U.S. NUCLEAR REGULATORY COMMISSION

STANDARD REVIEW PLAN

17.6 MAINTENANCE RULE

REVIEW RESPONSIBILITIES

Primary - Organization responsible for the review of operations support and maintenance

Secondary None

I. AREAS OF REVIEW

This Standard Review Plan (SRP) section addresses the Maintenance Rule (MR) program based on the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.65 and the guidance in Nuclear Management and Resources Council (NUMARC) 93-01 as endorsed by Regulatory Guide (RG) 1.160.

The specific areas of review are as follows.

1. Scoping in accordance with 10 CFR 50.65(b)

2. Monitoring in accordance with 10 CFR 50.65(a)

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3. Periodic evaluation in accordance with 10 CFR 50.65(a)(3)

4. Maintenance risk assessment and management in accordance with 10 CFR 50.65(a)(4)

5. MR Training and Qualification

6. Interface with the Reliability Assurance Program (RAP) in the Operations Phase

7. MR Program Implementation

8. Combined License (COL) Action Items and Certification Requirements and Restrictions

   The MR program is an operational program addressed in a COL application.

9. Operational Program Description and Implementation

   For a COL application, the staff reviews the MR program description and the proposed implementation milestones. The staff also reviews Final Safety Analysis Report (FSAR) Table 13.4-x to ensure that the MR program and associated milestones are included.

10. Generic FSAR template guidance (e.g., Nuclear Energy Institute (NEI) 07-02A, "Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed Under 10 CFR Part 52.")

Note: There are no inspection, test, analysis, and acceptance criteria (ITAAC) associated with this SRP section.

Review Interfaces

Other SRP sections interface with this section as follows:

1. The RAP in the operational phase reviewed in SRP Section 17.4, "Reliability Assurance Program," may be implemented by the MR program in conjunction with the quality assurance program, reviewed in SRP Section 17.5, "Quality Assurance Program Description - Design Certification, Early Site Permit and New License Applicants," and the underlying maintenance and surveillance programs.

2. For COL reviews of operational programs, the review of the applicant's implementation plan is performed under SRP Section 13.4, "Operational Programs."

The specific acceptance criteria and review procedures are contained in the referenced SRP sections.

II. ACCEPTANCE CRITERIA

Requirements

Acceptance criteria are based on meeting the relevant requirements of the following Commission regulations:

1. 10 CFR 50.65, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants.”

2. 10 CFR 52.79(a)(15), which requires that a COL FSAR contain a description of the program, and its implementation, for monitoring the effectiveness of maintenance necessary to meet the requirements of 10 CFR 50.65.

SRP Acceptance Criteria

Specific SRP acceptance criteria acceptable to meet the relevant requirements of the U.S. Nuclear Regulatory Commission (NRC) regulations identified above are as follows for the review described in this SRP section. The SRP is not a substitute for the NRC regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide acceptable methods of compliance with the NRC regulations.

1. NUMARC 93-01 as endorsed by RG 1.160 represents an acceptable approach for implementing a MR program in accordance with 10 CFR 50.65.

   The applicant’s program should be consistent with the industry guidance as endorsed. Deviations should be explained and justified.

2. For COL reviews, the applicant’s program should categorize all structures, systems, and components (SSCs) within the scope of the RAP as having high safety significance within the scope of the MR.

3. Operational Programs

   For COL reviews, the description of the operational program and proposed implementation milestones for the MR program are reviewed in accordance with 10 CFR 50.65. The implementation milestones are plant specific except that 10 CFR 50.65 will require that the program be fully implemented before the 10 CFR 52.103(g) finding (pre-fuel load), is authorized.

III. REVIEW PROCEDURES

The reviewer will select material from the procedures described below, as may be appropriate, for a particular case. These review procedures are based on the identified SRP acceptance criteria. For deviations from these acceptance criteria, the staff should review the applicant’s evaluation of how the proposed alternatives provide an acceptable method of complying with the relevant NRC requirements identified in Subsection II.

In general, the staff reviews the description of program procedures and computer software, if any, for MR implementation in accordance with NUMARC 93-01 as endorsed by RG 1.160, including, but not limited to the following areas:

Note 1: Deviations from the guidance in NUMARC 93-01 as endorsed by RG 1.160 should be explained and justified.

Note 2: Applicants referencing a certified design must address the COL application information or action items relevant to the MR in Chapter 17 of the Safety Evaluation Report (SER)-approved generic design certification document.

