 71111.13 | 62003 | | | | |
| | 71111.17 | 62700 | | | | |
| | 71111.22 | 62706 | | | | |
| | 71111.23 | 62709 | | | | |
| | 73051 | 70313 | | | | |
| | 73753 | 70323 | | | | |
| | 73755 | 70370 | | | | |
| | 73756 | 71111.12 | | | | |
| | 93805 | 71111.13 | | | | |
| | | 71111.22 | | | | |
| | | 71111.17 | | | | |
| | | 71111.23 | | | | |
| | | 93805 | | | | |
| General Procedures | | | | | | |
| 90700 | | | | | | |
| 90712 | | | | | | |
| 92700 | | | | | | |
| 93801 | | | | | | |
| 93808 | | | | | | |

EMERGENCY PREPAREDNESS

| ERO Readiness | Facilities and Equipment | Procedure Quality | ERO Performance | Offsite EP |
|----------------------------------|----------------------------------|----------------------------------|-----------------|---|
| 71114 82001 82201 82202 | 71114 82001 82201 82202 | 71114 82001 82201 82202 | 82001 | No NRC inspection of this key attribute. - Evaluation performed by FEMA |

PUBLIC RADIATION SAFETY

| Facilities/Equipment | Program/Process | Human Performance |
|-------------------------------|---|---|
| 83502 83502.01 83502.02 | 83502 83502.01 83502.02 83502.03 | 41500 71841 83502 83502.01 83502.02 83502.03 |

OCCUPATIONAL RADIATION SAFETY

| Facilities and Equipment | Program/Process | Human Performance |
|-----------------------------|----------------------------------|-------------------------|
| 83724 83725 | 79702 83724 83725 83728 | 41500 71841 83723 |
| General Procedures 83501 | | |

PHYSICAL PROTECTION

| Physical Protection System | Access Authorization System | Access Control System | Response to Contingency Events |
|----------------------------|-----------------------------|-----------------------|--------------------------------|
| 81018 | 81018 | 81018 | 81018 |
| 81020 | 81020 | 81020 | 81020 |
| 81034 | 81034 | 81034 | 81022 |
| 81038 | 81038 | 81038 | 81034 |
| 81042 | 81502 | 81042 | 81038 |
| 81046 | 81700 | 81046 | 81042 |
| 81052 | | 81054 | 81052 |
| 81058 | | 81058 | 81054 |
| 81062 | | 81064 | 81058 |
| 81064 | | 81070 | 81062 |
| 81066 | | 81072 | 81064 |
| 81078 | | 81074 | 81066 |
| 81084 | | 81080 | 81078 |
| 81810 | | | 81080 |
| | | | 81084 |
| | | | 81088 |
| | | | 81501 |
| | | | 81601 |
| | | | 81700 |

END

ATTACHMENT 2

PROCEDURES LISTED IN ATTACHMENT 1

Inspection

Procedure No. Inspection Procedure Title

| | |
|-------|--|
| 38703 | Commercial Grade Procurement Inspection |
| 41500 | Training and Qualification Effectiveness |
| 42001 | Emergency Operating Procedures |
| 42700 | Plant Procedures |
| 49001 | Inspection of Erosion/Corrosion Monitoring Programs |
| 50002 | Steam Generators |
| 52003 | Digital Instrumentation and Control Modification Inspection |
| 55050 | Nuclear Welding General Inspection Procedure |
| 55100 | Structural Welding General Inspection Procedure |
| 56700 | Calibration |
| 57050 | Nondestructive Examination Procedure Visual Examination Procedure Review/Work Observation/Record Review |
| 57060 | Nondestructive Examination Procedure Liquid Penetrant Examination Procedure Review/Work Observation/Record Review |
| 57070 | Nondestructive Examination Procedure Magnetic Particle Examination Procedure Review/Work Observation/Record Review |
| 57080 | Nondestructive Examination Procedure Ultrasonic Examination Procedure Review/Work Observation Record Review |

Inspection

Procedure No. Inspection Procedure Title

| | |
|-------|--|
| 57090 | Nondestructive Examination Procedure Radiographic Examination Procedure Review/Work Observation/ Record Review |
| 61705 | Calibration of Nuclear Instrumentation Systems |
| 61706 | Core Thermal Power Evaluation |
| 61707 | Determination of Reactor Shutdown Margin |
| 61708 | Isothermal and Moderator Temperature Coefficient Determinations |
| 61709 | Total Power Coefficient of Reactivity at Pressurized Water Reactors |
| 61710 | Control Rod Worth Measurement |
| 61715 | Verification of Containment Integrity |
| 61720 | Containment Local Leak Rate Testing |
| 61726 | Surveillance Observations |
| 61728 | Independent Measurement of RCS Leak Rates for a PWR |
| 62002 | Inspection of Structures, Passive Components, and Civil Engineering Features at Nuclear Power Plants |
| 62003 | Inspection of Steel and Concrete Containment Structures at Nuclear Power Plants |
| 62700 | Maintenance Program Implementation |
| 62706 | Maintenance Rule Inspection Procedure |
| 62708 | Motor-Operated Valve Capability |
| 62709 | Configuration Risk Assessment and Risk Management Process |
| 62710 | Power-Operated Gate Valve Pressure Locking and Thermal Binding |

