
INSPECTION PROCEDURE 71003

POST-APPROVAL SITE INSPECTION FOR LICENSE RENEWAL

Effective Date: 08/11/2023

PROGRAM APPLICABILITY: IMCs 2515C, 2516

71003-01 INSPECTION OBJECTIVES

- 01.01 To verify the license conditions, regulatory commitments, selected aging management programs (AMPs), time-limited aging analyses (TLAAs), and license renewal activities associated with the renewed operating license, are implemented and/or completed, and to verify age-related degradation is identified and corrected.
- 01.02 To verify the updated final safety analysis report (UFSAR) includes any “newly identified” systems, structures, and components (SSCs) that should have been within the scope of the license renewal (LR) or subsequent license renewal (SLR) program and subject to an aging management review or TLAA evaluation, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 54.37(b).
- 01.03 To verify the description of the AMPs and related activities covered in § 01.01 of this document are, or will be, contained in the UFSAR and that the description of the programs is consistent with the programs implemented by the licensee.
- 01.04 To verify the licensee submitted a license amendment request to the U.S. Nuclear Regulatory Commission (NRC) in accordance with 10 CFR 50.90 for changes to a license condition for LR or SLR; managed changes to the UFSAR supplement in accordance with 10 CFR 50.59; and managed changes to regulatory commitments in accordance with Nuclear Energy Institute (NEI) 99-04, “Guidelines for Managing NRC Commitment Changes” as endorsed by regulatory issue summary (RIS) 2000-017.
- 01.05 To verify that AMPs are enhanced, or new AMPs are developed, as appropriate, in light of plant-specific and industry operating experience (OE), in accordance with the UFSAR description on the use of OE (as applicable)
- 01.06 To confirm that licensees are complying with NRC regulations regarding corrective action programs (CAPs) in response to age-related degradation.

71003-02 INSPECTION REQUIREMENTS

Inspection Phases I, II, III, and IV refer to LR inspections and pertain to the initial period of extended operation (PEO), from 40 years to typically 60 years. Phases V and VI refer to SLR inspections and pertain to the subsequent -PEO, from 60 years to typically 80 years.

02.01 General Inspection Requirements for Phase I, II, and III

- a. Verify, on a sampling basis, that the licensee adequately completed the actions necessary to comply with the license conditions and commitments for LR, and adequately implemented the AMPs and TLAAs as described in the safety evaluation (SE) or safety evaluation report [hereinafter collectively identified as SE] for LR.
- b. Verify the licensee adequately evaluated, and reported when necessary, changes to regulatory commitments from the SE for LR in accordance with NEI 99-04 as endorsed by RIS 2000-017; changes to AMPs, TLAAs and other LR activities incorporated as part of the UFSAR supplement in accordance with 10 CFR 50.59; and submitted license amendment requests in accordance with 10 CFR 50.90 for changes to license conditions that were added as part of the renewed operating license.

02.01.01 Phase I

The inspectors will observe the implementation of select AMPs and activities described in the license conditions, UFSAR supplement, TLAAs and regulatory commitments, as well as any testing or visual inspections of SSCs that are only accessible at reduced power levels (e.g., SSCs located inside containment or other high radiation areas). The Phase I inspection may occur at each unit of a multi-unit site.

02.01.02 Phase II

This inspection is intended to be a one-time team inspection per site. However, for multi-unit sites, subsequent Phase II inspections may be conducted, as deemed necessary by regional management. Subsequent Phase II inspections at multi-unit sites may not require the same level of effort as the Phase II inspection for the first unit. The inspectors will assess the adequacy and effectiveness of the implementation and/or completion of the programs and activities described in the regulatory commitments, UFSAR supplement program descriptions, TLAAs, and license conditions, as well as evaluate the need for additional inspections under inspection procedure (IP) 71003, or as part of the reactor oversight program (ROP).

02.01.03 Phase III

This inspection is optional and is implemented when deemed necessary by the Phase II inspection team, based on the results of the Phase I and II inspections. The Phase III inspection reviews the implementation of license conditions, regulatory commitments, TLAAs, and AMPs against the implementation schedules that extend into the PEO. Additionally, Phase III may be implemented to review corrective actions for issues of concern identified during Phases I and II inspections.

02.02 General Inspection Requirements for Phase IV

Phase IV is intended to be a one-time inspection per site. However, the Phase IV inspection can be performed on each unit of a multi-unit site as deemed necessary by regional management. Furthermore, the inspection may be repeated if deemed necessary by regional management based on the outcome of the inspection (for example, 3 years later to determine if the licensee has corrected any identified issues).