Note 3: Submission of actual procedures or software for review is not required or expected for the COL application, but they must be available for NRC inspection by the time the program is required to be implemented (i.e., by the time fuel load is authorized).

Note 4: If an applicant proposes to use the existing MR program used for its operating plants for new plants, then applicability to, and adjustments required by, the new plant design must be addressed. A new passive plant (AP1000 or Economic Simplified Boiling-Water Reactor (ESBWR)) may be built next to an active pressurized-water reactor/boiling-water reactor.

1. Scoping in accordance with 10 CFR 50.65(b)

The applicant should describe its process for determining which plant SSCs, will be included in the scope of the MR program in accordance with 10 CFR 50.65(b) of the rule and the NRC-endorsed guidance. The program description should indicate that additional SSC functions may be added to or subtracted from the MR scope prior to fuel load, as appropriate, as additional information is developed (e.g., emergency operating procedures (EOPs)) after the license is issued. The description of the MR scoping process should address:

A. The criteria for including safety-related SSCs relied upon to remain functional during and following design-basis events in accordance with 10 CFR 50.65(b)(1).

B. The criteria for including nonsafety-related SSCs in accordance with 10 CFR 50.65(b)(2). Specifically, the criteria are:

i. Nonsafety-related SSCs that are relied upon to mitigate accidents or transients or are used in plant EOPs; or

ii. Nonsafety-related SSCs whose failures could prevent safety-related SSCs from fulfilling their safety function; or

iii. Nonsafety-related SSCs whose failure could cause a reactor scram or actuation of a safety-related system.

Related to Item 1.B.i, nonsafety-related SSCs that are necessary to be in the MR scope are those explicitly used in the EOPs that provide mitigating functions. Specifically:

a. SSCs used in plant EOPs are required for mitigation of the event/symptom that necessitated entry into the EOP.

b. SSCs used in plant EOPs are required for mitigation of the event/symptom that necessitated entry into the EOP.

c. Only those SSCs under licensee control need be included in the MR scope.

Note: Severe Accident Management Guidelines (SAMGs) are not considered to be EOPs. Equipment described only in SAMGs would not be in scope of the MR unless otherwise required by 10 CFR 50.65(b). Equipment used in support of 10 CFR 50.54(hh)(2) (Loss of Large Areas) would not be in scope of the MR unless otherwise required by 10 CFR 50.65(b).

When the EOPs direct the user to another procedure, the associated SSCs required to perform the EOP mitigating function are included in the scope of the MR.

SSCs whose use are implied and are necessary to perform the EOP steps in the necessary response times, such as emergency lighting or communication SSCs, are included in the scope of the MR.

Since the MR is a performance-based regulation, licensees have the flexibility to add or remove SSCs from the scope of 10 CFR 50.65(b) if an adequate technical basis exists for including or excluding the SSCs in question.

For clarity and universal understanding regarding these scoping criteria, the following definitions are offered:

"Explicitly used" means those SSCs specifically called out in the EOP by tag identification or noun name that provide a mitigating function, and includes those SSCs required to support the explicitly used SSCs even though they are not called out in the EOP. For example, all SSCs associated with an instrument loop supporting a control room instrument that is specifically called out in the EOP are considered explicitly used.

"Implied" use means those SSCs *not* specifically called out in the EOP, but are understood to be essential for successful completion of the associated mitigating EOP step, although they may not directly address or mitigate the event.

For SSCs whose failure could prevent safety-related SSCs from fulfilling their safety-related functions, the applicant should describe how the process considers system interdependencies, including failure modes and effects of nonsafety-related SSCs (e.g., support systems) that could directly affect safety-related functions.

For SSCs whose failure could cause scrams or unwanted engineered safeguard feature actuations and those whose failure caused a reactor

SCRAM or actuation of safety-related systems, the applicant should describe the process for identifying and using relevant utility- specific and industry-wide operating experience.

Note: NRC Generic Letter 2007-001 describes underground power cable failures that may cause plant transients.

