INSPECTION PROCEDURE 71002

LICENSE RENEWAL INSPECTION

PROGRAM APPLICABILITY: IMC 2516

71002-01 INSPECTION OBJECTIVES

01.01 To verify the applicant's license renewal program, including supporting activities, are implemented consistent with the requirements of Title 10 of the *Code of Federal Regulation (10 CFR)*, Part 54, "Requirements for the Renewal of Operating Licenses for Nuclear Power Plants", hereinafter referred to as the "rule", and the applicant's license renewal application (LRA).

01.02 To verify the material condition of the systems, structures and components (SSCs) that require an aging management review, will be adequately maintained consistent with the rule, the staff's safety evaluations, and the applicant's license renewal program.

01.03 To verify the information and documentation required by, or necessary to document compliance with the provisions of the rule are retrievable, auditable and consistent with the rule and applicant approved programs and procedures.

71002-02 DEFINITIONS

Passive Structures and Components (SCs). Structures and Components which perform an intended function without moving parts or without a change in configuration, change in properties, or change of state. These may include SCs which are classified as inherently reliable under the maintenance rule, or SCs for which aging degradation is not readily monitored.

Long-lived Structures and Components. Structures and components which are not subject to replacement based on a qualified life or specified time period.

Current Licensing Basis(CLB). As defined in 10 CFR 54.3, CLB is the set of NRC requirements applicable to a specific plant and a licensee's written commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are docketed and in effect.

71002-03 INSPECTION REQUIREMENTS

03.01 General Inspection Requirements

The License Renewal Inspections (LRIs) verify, on a sampling basis:

a. The applicant's implementation of the scoping and screening methodology includes nonsafety-related systems, structures, and components (SSCs) whose failure could prevent safety-related SSCs from accomplishing a safety function.

b. Passive, long lived SSCs within the scope of license renewal are subject to an aging management review (AMR), and have existing or planned aging management programs (AMPs) that conform with descriptions contained in the LRA. The AMPs can reasonably manage the effects of aging.

c. The documentation used to support the application is auditable and retrievable and contains information that supports the application.

03.02 Specific Inspection Requirements

a. Scoping and Screening Inspection. The LRI verifies on a sampling basis, through onsite review and walk-down of selected areas of the plant, that the SSCs required by the rule have been adequately documented. In addition, the inspection should verify that nonsafety-related SSCs whose failure could prevent safety-related SSCs from accomplishing a safety function are correctly included within scope of license renewal. Depending on insights gained from the staff's review, the inspection may also include safety-related SSCs and SSCs relied on to mitigate regulated events as specified in 10 CFR 54.4(a). The LRI verifies that there is reasonable assurance that the applicant has adequately documented all the identified passive and long-lived SSCs requiring an AMR. The LRI verifies, through review of supporting documents and a walk-down of select systems, that the effects of aging can be adequately managed in the period of extended operation. Using a set of samples selected based on insights from the staff's review of the LRA, uniqueness, safety impact, and risk insights, the inspection should emphasize evaluation of whether the scoping process adequately includes nonsafety-related SSCs whose failure could prevent safety-related SSCs from accomplishing a safety function. These nonsafety-related SSCs should be included in order to provide protection against safety function failure in cases where the safety-related structure or component is not itself impaired by age-related degradation, but is vulnerable to failure from the failure of another structure or component that may be so impaired. Consideration of hypothetical failures that could result from system interdependencies that are not part of the current licensing bases and that have not been previously experienced is not required. The scoping criterion required under 10 CFR 54.4(a)(2) does not apply to functions identified in 10 CFR 54.4(a)(3) "Regulated Events".

   One of the samples selected should include at least one system, structure, or commodity group not identified as being within the scope of license renewal.

b. Aging Management Programs Inspection. This inspection is intended to assess the adequate implementation of the aging management programs (AMPs) resulting from the applicant's license renewal program, and may be performed in conjunction with the scoping and screening inspection. For selected SSCs within the scope of the rule the following inspection activities should be undertaken:

   1. For the selected SSCs, determine from the LRA which AMPs are credited with preventing applicable aging effects. Verify the AMPs will ensure the

aging effects will be managed so that there is reasonable assurance that the intended function will be maintained consistent with the CLB throughout the period of extended operation.

2. Review the description of these AMPs from the LRA, UFSAR, plant procedures, and related engineering support documentation. Interview the on-site engineering staff responsible for implementation of these AMPs to assess their knowledge and involvement in the license renewal effort. Discuss AMP program methods, past results, past weaknesses and corrections, and future plans.

3. Verify the applicant evaluated site-specific information such as surveillance test results, preventive maintenance records, corrective maintenance records, equipment history files, inservice test and inspection results in determining aging effects. Verify the applicant evaluated industry operational experience such as generic communications, vendor notifications, INPO notifications, etc., in determining aging effects.

4. Perform walk-downs of selected in-scope SSCs to verify that any observable aging effects were identified by the applicant for these SSCs. If possible, the inspector should have a representative from the on-site responsible engineering staff accompany the inspector during the walk-down to discuss observations at the equipment location. The purpose of these walk-downs is to assess how plant equipment is currently being maintained and to visually observe examples of nonsafety-related equipment determined to be in scope due to their proximity to safety-related equipment and their potential for failure due to aging effects. If possible, a part of this inspection should be performed during a unit outage, to allow visual observation of equipment inaccessible during power operation, i.e., inside containment, normal high radiation areas, etc. Containment inspection shall be performed if (a) there is evidence that some aging effects are not adequately addressed in the application, or (b) there is an open item, generated either by the inspection or the application review, that is related to an area inaccessible during the regularly scheduled inspection, and (c) the areas of interest in the facility will become available prior to the final inspection exit meeting observed by the public. Observed aging effects not addressed by the LRA and resulting AMPs should be discussed and addressed to the applicant and resolved with the support of NRR.