During the Phase IV inspection, inspectors are expected to:

Review approximately six samples of a licensee's implementation of AMPs, to determine AMP effectiveness. Upon receiving a renewed license, the license renewal application (LRA) becomes a historical record that is not updated. The actions described in the LRA AMPs and aging management review (AMR) items are implemented at the site in changes to plant-specific procedures (e.g., inspection requirements for lighting) and preventive maintenance activities (PMs), as required. The term "AMP effectiveness" is used for ease of communication, even though a description of the key aspects of each AMP only resides in the UFSAR. Phase IV inspections at each unit of a multi-unit site with similar designs may not require the same level of effort as the Phase IV inspection for the first unit. The inspectors should consider this and use discretion when determining the sample size at multi-unit sites. The inspectors should consider a review of the enhanced, new, or plant-specific AMPs.

Perform a review of CAP documents to determine if age-related degradation has been identified and properly managed or corrected, as part of their AMP samples. The expectation is that the AMPs have been updated based on OE and other relevant information.

- a. Verify the licensee is implementing the AMP elements consistent with the revised licensing basis as implemented upon entry into the PEO to ensure the SSCs have maintained their ability to perform their intended function.
- b. Verify that the licensee adequately evaluated plant-specific and industry OE and, when applicable, incorporated appropriate changes to the methods of managing aging effects for items subject to **AMR**, in accordance with the **UFSAR description on the use of OE (as applicable)**.
- c. Verify age-related degradation is identified and corrected.
- d. Verify that the licensee identified, evaluated, and incorporated "newly identified" SSCs into the renewed license in accordance with 10 CFR 54.37(b).
- e. Since the inspections completed in Phase III, verify the licensee adequately evaluated, and reported when necessary, changes to regulatory commitments from the SE for LR in accordance with NEI 99-04 as endorsed by RIS 2000-017; changes to AMPs, TLAAs and other LR activities incorporated as part of the UFSAR supplement in accordance with 10 CFR 50.59; and submitted license amendment requests in accordance with 10 CFR 50.90 for changes to license conditions that were added as part of the renewed operating license.
- f. Verify the UFSAR supplement description matches the AMP or TLAA being implemented and that changes, necessitated by the inclusion of "newly identified" SSCs, were included in the UFSAR supplement. If the licensee has not submitted a UFSAR supplement update since implementing the AMP or TLAA, review the planned UFSAR supplement changes and verify that they are included in an appropriate tracking system (e.g., a CAP).

02.03 General Inspection Requirements for Phase V

This inspection is intended to be a one-time team inspection per site; however, for multi-unit sites, subsequent inspections may be conducted, as deemed necessary by regional management. Subsequent Phase V inspections at multi-unit sites may not require the same level of effort as the Phase V inspection for the first unit.

- a. Verify, on a sampling basis, that the licensee adequately completed the actions necessary to comply with the license conditions and commitments for SLR, and adequately implemented the AMPs and TLAAs as described in the SE for SLR. Subsequent Phase V inspections at multi-unit sites with similar designs may not require the same level of effort as the Phase V inspection for the first unit.
- b. Verify that the licensee adequately evaluated, and reported when necessary, changes to regulatory commitments from the SE for SLR in accordance with NEI 99-04 as endorsed by RIS 2000-017; changes to AMPs, TLAAs and other SLR activities incorporated as part of the UFSAR supplement in accordance with 10 CFR 50.59; and submitted license amendment requests in accordance with 10 CFR 50.90 for changes to license conditions that were added as part of the renewed operating license.
- c. The inspection verifies that the licensee identified, evaluated, and incorporated "newly identified" SSCs into the renewed license in accordance with 10 CFR 54.37(b), as well as evaluate the need for additional inspections in Phase VI or as part of the ROP.

02.04 General Inspection Requirements for Phase VI

Phase VI accomplished the same objective as Phase IV and shares the same inspection requirements. Phase VI is intended to be a one-time inspection per site. However, the Phase VI inspection can be performed on each unit of a multi-unit site as deemed necessary by regional management.

During the Phase VI inspection, inspectors are expected to:

Review approximately six samples of a licensee's implementation of AMPs, to determine AMP effectiveness. Upon receiving a subsequent renewed license, the subsequent license renewal application (SLRA) becomes a historical record that is not updated. The actions described in the SLRA AMPs and AMR items are implemented by changes to plant-specific procedures (e.g., inspection requirements for lighting) and preventive maintenance activities (PMs), as required. The term "AMP effectiveness" is used for ease of communication, even though the descriptions of the key aspects of each AMP only reside in the UFSAR. Subsequent Phase VI inspections at multi-unit sites with similar designs may not require the same level of effort as the Phase VI inspection for the first unit. Inspectors should consider this and use discretion when determining the sample size at multi-unit sites. The inspectors should consider a review of the enhanced, new, or plant-specific AMPs.

Perform a review of CAP documents to determine if age-related degradation has been identified and properly managed or corrected, as part of the AMP samples. The expectation is that the AMPs have been updated based on OE and other relevant information.