If at the time of the COL application, the Commission has approved the applicant's program for implementing 10 CFR 50.69 for its new reactor plant, the requirements of 10 CFR 50.69 may be followed instead of those of 10 CFR 50.65 for risk- informed safety classification (RISC)-3 and RISC-4 SSCs in the scope of the MR except for the purposes of 10 CFR 50.65(a)(4). In this case, the applicant should describe its process for identifying RISC-3 SSCs among those in MR scope under 10 CFR 50.65(b)(1) and RISC-4 SSCs among those in MR scope under 10 CFR 50.65(b)(2). The applicant should also describe its process for treatment under 10 CFR 50.69 of those RISC-3 and RISC-4 SSCs that would otherwise be treated in accordance with 10 CFR 50.65. Deviations in this process from SSC risk classification and treatment in accordance with NUMARC 93-01, as endorsed by RG 1.160, where an SSC would be classified as RISC-3 or RISC-4, but would otherwise be classified as high-safety-significant (HSS) under NUMARC 93-01, as endorsed by RG 1.160, should be identified and explained.

C. Specific information on the actual SSCs within the scope of the MR program will be reviewed as part of the operational program implementation inspection by the NRC, including the following for each SSC in scope:

i. Specific MR requirement(s) in 10 CFR 50.65(b) that require the SSC to be in scope.

ii. For each SSC, for each 10 CFR 50.65(b) scoping criterion, the function(s) that require the SSC to be in scope.

iii. For each SSC, for each 10 CFR 50.65(b) scoping criterion, as applicable, the failure modes and effects that require the SSC to be in scope.

iv. For each SSC scoping function or vulnerability, the functional performance requirements/success criteria and/or functional failure definitions and implications.

D. The applicant's submittal should describe the process for determining the safety/risk significance classification of SSCs within the scope of the MR program, including risk metrics/importance measures and values, operating experience, vendor information, RAP scope (modified for the operations phase as necessary), and any other factors considered by the expert panel. The MR program description should address the criteria for risk ranking of passive components in the new plant designs, especially if it involves a deviation from NUMARC 93-01 and RG 1.160.

E. If the applicant proposes to credit its MR program (along with its quality assurance, testing, surveillance, and underlying maintenance programs) when implementing the RAP in the operations phase, the applicant should include a description of how the RAP SSCs (as identified in SRP Section 17.4) will be included in the MR program scope and also included in the HSS category.

In addition, the process controlling how the RAP SSC list may be modified by site-specific requirements and information (e.g., SSCs included in the EOPs) should be described. Because not all modifications, if any, to the RAP list are expected to be available at the time of the COL application (e.g., the EOPs are not expected to be fully developed at this time), it is important that information provided in the FSAR clearly identifies the scope, purpose, and essential elements of the program, such that there is assurance that the design reliability established by the RAP will be maintained.

The safety/risk classification and treatment of SSCs in the MR program scope, including those in the RAP scope and the modified RAP scope for the operations phase, will be reviewed during NRC inspection.

F. The applicant's submittal should describe the process for determining the type of monitoring (i.e., performance (availability and/or reliability) and/or condition) and level (e.g., component, system, classes of components, train, or plant) of monitoring/tracking. Classes of components means SSCs or equipment (e.g., circuit breakers, motorized valve actuators, etc.) that may need to be monitored/tracked at the component level or in special component classes or "pseudo systems" that may involve applications in multiple systems and the bases thereof (e.g., industry operating experience (IOE), common failure modes, etc.).

The standby or continuously operating status and associated type of monitoring and level of monitoring/tracking and the basis thereof of each SSC within the scope of the MR program will be reviewed during NRC inspection.

2. Monitoring in accordance with 10 CFR 50.65(a)

Specific SSCs, if any, whose performance or condition will be monitored initially in accordance with 10 CFR 50.65(a)(1) and the basis thereof will be reviewed during NRC inspection.

10 CFR 50.65(a)(1) states that each holder of an operating license for a nuclear power plant under this part and each holder of a COL under Part 52 of this chapter after the Commission makes the finding under 10 CFR 52.103(g) of this chapter, shall monitor the performance or condition of SSCs, against licensee-established goals, in a manner sufficient to provide reasonable assurance that these SSCs as defined in paragraph (b) of this section, are capable of fulfilling their intended functions. These goals shall be established commensurate with safety and, where practical, take into account industry-wide operating experience. When the performance or condition of a SSC does not meet established goals, appropriate corrective action shall be taken. For a nuclear power plant for which the licensee has submitted the certifications specified in 10 CFR 50.82(a)(1) or 10 CFR 52.110(a)(1) of this chapter, as applicable, this section shall only

apply to the extent that the licensee shall monitor the performance or condition of all structures, systems, or components associated with the storage, control, and maintenance of spent fuel in a safe condition, in a manner sufficient to provide reasonable assurance that these SSCs are capable of fulfilling their intended functions.