5. For previously existing AMPs, review the results of past tests and inspections. Verify the proposed and existing programs adequately demonstrate ample opportunity to detect, monitor, trend, and correct age related degradations through performance and/or condition monitoring, technical specification surveillances, and other aging management activities.

c. Annual Update/Open Item Inspection. The applicant may make changes to the plant or the current licensing basis while the NRC performs its review of the LRA. Annually, after the initial application, the applicant is required to submit an amendment to the original application describing any change that materially affects the contents of the original application. The applicant may also make changes or commitments to satisfy an issue raised during the NRC review process or raised during a previous LRI. This inspection will be conducted at the option of the Regional Administrator. During this LRI the following inspection tasks should be accomplished:

1. Select a sample of plant modifications and CLB changes the applicant made since the date of the original LRA submittal. Determine that these changes

were included in an annual LRA update. For newly installed plant equipment required to be in the scope of license renewal, verify that the equipment is included in appropriate aging management programs.

2. Compile the issues raised by previous LRIs and determine the current status from the applicant. Determine if the issue has been resolved. If the issue has not been resolved, determine what the applicant's plans are to resolve the issue and coordinate with NRR to determine the acceptability of those plans.

3. Determine that the applicant has compiled a list of future tasks to be accomplished as a result of commitments made during the license renewal process and loaded this list into an official plant work tracking system. This review is to ensure that commited tasks are being tracked to be accomplished prior to and during the period of extended operation.

71002-04 INSPECTION GUIDANCE

04.01 General Inspection Guidance. This license renewal inspection procedure will be implemented, prior to the approval of an application for renewed license, to verify that an applicant, requesting a renewed license under 10 CFR Part 54, meets the requirements of the rule and has implemented license renewal programs and activities consistent with their LRA and the safety evaluations developed by the NRC staff. LRIs will be performed by NRC regional offices and will include visits to the applicant's site. The inspections will cover the items discussed in 03.01. The inspection may include the annual LRA update process, and unresolved open items resulting from previous inspections or staff review of the LRA.

Inspectors should familiarize themselves with the requirements and guidance relating to license renewal. Inspectors should familiarize themselves with the LRA and associated safety evaluations performed by the staff for the specific plant to be inspected. License renewal requirements and guidance documents that should be reviewed prior to an inspection include:

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

b. The statements of consideration (SOC) published with the revision to the rule in the Federal Register, Vol. 60, No. 88, Monday, May 8, 1995, pages 22461 to 22495;

c. Regulatory Guide 1.188; "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," July 2001;

d. NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," July 2001;

e. NUREG-1801, "Generic Aging Lessons Learned (GALL) Report," July 2001;

f. Nuclear Energy Institute 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Rev. 3, March 2001; and

g. NRC approved Interim Staff Guidance positions relating to license renewal.

Throughout the license renewal inspection, the inspectors should review the supporting documentation associated with an applicant's license renewal program to verify that

documentation required by the rule, or otherwise necessary to verify compliance with the rule, is being maintained in an auditable and retrievable form consistent with the requirements of 10 CFR 54.13 and 54.37, the applicant's LRA, and applicant's approved programs and procedures.

04.02 Specific Inspection Guidance

a. Scoping and Screening Requirements. The license renewal program must include nonsafety-related SSCs whose failure could prevent safety-related SSCs from accomplishing a safety function. These nonsafety-related SSCs are included in order to provide protection against safety function failure in cases where the safety-related structure or component is not itself impaired by age-related degradation but is vulnerable to failure from the failure of another structure or component that may be so impaired. Consideration of hypothetical failures that could result from system interdependencies that are not part of the current licensing bases and that have not been previously experienced is not required.

b. Aging Management Programs Inspection. As required under 10 CFR 54.21(a)(3), an applicant is required to demonstrate that the aging effects will be adequately managed so the intended function will be maintained consistent with the CLB for the period of extended operation. To fulfill this requirement an applicant must first identify the applicable aging effects, and the aging management program(s) and activities that will manage each aging effect.

   As part of the inspection process of AMP documentation, the site inspector needs to ensure that the implementation of the program is producing results consistent with the claims made by the applicant as to how the program will manage the aging effect in question. Each program should clearly state how the aging management program will manage the aging effect, and the supporting documentation, along with the material condition of the SSCs, must be consistent with these claims.

   Some AMPs may have an objective to monitor and trend ongoing degradation, and implement corrective actions prior to anticipated failure of a structure or component to perform its intended function consistent with the applicant's CLB. During the site inspection, any trends identified as being less conservative with respect to the objectives of the AMPs in the LRA and/or applicant approved procedures need to be identified to NRR and included in the inspection report.

71002-05 RESOURCE ESTIMATES

License renewal inspection activities will require approximately two weeks of inspection time on site involving a team of four inspectors and a team leader. An additional week will be allocated each to inspection preparation, in-office review between two onsite weeks, and for documentation of the inspection results. In addition, from past experience, the team leader will need approximately 15 additional working days to finalize the inspection report. Based on past experience, the final follow up inspection can be accomplished by one inspector with one preparation week, one week of inspection on site, plus two additional weeks for documentation. Based on these estimates, each application will require approximately 32 inspector weeks of inspection activities prior to the approval of a renewed license.

71002-06 REFERENCES

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

U.S. Nuclear Regulatory Commission, Regulatory Guide 1.188, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," July 2001

Nuclear Energy Institute, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," NEI 95-10, Rev. 3, March 2001

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,” July 2001

NUREG-1801, “Generic Aging Lessons Learned (GALL) Report,” July 2001

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

U.S. Nuclear Regulator Commission, "Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants," April 21, 2000.

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