- a. Verify the licensee is implementing the AMP elements consistent with the revised licensing basis as implemented upon entry into the subsequent PEO to ensure the SSCs have maintained their ability to perform their intended function.
- b. Verify that the licensee adequately evaluated plant-specific and industry OE, and when applicable, incorporated appropriate changes to the methods of managing aging effects for items subject to AMR, in accordance with the UFSAR description on the use of OE (as applicable).
- c. Verify age-related degradation is identified and corrected.
- d. Verify that the licensee identified, evaluated, and incorporated “newly identified” SSCs into the renewed license in accordance with 10 CFR 54.37(b).
- e. Since the inspections in Phase V, verify that the licensee adequately evaluated, and reported when necessary, changes to regulatory commitments from the SE for SLR in accordance with NEI 99-04 as endorsed by RIS 2000-017; changes to AMPs, TLAAs and other SLR activities incorporated as part of the UFSAR supplement in accordance with 10 CFR 50.59; and submitted license amendment requests in accordance with 10 CFR 50.90 for changes to license conditions that were added as part of the renewed operating license.
- f. Verify the UFSAR supplement description matches the AMP or TLAA being implemented and that changes, necessitated by the inclusion of “newly identified” SSCs, were included in the UFSAR supplement. If the licensee has not submitted a UFSAR supplement update since implementing the AMP or TLAA, review the planned UFSAR supplement changes and verify that they are included in an appropriate tracking system (e.g., a CAP).

02.05 Inspection Schedule

A majority of IP 71003 inspection is conducted before the licensee enters the PEO or subsequent PEO, so licensees can make any necessary corrections to their AMPs before entering the PEO or subsequent PEO. The latest revision of the NRC ‘Information Digest’ (NUREG-1350) contains a listing of the expiration dates of the original and renewed operating licenses for all plants. Since IP 71003 is implemented at different times relative to the start of the PEO or subsequent PEO of each unit, the inspection may be performed in phases to accommodate the licensee’s implementation schedule, with the potential issuance of multiple inspection reports. Performing the IP 71003 inspection using a multi-phase approach is a recommendation and not a requirement.

License Renewal			
Inspection Stage	Schedule ^(a)	Applicability ^(b)	Completion
Phase I	1-2 outages prior to PEO	Unit	Required
Phase II	3-12 months prior to PEO	Site	Required
Phase III	0-5 years into the PEO	Unit	As Needed
Phase IV ^(c)	5-10 years into the PEO	Site	Required
Subsequent License Renewal			
Inspection Stage	Schedule ^(a)	Applicability ^(b)	Completion
Phase V	3-12 months or one outage prior to SPEO,	Site	Required
Phase VI ^(c)	5-10 years into the SPEO	Site	Required
<p>(a) Regions may revise the inspection schedule based on insights from the licensee and feedback from prior inspections.</p> <p>(b) Regions maintain the flexibility to revise the inspection to unit and site-based inspections at multi-unit sites when deemed appropriate.</p> <p>(c) The inspection may be repeated if deemed necessary by regional management based on the outcome of the inspection (for example, 3 years later to determine if the licensee had corrected any identified issues).</p>			

71003-03 INSPECTION GUIDANCE

03.01 Document Review

Inspectors should familiarize themselves with the requirements and guidance related to LR and SLR. Inspection Manual Chapter (IMC) 2516, attachment 1, “AMP Effectiveness Review Background Information” provides an overview of these requirements. The inspectors should also familiarize themselves with the specific **renewal** application and associated SE for the plant being inspected. Attachment 2 of IP 71003 describes the information that is typically contained within an SE. Attachment 2 includes information about license conditions, regulatory commitments, AMPs, and TLAA for plants with renewed operating licenses. For additional information about plants with renewed licenses, including the renewed operating license issuance dates and the LR SEs, go to <https://www.nrc.gov/reactors/operating/licensing/renewal.html>. For SLR, additional information about the subsequently renewed operating license issuance dates and the SLR SEs, go to <https://www.nrc.gov/reactors/operating/licensing/renewal/subsequent-license-renewal.html>. License renewal requirements and guidance documents that should be reviewed prior to an inspection include:

- 10 CFR Part 54, “Requirements for Renewal of Operating Licenses for Nuclear Power Plants”

- The statement of consideration published with the revision to 10 CFR Part 54 in the *Federal Register*, Vol. 60, No. 88, Monday, May 8, 1995, pages 22461 to 22495
- The plant-specific renewed license and license conditions
- The SEs for the plant(s) to be inspected
- Appendix A of the SE, if applicable
- The UFSAR supplement as revised during the LR application review

03.02 Inspection Sample Attributes

In selecting samples, consideration should be given to attributes such as:

- the extent of previous LR audits and inspections of AMPs
- the extent that baseline inspection programs will inspect an SSC or commodity group
- the amount of time since the renewed license was granted and beginning of the PEO
- the type and maturity of the AMP, for example, programs such as the Selective Leaching and One-Time Inspection programs, or other infrequent inspection activities may take priority over longstanding programs such as the Steam Generators program, which includes routine inspections
- issues that were addressed in an Atomic Safety Licensing Board hearing or Advisory Committee on Reactor Safeguards committee meeting
- issues that were in the public domain at the time of the LR application review
- whether the licensee updated its AMPs as a result of recent OE since the issuance of its renewed license
- whether the licensee evaluated the need to update its AMPs as a result of revisions to or interim staff guidance updates to the Generic Aging Lessons Learned (GALL) Report or the GALL-SLR Report (as appropriate), or other approved guidance, such as topical reports, since the issuance of its renewed license
- for AMP effectiveness reviews, risk insights associated with the potential for aging effects that could affect the intended function of the structure or component
- insights gained by discussions with resident inspectors related to potential age-related degradation trends at the site
- the risk significance of SSCs associated with the regulatory commitments, using insights gained from sources such as the NRC's "SDP Risk Informed Inspection Notebooks," Revision 2

03.03 Level of Effort

The number of AMPs, commitments, TLAAs and license conditions vary broadly from plant to plant depending on when the plant was relicensed and other factors. Therefore, IP 71003 does not contain a predetermined sample size for each component of the inspection that would uniformly represent each plant. As such, the lead inspector will determine the sample size and extent of review of license conditions, AMPs, TLAAs and regulatory commitments prior to performing IP 71003 inspections. For Phase II, the lead inspector should ensure that the team comprehensively inspects a majority (recommended greater than 70 percent) of the number of AMPs, commitments, TLAAs and license conditions to assess the adequacy and effectiveness of the LR program. For Phase IV, the lead inspector should select a sample of approximately six AMPs to be reviewed during the inspection. Some sites may not require the same level of inspection effort as others and may be inspected using a smaller sample size. For multi-unit sites with units of similar design, the same level of inspection at the additional units may not be necessary. The lead inspector should use discretion in determining the inspection sample size at multi-unit sites with similarly designed units.

03.04 Inspection Sample Selection for Phase I, II, III, and V Inspections

- a. Selection of License Conditions: The sample should be based on a review of the license conditions placed in the renewed operating license.

The sample population of license conditions will be inspected to determine whether the license conditions were implemented. If changes to the license conditions were made, verify that prior NRC approval was obtained. Inspection of license conditions should include a review of supporting documentation to determine if the licensee has taken the appropriate actions, including corrective action, to satisfy a particular license condition. Appropriate technical expertise should be requested from the LR program office if needed.

- b. Selection of Commitments: The sample should be based on a review of the regulatory commitments that were accepted by the staff during the course of the LR application review and which describe a modification, enhancement, or future action that is necessary for compliance with 10 CFR Part 50 or 10 CFR Part 54.

The selected commitments will be inspected to determine whether the commitments were implemented as described in the SE, and if modifications were completed in accordance with NEI 99-04, as endorsed by RIS 2000-017, or 10 CFR 50.59, for commitments that were incorporated into the UFSAR. The inspection team should determine if there is reasonable assurance the commitment tracking program is effective. The inspection of regulatory commitments should include a review of supporting documentation to determine if the licensee has taken the appropriate actions, including corrective actions, to satisfy a particular commitment. Appropriate technical expertise should be requested from the LR program office if needed.

- c. Selection of AMPs: The sample should include a review of selected AMPs that are new or have been modified or enhanced. The selected AMPs will be inspected to determine whether updates, modifications, and implementation occurred as described in the SE. The AMP activities, bases and acceptance criteria should be appropriately proceduralized. The LR program office recommends that the inspector include as part of the sample selection the Buried and Underground Piping and Tanks Program, the

One-Time Inspection Program, and the Selective Leaching Program on the basis that these programs may a) involve new or unique inspection or testing activities that are being performed by the licensee for the first time, or b) may identify inspection or test results that the licensee may not have experienced in the past. Appropriate technical expertise should be requested from the LR program office if needed.

- d. Selection of TLAAAs: The sample should include a review of selected TLAAAs that have an associated AMP in accordance with 10 CFR 54.21(c)(1)(iii).

The inspector should verify that the AMP describes how the licensee will manage, update, or refine the TLAA during the PEO. The inspector should verify that the AMP demonstrates how the licensee meets the acceptance criteria for the current licensing basis (CLB). The AMP should contain the actions the licensee will take when the CLB acceptance criteria are exceeded. These actions may include repair and/or replacement of impacted SSCs, recalculating the TLAA, or additional inspection activities. The AMP activities, bases, and acceptance criteria that relate to TLAA acceptance under 10 CFR 54.21(c)(1)(iii) should be appropriately proceduralized.