This regulation is slightly different from its characterization in NUMARC 93-01, Revision 4A and RG 1.160. Therefore, the above noted regulation applies to this SRP.

The program description for monitoring in accordance with 10 CFR 50.65(a)(1) should address the following:

A. The process for establishing performance or condition monitoring goals for SSCs in 10 CFR 50.65(a)(1) status. For each SSC to be in 10 CFR 50.65(a)(1) status, the performance monitoring (availability and reliability) or condition monitoring goals that establish the basis for how the goals are commensurate with safety and how IOE is taken into account will be reviewed during NRC inspection.

B. The process for disposition of SSCs in 10 CFR 50.65(a)(1) status that do not meet the goal, including administration of corrective action. The applicant should describe how the program will ensure prompt, comprehensive and thorough corrective action that (a) addresses the proximate and ultimate causes of degraded performance or condition, (b) encompasses the extent of such a condition, and (c) institutes preventive measures, including changes that may be required in maintenance and/or maintenance support practices, procedures and training. This discussion should address how failures will be evaluated against MR functions, since not all failures that cause loss of some function are MR functional failures, and also how MPFFs will be identified and dispositioned.

   Any plant management policies, procedures or practices that involve the 10 CFR 50.65(a)(1) status of MR SSCs (e.g., for MR staff performance evaluation, etc) will be reviewed during NRC inspection.

C. The process for determining which SSCs within the scope of the MR program will be tracked to demonstrate effective control of their performance or condition in accordance with 10 CFR 50.65(a)(2). The 10 CFR 50.65(a)(2) process should address the following:

   i. The process for developing performance criteria or condition monitoring criteria used to demonstrate effective control of performance or condition for SSCs in 10 CFR 50.65(a)(2) status. The applicant's submittal should explain how the program ensures that performance criteria are commensurate with safety (including Probabilistic Risk Assessment (PRA) insights). It should also take good engineering practices and IOE into account. The performance criteria should be achievable and sufficiently sensitive to degraded performance or condition that meeting these criteria would demonstrate effective control of the performance or condition of that the SSC through appropriate preventive maintenance and the SSC would remain capable of performing its function(s) and not fail in a manner adverse to safety.

The program description should address how effective control of performance or condition of SSCs in 10 CFR 50.65(a)(2) status will be demonstrated including condition monitoring of passive SSCs (e.g., structures) and SSCs for which the reliability performance criterion has been set to zero failures allowed.

For each SSC to be in 10 CFR 50.65(a)(2) status, performance (availability and/or reliability) criteria or condition monitoring criteria will be reviewed during NRC inspection.

ii. For reliability performance criteria, the process for defining, determining and treating functional failures, MR functional failures, maintenance-preventable functional failures (MPFFs), and repetitive MPFFs.

iii. For availability performance criteria, the process for defining and tracking availability or unavailability (planned and unplanned), including exceptions and credits and the basis thereof.

iv. For condition monitoring criteria, the process that addresses sensing, surveillance, tracking, and trending action levels (predictive maintenance).

v. The process for disposition of SSCs for which effective control of performance or condition is not demonstrated (including not meeting performance criteria or condition monitoring criteria). Conditions under which the expert panel may justify not placing an SSC in 10 CFR 50.65(a)(1) status when performance criteria are not met or are exceeded as appropriate should be described.

vi. The process for identification and treatment of SSCs categorized in a "run-to-failure" status.

3. Periodic Evaluation in accordance with 10 CFR 50.65(a)(3)

The program description for periodic evaluation in accordance with 10 CFR 50.65(a)(3) should address the following:

A. Scheduling and timely performance of 10 CFR 50.65(a)(3) evaluations.

B. Documenting, reviewing, and approving evaluations and providing and implementing results.

C. Review of 10 CFR 50.65(a)(1) goals and 10 CFR 50.65(a)(2) performance criteria, condition monitoring criteria, SSC performance and condition history, and effectiveness of corrective action.