Inspection

Procedure No. Inspection Procedure Title

| | |
|-------|--|
| 70307 | Containment Integrated Leak Rate Test - Procedure Review |
| 70313 | Containment Integrated Leak Rate Test |
| 70323 | Containment Leak Rate Test Results Evaluation |
| 70370 | Testing Piping Support and Restraint Systems |
| 71707 | Plant Operations |
| 71715 | Sustained Control Room and Plant Observation |
| 71841 | Supplemental Inspection for Human Performance |
| 72701 | Modification Testing |
| 73051 | Inservice Inspection - Review of Program |
| 73052 | Inservice Inspection - Review of Procedures |
| 73753 | Inservice Inspection |
| 73755 | Inservice Inspection - Data Review and Evaluation |
| 73756 | Inservice Testing of Pumps and Valves |
| 79702 | Control and Monitoring of Radiological Source Term |
| 81018 | Security Plan and Implementing Procedures |
| 81020 | Management Effectiveness - Security Program |
| 81022 | Security Organization |
| 81034 | Security Program Audit |
| 81038 | Records and Reports |
| 81042 | Testing and Maintenance |
| 81046 | Locks, Keys, and Combinations |

Inspection

Procedure No. Inspection Procedure Title

| | |
|-------|--|
| 81052 | Physical Barriers-Protected Areas |
| 81054 | Physical Barriers-Vital Areas, Material Access Areas and Controlled Access Areas |
| 81058 | Security System Power Supply |
| 81062 | Lighting |
| 81064 | Compensatory Measures |
| 81066 | Assessment Aids |
| 81070 | Access Control - Personnel |
| 81072 | Access Control (Power Reactor) - Packages |
| 81074 | Access Control - Vehicles |
| 81078 | Detection Aids - Protected Areas |
| 81080 | Detection Aids - VA, MAA, CAA |
| 81084 | Alarm Stations |
| 81088 | Communications |
| 81501 | Personnel Training and Qualifications - General Requirements |
| 81502 | Fitness for Duty Program |
| 81601 | Safeguards Contingency Plan Implementation Review |
| 81810 | Protection of Safeguards Information |
| 82001 | Evaluation of Emergency Preparedness |
| 82201 | Emergency Detection and Classification |
| 82202 | Protective Action Decision Making |

Inspection

Procedure No. Inspection Procedure Title

| | |
|----------|---|
| 83501 | Significant Uncontrolled Exposures |
| 83502 | Evaluation of Public Radiation Safety |
| 83502.01 | Radioactive Gaseous and Liquid Treatment and Monitoring Systems |
| 83502.02 | Radioactive Material Process and Transportation |
| 83502.03 | Radiological Environmental Monitoring Program and Radioactive Material Control Program |
| 83723 | Training and Qualifications: General Employee Training, Radiation Safety, Plant Chemistry, Radwaste, and Transportation |
| 83724 | External Occupational Exposure Control and Personal Dosimetry |
| 83725 | Internal Exposure Control and Assessment |
| 83728 | Maintaining Occupational Exposures ALARA |
| 90700 | Feedback of Operational Experience Information at Operating Power Reactors |
| 90712 | In-Office Review of Written Reports of Nonroutine Events at Power Reactor Facilities |
| 92700 | Onsite Follow-up of Written Reports of Nonroutine Events at Power Reactor Facilities |
| 93801 | Safety System Functional Inspection (SSFI) |
| 93802 | Operational Safety Team Inspection (OSTI) |
| 93803 | Safety Systems Outage Modifications Inspection |
| 93804 | Risk-Based Operational Safety and Performance Inspection |
| 93805 | Maintenance Program |
| 93806 | Operational Readiness Assessment Team Inspections |

Inspection

Procedure No. Inspection Procedure Title

| | |
|-------|--|
| 93807 | Systems Based Instrumentation and Control Inspection |
| 93810 | Service Water System Operational Performance Inspection (SWSOPI) |
| 93811 | Electrical Distribution System Functional Inspection (EDSFI) |

END

Attachment 3

Revision History Sheet for IMC 2515 Appendix B

| Commitment Tracking Number | Issue Date | Description of Change | Training Needed | Training Completion Date | Comment Resolution Accession Number |
|----------------------------|-----------------------|--|-----------------|--------------------------|-------------------------------------|
| N/A | 1/17/2002 | Revised to include new inspection procedure 62710, "Power-Operated Gate Valve Pressure Locking and Thermal Binding." | N/A | N/A | N/A |
| N/A | 3/23/2005 | Revised to add Inspection Procedures 56700, 82201, 82202, and 90700 to Attachment 1. | N/A | N/A | N/A |
| N/A | 01/26/07 CN 07-004 | Added IP 61726, "Surveillance Observations" to list of IPs to be used for assessing extent of condition (FF IMC2515B-919). Completed 4 year historical change notice search. | N/A | N/A | ML063460228 |
| N/A | 10/29/09 CN 09-025 | Revised to add Inspection Procedure 52003 and remove references to previously deleted procedures. | N/A | N/A | N/A |