The inspector may want to include the following programs as part of the sample selection: the Fatigue Monitoring Program, the Concrete Containment Tendon Prestress Program, the Environmental Qualification of Electric Components Program, and the Neutron Fluence Monitoring Program (for SLR only). However, the inspector may want to contact the LR program office to identify which TLAAAs were of significant interest during the LRA or SLRA review for the selected plant, to determine which TLAAAs will be reviewed for this portion of the inspection. Also, for questions or concerns by the inspector during the review of highly specialized TLAAAs, or for errors identified by the inspector that have significant impact on 10 CFR 54.21(c)(1)(i) or 10 CFR 54.21(c)(1)(ii), assistance should be requested from the LR program office.

- e. Inspection of Newly Identified Systems: Licensees may identify new SSCs that should be within the scope of their LR program at any time. Any “newly identified” SSCs will be inspected to ensure that the licensee adequately evaluated and included applicable SSCs into their AMPs or TLAAAs, as required under 10 CFR 54.37(b). -Newly identified SSCs are those SSCs that meet one of the two following conditions:

- 1. There is a change to the CLB that:

- (a) Impacts SSCs that were not in scope for LR or SLR when the -renewed license was issued, and

- (b) The SSCs would have been in the scope of LR or SLR based on the CLB change if § 54.4(a) were applied to the SSCs;

- 2. The SSCs were installed in the plant at the time of the LR or SLR review and, in accordance with the plant’s CLB at the time, should have been in the scope of LR or SLR per § 54.4(a) but were not identified as in scope until after the renewed license was issued.

03.05 Inspection Sample Selection for Inspections in Phases IV and VI

Selection of AMPs

The sample should include a review of AMPs based on:

1. Risk significance, meaning those AMPs that:
 - (a) Are associated with aggressive environments (e.g., raw water as compared to treated water with low oxygen level controls).
 - (b) Are used to manage aging effects for components and systems with higher risk significance (e.g., emergency diesel support systems).
 - (c) Manage aging effects that could more readily affect the intended function of the structure or component. This could include AMPs that inspect surfaces that are not regularly observed during routine operations, where the degradation could proceed further before detection. For example, External Surfaces Monitoring programs are typically based on inspections conducted during walkdowns by engineering personnel. However, on a day-to-day basis, operations personnel observe the same surfaces and write CAP entries based on precursor degradation data (e.g., minor leaks). In contrast, AMPs that inspect surfaces that are not routinely observed might identify degradation that has had a longer time to become more adverse (e.g., internal tank inspections, internal coating inspections, reactor vessel internals).
2. Insights gained by discussions with resident inspectors related to age-related degradation trends (e.g., leaks, flow blockage in fire water systems, reduced heat exchanger efficiency).
3. **Insights gained by any** AMP effectiveness reviews conducted by the licensee. Additional information to consider when evaluating AMP effectiveness is contained in attachment 3 of this inspection procedure.
4. Programs with monitoring results that were performed for the first time or those that identified examination or test results not experienced in the past.

03.06 Dispositioning Issues of Concern

The level of documentation for license renewal inspection activities differs from that used in other inspection activities by allowing the documentation of observations. Inspectors can document observations associated with the implementation and/or completion of proposed license conditions, regulatory commitments, TLAA's and AMPs. These and any other inspection results will be evaluated and dispositioned using the guidance in IMCs 0611, 0612, and 2516.

03.07 Documentation Guidance

Due to the significant interest and time between successive inspections (10 years or more), inspectors may include sufficient detail in the description of the aging management program review to ensure transparency for internal and external stakeholders. Inspectors may document observations associated with the licensee's implementation of license renewal requirements that warrant continued focus over the PEO. Observations should be documented in accordance with IMC 0611, "Power Reactor Inspection Reports."

71003-04 RESOURCE ESTIMATES

The resource expenditure of IP 71003 is estimated to be approximately 1,128 hours for a one-unit site, 1,520 hours for a dual-unit site, and 2,048 hours for a three-unit site. The resource estimate does not include preparation and documentation weeks, or the time spent traveling to and from the site. It is expected that the four Regions will coordinate the scheduling of LR inspections and share resources so as not to exceed the total resources allocated per year for all LR inspections.