D. Making adjustments to achieve or restore balance between reliability and availability.

E. Applying IOE.

4. Maintenance Risk Assessment and Management in accordance with 10 CFR 50.65(a)(4)

The program description for maintenance risk assessment and management in accordance with 10 CFR 50.65(a)(4) should address how removing SSCs from service will be evaluated since it is important to be aware of what MR function(s) is/are being lost so the impact of removing multiple SSCs from service can be determined. For qualitative risk assessments, the program description should explain how the risk assessment and management program will preserve defense-in-depth (DID) and plant-specific key safety functions. The maintenance risk assessment and management area of the program description should address (but not necessarily be limited to) the following areas:

A. Determination of the scope (or limited scope) of SSCs to be included in 10 CFR 50.65(a)(4) risk assessments.

B. Risk assessment and management during work planning; addressing qualitative, quantitative or blended approach in different modes of plant operation, pre-established plant risk categories or bands and basis (e.g., baseline core damage frequency multiples (address time limits), and/or incremental conditional core damage probability), DID, preservation of key safety functions, standard risk management actions for the various risk bands, and provisions for configuration-specific risk management plans.

C. Risk assessment and management of emergent conditions and updating risk assessments as maintenance situations and plant conditions and configurations are changed.

D. Assessment (quantitative and qualitative capabilities) and management of risk of external events or conditions.

E. Assessment and management of risk of maintenance activities affecting containment integrity.

F. Assessment and management of risk of maintenance activities when at low power or when shut down (including implementation of NUMARC 91-06.)

G. Assessment and management of risk associated with the installation of plant modifications and assessment and management of risk associated with temporary modifications in support of maintenance activities (in lieu of screening in accordance with 10 CFR 50.59, "Changes, Tests and Experiments.") in accordance with latest revision of NEI 96-07, as endorsed by the latest revision of RG 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments."

H. Risk assessment and management associated with risk-informed technical specifications that uses the existing 10 CFR 50.65(a)(4) risk assessment process.

5. MR Training and Qualification

The applicant should describe the program for selection, training and qualification of personnel with MR-related responsibilities consistent with the provisions of SRP Chapter 13, "Conduct of Operations," as applicable. Training should be commensurate with MR responsibilities, including MR program administration, the expert panel process, operations, engineering, maintenance, licensing, and plant management.

MR program administration may include on-site staff and off-site staff located at corporate offices or corporate headquarters.

6. Interface with the Reliability Assurance Program (RAP) in the Operations Phase

As discussed in detail above, the applicant should describe the relationship and interface between MR and RAP (See SRP Section 17.4). The NRC has determined that the reliability assurance program may be implemented in the operations phase by (a) the MR program consistent with RG 1.160, with all RAP SSCs initially being categorized as having HSS, (b) the quality assurance (QA) program for safety-related SSCs established through Appendix B to 10 CFR Part 50 requirements, (c) QA controls for nonsafety-related RAP SSCs established in accordance with Part V of SRP Section 17.5, and (d) inservice inspection, inservice testing, surveillance testing, and maintenance programs. If the applicant's MR program is to be used in implementation of the RAP, in conjunction with the QA program and the underlying maintenance and surveillance programs, the COL application submittal should describe how the MR program will ensure that all RAP SSCs (consistent with operational and plant-specific considerations) are included within the MR scope, initially in the HSS category.

7. MR Program Implementation

The applicant should describe the plan or process for implementing the MR program as described in the COL application, including sequence and milestones for establishing program elements, for commencing monitoring or tracking of performance and/or condition of SSCs as they become operational. The MR will require that the program be implemented by the time that fuel load is authorized.

8. Combined License (COL) Action Items and Certification Requirements and Restrictions

The MR program is an operational program addressed in a COL application.

9. Operational Programs

The reviewer verifies that the MR Program is fully described and that implementation milestones have been identified. "Fully described" for operational programs, in accordance with SECY-05-0197, "Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," includes identification of the plant-specific program choices made by the applicant where allowed by the regulations. A range of choices is acceptable where they would not significantly impact the programs. The reviewer verifies that the program and implementation milestones are included in FSAR Table 13.4-x.

Implementation of this program will be inspected in accordance with NRC Inspection Manual Chapter IMC-2504, "Construction Inspection Program - Non-ITAAC Inspections," specifically, inspection procedure (IP) 62706.52, "Maintenance Rule Operational Readiness Inspection 10 CFR Part 52."

10. Generic FSAR Template Guidance

To meet the requirements of 10 CFR 52.79(a)(15), the applicant may incorporate by reference, with departures and supplemental information, an NRC-approved generic FSAR template that provides a complete generic MR program description for use in developing the COL FSAR (e.g., NEI-07-02A). In such case, the staff should confirm NRC's approval of the template and review any departures or supplemental information.