71003-05 REFERENCES

10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities"

10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants"

Commitment Lists for Renewed Plants with No Commitment Appendix Attached to its Safety Evaluation Report for License Renewal, ADAMS Accession No. ML070640041

IMC 0308, "Reactor Oversight Process Basis Document"

IMC 0609, "Significance Determination Process"

IMC 0611, "Power Reactor Inspection Reports"

IMC 2515, "Light-Water Reactor Inspection Program – Operations Phase"

IMC 2516, "Policy and Guidance for the License Renewal Inspection Program"

NEI 17-01, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 for Subsequent License Renewal," December 2017

NEI 99-04, "Guidelines for Managing NRC Commitment Changes" revision 0, July 1999

NRC approved interim staff guidance positions relating to LR (<https://www.nrc.gov/reading-rm/doc-collections/isg/license-renewal.html#current>) and SLR (<https://www.nrc.gov/reading-rm/doc-collections/isg/license-renewal.html#slr>)

NRR Office Instruction LIC-105, "Managing Regulatory Commitments Made by the Licensee to the NRC"

Nuclear Energy Institute (NEI) 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," revision 6, June 2005

NUREG-1568, "License Renewal Demonstration Program: NRC Observation and Lessons Learned," December 1996

NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," revision 2, December 2010

NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," revision 2, December 2010

NUREG-2191, Volumes 1 and 2, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," July 2017

NUREG-2192, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants—Final Report," July 2017

Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-100, "Control of Licensing Bases for Operating Reactors"

RIS 2000-017, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff"

RIS 2007-016, "Implementation of the Requirements of 10 CFR 54.37(b) for Holders of Renewed Licenses"

U.S. NRC, "Nuclear Power Plants License Renewal; Revisions," *Federal Register*, Vol. 60, No. 88, Monday, May 8, 1995, pages 22461 to 22495

U.S. NRC, Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," revision 2, April 2020

END

Attachment 1: Expiration Dates of Licenses

For a listing of operating license expiration dates for inspection planning purposes, please see the latest revision of the Information Digest, NUREG-1350.

Attachment 2: License Conditions, Regulatory Commitments, AMPs and TLAAs for License Renewal

NRR Office Instruction LIC-100, "Control of Licensing Bases for Operating Reactors," describes the licensing bases hierarchy for nuclear power reactors as three categories:

- Obligations - conditions or actions that are legally binding requirements imposed on licensees through applicable rules, regulations, orders, and licenses (including technical specifications and license conditions). The imposition of obligations (sometimes referred to as regulatory requirements) during routine interactions with licensees should be reserved for matters that satisfy the criteria of 10 CFR 50.36 or are otherwise found to be of high safety or regulatory significance. The major distinction between obligations and other parts of the licensing bases is that changes generally cannot be made without prior NRC approval.
- Mandated Licensing Bases Documents - documents, such as the UFSAR, the quality assurance program, the security plan, and the emergency plan, for which the NRC has established requirements for content, change control and reporting. Information that should be included in these documents is specified in applicable regulations and regulatory guides. The change control mechanisms and reporting requirements are defined by regulations such as 10 CFR 50.59, 50.54, and 50.71.
- Regulatory Commitment - explicit statements to take a specific action agreed to, or volunteered by, a licensee and submitted in writing on the docket to the NRC. A regulatory commitment is appropriate for matters in which the staff has a significant interest, but which do not warrant a legally binding requirement, inclusion in the UFSAR, or a program subject to a formal regulatory change control mechanism. Control of such commitments in accordance with licensee programs is acceptable, provided those programs include controls for evaluating changes and, when appropriate, reporting them to the NRC.

The staff may have accepted regulatory commitments that may have been escalated to implementing requirements in the UFSAR to be managed in accordance with 10 CFR 50.59, or license conditions to be managed in accordance with 10 CFR 50.90.

The license conditions for LR and SLR can be found in the Introduction and General Discussion section of the SER or SE. There are typically two generic conditions for LR and SLR:

- The licensee is required to include the UFSAR supplements required by 10 CFR 54.21(d) in the next UFSAR 10 CFR 50.71(e) update following the issuance of the renewed license, and the licensee may make changes to the UFSAR supplement in accordance with 10 CFR 50.59.
- The activities identified in the UFSAR supplements are required to be completed in accordance with the implementation schedule for AMPs and commitments appended to the SER.

There may be additional license conditions that are specific to a LR issue and contain explicit details regarding required inspection frequencies, analyses, and testing.

The regulatory commitments for license renewal are listed in the following locations:

<u>Plant Name</u>	<u>Location</u>
Arkansas Nuclear One, Hatch, Oconee, and Turkey Point	SER NUREG body ¹
Calvert Cliffs	SER NUREG Appendix E
Catawba, McGuire, North Anna, Peach Bottom, St. Lucie, Surry	SER NUREG Appendix D
Fort Calhoun Station and all renewed licenses since January 2004	SER NUREG Appendix A

Time-limited aging analyses are described in section 4.0 of the SER and are those licensee calculations and analyses that, in part, involve conclusions or provide the basis for conclusions related to the capability of SSCs to perform their intended functions as delineated in 10 CFR 54.21(c).