IV. EVALUATION FINDINGS

The reviewer verifies that the applicant has provided sufficient information to fully describe the MR Program, i.e., in particular in areas involving applicant choices, those choices are stated and explained in accordance with SECY-05-0197. A satisfactory finding is that the staff is satisfied that the applicant's proposed MR program, as described, is sufficient for a finding of reasonable assurance that the program, when implemented, satisfies 10 CFR 50.65 for issuance of a COL.

V. IMPLEMENTATION

The staff will use this SRP section in performing safety evaluations of DC applications and license applications submitted by applicants pursuant to 10 CFR Part 50 or 10 CFR Part 52. Except when the applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the staff will use the method described herein to evaluate conformance with Commission regulations.

VI. REFERENCES

1. 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," and the associated Statements of Considerations.

2. 10 CFR 52.79(a)(15).

3. NUMARC 93-01, Revision 4A (April 2011), “Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants.”

4. NRC Generic Letter 2006-02, “Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power,” dated February 1, 2006.

5. NRC Generic Letter 2007-01, “Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation System or Cause Plant Transients,” dated February 7, 2007.

6. NEI 07-02A, Revision 3 (September 2007), “Generic FSAR Template Guidance for Maintenance Rule Program Description for Plants Licensed Under 10 CFR Part 52.”

7. RG 1.160, “Monitoring the Effectiveness of Maintenance at Nuclear Power Plants.”

8. SECY-05-0197, “Review of Operational Programs in a Combined License Application and Generic Emergency Planning Inspections, Test, Analysis, and Acceptance Criteria.”

9. IP 62706.52, “Maintenance Rule Operational Readiness Inspection, 10 CFR Part 52.”

10. NRC Inspection Manual Chapter IMC-2504, “Construction Inspection Program - Non-ITAAC Inspections.”

PAPERWORK REDUCTION ACT STATEMENT

The information collections contained in the Standard Review Plan are covered by the requirements of 10 CFR Part 50 and 10 CFR Part 52, and were approved by the Office of Management and Budget, approval number 3150-0011 and 3150-0151.

PUBLIC PROTECTION NOTIFICATION

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

STANDARD REVIEW PLAN - SECTION 17.6
Description of Changes

Section 17.6 "MAINTENANCE RULE"

This Standard Review Plan (SRP) section affirms the technical accuracy and adequacy of the guidance previously provided in Section 17.6 Revision1, dated August 2007 of this SRP. See the Agencywide Documents Access and Management System (ADAMS) Accession No. ML072920088.

Technical changes incorporated in this revision include:

I. AREAS OF REVIEW

1. Maintenance Rule abbreviated to "MR" – several places.

2. Removed reference to RG 1.182.

3. Added "Generic FSAR template guidance" (Item 10).

4. Deleted ITAAC (Item 8) and renumbered specific area of review. Added ITAAC note.

II. ACCEPTANCE CRITERIA

1. Removed reference to RG 1.182.

2. Added new item 2 related to COL reviews and RAP, renumbered item 2 to new item 3.

3. Modified sentence related to fuel load; changed to 10 CFR 52.103(g) finding.

4. Maintenance Rule abbreviated to "MR."

III. REVIEW PROCEDURES

1. Deleted Note 2.

2. Added example to Note 5 related to passive plants.

3. Maintenance Rule abbreviated to "MR" – several places.

4. Structures, systems, and components abbreviated to SSCs.

5. Revised Scoping in Accordance with 10 CFR 50.65(b), item B (i, ii, and iii).

6. QA abbreviation changed to quality assurance (Item E).

7. Added new paragraph related to part 52 and combined licenses, below Item 2.

8. Added note related to NUMARC 93-01, Revision 4A and RG 1.160, below Item 2.

9. Removed note under 2.C.vi related to “run to failure.”

10. Removed note under 4.D related to GL 2006-02.

11. Added note related to on-site and off-site staff, Item 5.

12. Item 6 parts (a), (b), and (c), revised. Added part (d).

13. Added Item 10, Generic FSAR Template Guidance.

IV. EVALUATION FINDINGS

1. Maintenance Rule abbreviated to “MR” – several places.

V. IMPLEMENTATION

None

VI. REFERENCES

1. Added revision 4A to reference 3.

2. Deleted old reference 5.

3. Deleted old reference 6.

4. Moved old reference 7 to reference 4.

5. Added reference 5, GL 2007-001.

6. Added reference 6, NEI 07-02A.

7. Moved old reference 4 to reference 7.

8. Added reference 8, SECY-05-0197.

9. Renumbered IP 62706.52 as reference 9 and revised title.

10. Renumbered IMC-2504 as reference 10.