For more information on plants with renewed and subsequent renewed operating licenses, visit the following NRC external website links:

- For LR: <http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html>
- For SLR: <https://www.nrc.gov/reactors/operating/licensing/renewal/subsequent-license-renewal.html>

¹ The commitments for Arkansas Nuclear One, Unit 1; Hatch; Oconee; and Turkey Point plants have been compiled and can be found in ADAMS ML070640041.

Attachment 3: Sample Selection and Information Requests for Evaluating AMP Effectiveness

In addition to the guidance for sample selection in Phases IV and VI in section 03.05, also consider the following as appropriate:

- a. Select the six AMPs for the sample based on:
 1. A review of documentation provided by the licensee
 2. Interface with the senior resident inspector (SRI). Discussions with the SRI should focus on results from the annual follow-up of selected issues for IP 71152 related to licensee managing of aging effects.
 3. Any licensee performance issues identified in IP 71111.21N.04, "Age-Related Degradation"
 4. Changes to the GALL Report (for LR) and the GALL-SLR Report (for SLR) as a result of the staff's review of industry OE.
 5. At the inspector's discretion, a conference call with headquarters staff members associated with LR.
 6. Unless licensee performance indicates otherwise, place less emphasis on AMPs:
 - (a) Subject to other baseline inspection procedures (e.g., ASME Section XI Inservice Inspection, Fire Protection, Age-Related Degradation).
 - (b) Where the combination of the material and environment is less likely to result in aging effects that could affect the intended function of the SSC. For example:
 - (1) Steel piping exposed to raw water from a river or ocean has a higher susceptibility to degradation than steel piping exposed to treated water with low oxygen level controls.
 - (2) Stainless steel components exposed to outdoor air near an ocean or indoor air in a room where there is insulation with high halogen content located above the component, have a higher susceptibility to cracking than the same component not located near an ocean or located inside the plant with only metallic insulation in the vicinity (e.g., PWR containment).
- b. Consider asking for the following when compiling the information request from the licensee that will be used to provide input for the sample selection:
 1. A list of AMPs that:
 - (a) were new or enhanced in the LRA or SLRA.
 - (b) had significant changes since entering the PEO or subsequent PEO.
 - (c) had commitment changes since entering the PEO or subsequent PEO.
 - (d) incorporated newly identified SSCs since entering the PEO or subsequent PEO.
 - (e) incorporated components from One-Time Inspection activities since entering the PEO or subsequent PEO.

2. Self-assessments and/or audits related to LR program implementation and/or AMP effectiveness.
 3. A list of corrective action documents that were initiated as result of inspection and test activities, self-assessments, and/or audits.
 4. A list of UFSAR updates submitted in accordance with 10 CFR 50.71(e)(4). Provide a copy of the last submittal (full copy).
 5. Site-specific responses and/or evaluations for NRC generic communications associated with LR that were issued after entering the PEO.
- c. For the AMPs of interest:
1. Consider requesting that the licensee provide the following. This information can help identify inspection or test results that did not meet acceptance criteria.
 - (a) Program basis documents and administrative procedures describing key program attributes such as program objectives, scope, detection and monitoring methods, administrative controls, acceptance criteria, corrective actions, and scope expansion requirements.
 - (b) Implementing procedures for program activities (e.g., visual examination procedures, ultrasonic examination procedures, maintenance procedures, system walkdowns).
 - (c) Any assessments of whether the operating experience in latest revision of NUREG-1801, "Generic Aging Lessons Learned (GALL)," and subsequent interim staff guidance, and the recommendations for SLR in the latest revision of NUREG-2191, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," and subsequent interim staff guidance (ISGs) for SLR (SLR-ISGs), applies to the plant.
 - (d) Self-assessments, related to the AMPs cited in the UFSAR, performed after entering the PEO.
 - (e) Copies of evaluations performed for applicable external and internal OE issues associated with aging effects for in-scope structures and components. This request is limited to OE items issued after entering the PEO.
 - (f) Descriptions of instances where examination scope expansion was required based on the initial examination of an SSC just prior to and upon entering the PEO.
 - (g) A PRA listing of the top 10 most significant plant components sorted by Birnbaum Importance.
 - (h) A list of corrective action program (CAP) documents (e.g., condition reports) associated with the implementation of the AMP. This includes unacceptable aging effects identified during the implementation of inspections and tests associated with aging effects, and programmatic deficiencies requiring resolution since entering the PEO.

2. Consider requesting the following in order to narrow down the specific selection of structure or component inspection results:
 - (a) The scope and frequency of activities (e.g., inspection, sampling, testing) used to manage the aging of the item.
 - (b) Completed Work Orders for the most recent aging management activities performed, including associated inspection and testing reports, as applicable. This request is limited to work performed in the PEO or last two inspections, whichever is greater. Within this listing, annotate those where inspection or testing results did not meet acceptance criteria.
 - (c) Structure or component specific evaluation for monitoring and trending of aging effects.
 - (d) Descriptions of instances where examination of the structure or component was eliminated or deferred.
 - (e) Descriptions of instances where examination scope changes were required based on limitations encountered during the examination.
 - (f) Descriptions of instances where examination scope changes were required based on results of the previous examination.
3. Once the sample of AMPs has been selected, prior to selecting specific PMs or inspection/test procedures to review, read the key aspects of the applicable AMP, as cited in the UFSAR Supplement Summary description of the AMP. The AMP descriptions are in an appendix or chapter in the UFSAR. The description of the AMP represents the current licensing basis (and as a result a self-imposed standard) for the AMP.
4. Focus the examination on the effectiveness of AMP activities on those cases where:
 - (a) The inspection or test failed the acceptance criteria.
 - (b) Margin to the acceptance criteria was low.
 - (c) Acceptance criteria were vague and subject to interpretation.
- d. The review of inspections or tests should be focused on those that did not meet acceptance criteria. Consider the following:
 1. Were immediate actions taken to prevent a loss of intended function for the SSC?
 2. If corrective actions were delayed, how did the licensee ensure that corrective actions were in place prior to a loss of intended function?
 3. Was a projection of degradation necessary to determine if planned inspections of the SSCs would be conducted prior to a potential loss of intended function?
 4. Were corrective actions taken or planned, to revise appropriate PMs, inspections, and test procedures when necessary?

5. Inadequate performance of preventive measures (e.g., cathodic protection, water chemistry, coatings) could have resulted in the SSC not meeting acceptance criteria. If this is the case, has the licensee initiated actions to correct the condition?
- e. Evaluation of licensee changes to the selected AMPs as a result of industry or plant-specific OE. The changes to AMPs referred to in this section are not those that are conducted because of the licensee incorporating commitments, licensing conditions, enhancements, etc., based on the renewed license. These changes, when and if necessary, are those associated with new industry OE or because of adverse inspection results.
1. Obtain a list of the changes to AMPs incorporated since the licensee received the renewed license.
 2. Changes to AMPs are reviewed for the rigor used in the analysis of the acceptability of the changes.
 3. Review the changes as follows:

Was the technical basis for the change adequate? For example:

 - (a) If the change involved using a visual examination in lieu of a surface examination, did the basis establish that visual examinations could detect the applicable aging effects?
 - (b) If the change reduced inspection or testing requirements (e.g., increased interval between inspections, reduced number of inspection locations), was there an adequate basis for why, with the new or deleted inspection or testing requirements, the effects of aging will be adequately managed to not impact the SSCs' intended function throughout the PEO?
 - (c) If the change was based on industry OE, did the basis demonstrate that the industry OE was applicable to the specific material, environment, and aging effect?
 - (d) Was the change screened using the plant-specific 50.59 process?

Attachment 4: Revision History for IP 71003

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional Non-Public Information)
N/A	ML080440248 02/15/08 CN 08-008	Revision history reviewed for the last four years. IP 71003 has been revised to address the concern that the previous IP as written was too broad and that it did not focus on the needed inspection activities	N/A	N/A
N/A	ML083020087 10/31/08 CN 08-031	Attachment 1- Expiration Dates of Original Licenses has been revised to address incorrect dates for the following plants: Indian Point Nuclear Generating Unit 3, Seabrook Station, Virgil C. Summer Nuclear Station, McGuire Nuclear Station Unit 2, Duane Arnold Energy Center, Diablo Canyon Power Plant Units 1 and 2, Palo Verde Nuclear Station Units 1, 2 and 3	N/A	N/A
	ML12258A160 02/25/13 CN 13-006	Revised objectives to separate from the first objective, into a separate objective, the inspection of changes to commitments, changes to the UFSAR supplement, and changes to license conditions against applicable requirements; Revised to include description of inspection phases; Revised to include guidance on how to select license conditions, commitments, AMPs and TLAAs for inspection; Revised to include definitions for obligations, commitments and licensing basis documents; Revised wording on resource estimates; Updated table of information for relicensed plants; Reformatted the procedure sections	N/A	ML13052A573
N/A	ML16013A260 07/08/16 CN 16-015	Added Phase IV inspection, updated table 2.1 with latest license renewal information	N/A	ML16019A315

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional Non-Public Information)
N/A	ML22245A071 08/11/23 CN 23-023	Added attachment 3 - Evaluating AMP Effectiveness Reviews. Deleted tables previously maintained in attachments 1 and 2 and included reference to online location where this information is kept. Revised sections 2 and 3 to clarify actions to be taken in Phases I, II, and III, and moved Phase IV inspection information into dedicated paragraphs in sections 2 and 3. Also, added Phases V and VI that are applicable to SLR. Made changes throughout the document to address applicability to LR and SLR.	N/A	ML22300A056 71003-2450 ML22041B077