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REGULATORY GUIDE

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(Drafts were DG-1104, DG-1047, and DG-1009)

STANDARD FORMAT AND CONTENT FOR APPLICATIONS TO RENEW NUCLEAR POWER PLANT OPERATING LICENSES

A. INTRODUCTION

GENERAL

The issuance of renewed operating licenses for nuclear power plants is governed by Title 10 of the Code of Federal Regulations (10 CFR) in Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants" (the license renewal rule), which specifies the information to be included as part of an application for license renewal. This information is to be included in the application to renew an operating license submitted by a nuclear power plant licensee. The application should include (1) general information, (2) the integrated plant assessment, (3) an evaluation of time-limited aging analyses, (4) a final safety analysis report (FSAR) supplement, (5) technical specification changes, and (6) an environmental report supplement. The FSAR supplement should provide a summary description of the programs and activities for managing the effects of aging for the period of extended operation, which is determined by the integrated plant assessment and an evaluation of time-limited aging analyses.

Regulatory guides are issued to describe and make available to the public such information as methods acceptable to the NRC staff for implementing specific parts of the NRC's regulations, techniques used by the staff in evaluating specific problems or postulated accidents, and data needed by the NRC staff in its review of applications for permits and licenses. Regulatory guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions different from those set out in the guides will be acceptable if they provide a basis for the findings requisite to the issuance or continuance of a permit or license by the Commission.

This guide was issued after consideration of comments received from the public. Comments and suggestions for improvements in these guides are encouraged at all times, and guides will be revised, as appropriate, to accommodate comments and to reflect new information or experience. Written comments may be submitted to the Rules and Directives Branch, ADM, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Regulatory guides are issued in ten broad divisions: 1, Power Reactors; 2, Research and Test Reactors; 3, Fuels and Materials Facilities; 4, Environmental and Siting; 5, Materials and Plant Protection; 6, Products; 7, Transportation; 8, Occupational Health; 9, Antitrust and Financial Review; and 10, General.

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The following general provisions, with the corresponding regulations, apply to filing an application for a renewed license.

- The application must be filed in accordance with Subpart A of 10 CFR Part 2, 10 CFR 50.4, and 10 CFR 50.30. [10 CFR 54.17(a)]
- The application may not be submitted to the Commission earlier than 20 years before the expiration of the operating license currently in effect. [10 CFR 54.17(c)]
- For the timely renewal provisions of 10 CFR 2.109(b) to apply, a sufficient application must be filed at least 5 years prior to the expiration of the existing license. [10 CFR 2.109(b)]
- The application for a renewed license may be combined with applications for other types of licenses. [10 CFR 54.17(d)]
- The application may incorporate by reference information contained in previous applications for licenses or license amendments, statements, correspondence, or reports filed with the Commission, provided that the references are clear and specific. [10 CFR 54.17(e)]

The requirements for filing a license renewal application are specified in 10 CFR 54.17. An application may be submitted to the NRC in electronic or paper format, as described in Regulatory Issue Summary (RIS) 2001-05, "Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-Rom."[1] The RIS provides guidance on acceptable electronic formats for electronic submittals and references an NRC web site for further details at <http://www.nrc.gov/NRC/EIE/index.html>. This regulatory guide applies to license renewal applications or portions thereof.

The information collections contained in this regulatory guide are covered by the requirements of 10 CFR Part 54, which were approved by the Office of Management and Budget, approval number 3150-0155. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

B. DISCUSSION

The purpose of this guide is to provide guidance on the information to be submitted in an application for renewal of a nuclear power plant operating license in a uniform format that is acceptable to the NRC staff for structuring and presenting this information. Conformance with this guide is not required, but its use facilitates both preparation of a license renewal application by a licensee and timely, uniform review by the NRC staff. A different format will be acceptable to the NRC staff if it provides an adequate basis for approval of the application for license renewal.

Drafts of this guide were issued for public comment as DG-1104 in August 2000, DG-1047 in August 1996, and DG-1009 in December 1990. This guide incorporates lessons learned from the review of license renewal applications and Owners Group topical report reviews. The guide

[1] Regulatory Issue Summaries are available on the NRC's web site at WWW.NRC.GOV in the Reference Library.

also incorporates relevant information from the development of the "Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants" (SRP-LR) (NUREG-1800),[2] and "Generic Aging Lessons Learned (GALL) Report" (NUREG-1801),[2] as well as from public comments received on these documents (these public comments are summarized in NUREG-1739, "Analysis of Public Comments on the Improved License Renewal Guidance Documents."[2]

The Nuclear Energy Institute (NEI) has developed NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Revision 3 (March 2000),[3] regarding implementation of the license renewal rule. The NRC staff has reviewed this document and found that it provides guidance acceptable to the staff. Licensees may use methods other than those provided in NEI 95-10 to meet the intent of the license renewal rule, but the NRC staff will determine the acceptability of other methods on a case-by-case basis.

Additional information for preparing a license renewal application is provided in the Standard Review Plan for License Renewal (NUREG-1800).[2]

This guide provides guidance on applications for renewal of operating licenses for commercial nuclear power plants and is expected to ensure that actions have been identified and have been taken or will be taken with respect to (1) managing the effects of aging during the extended period of operation on the functionality of structures and components that have been identified to require review and (2) evaluating time-limited aging analyses that have been identified to require review, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis (CLB).

C. REGULATORY POSITION

1. CONTENTS OF AN APPLICATION

The requirements that an applicant must meet for renewal of a nuclear power plant operating license are delineated in 10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." This rule establishes the procedures, criteria, and standards

[2] Copies are available at current rates from the U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20402-9328 (telephone (202)512-1800); or from the National Technical Information Service by writing NTIS at 5285 Port Royal Road, Springfield, VA 22161; (telephone (703)487-4650; <http://www.ntis.gov/ordernow>. Copies are available for inspection or copying for a fee from the NRC Public Document Room at 11555 Rockville Pike, Rockville, MD; the PDR's mailing address is USNRC PDR, Washington, DC 20555; telephone (301)415-4737 or (800)397-4209; fax (301)415-3548; email is PDR@NRC.GOV. Electronic copies of these documents are available on the NRC home page at <WWW.NRC.GOV> in the Reference Library. Copies are also available at <WWW.NRC.GOV/NRC/REACTOR/LR/IRG/index.html>, which is the NRC's license renewal web site. Electronic copies are also available through NRC's Electronic Reading Room at the same web site; accession numbers are listed at the end of this guide.

[3] Copies are available for inspection or copying for a fee from the NRC Public Document Room at 11555 Rockville Pike, Rockville, MD; the PDR's mailing address is USNRC PDR, Washington, DC 20555; telephone (301)415-4737 or (800)397-4209; fax (301)415-3548; email is PDR@NRC.GOV. Electronic copies are also available at the NRC's license renewal web site, <WWW.NRC.GOV/NRC/REACTOR/LR/IRG/index.html> . Electronic copies are also available through NRC's Electronic Reading Room at the same web site; the accession number is listed at the end of this guide.

governing renewal of an operating license. Figure 1 provides a summary of the contents of a license renewal application.

The information developed and submitted or retained by an applicant for license renewal should permit the NRC staff to make the determination that the requirements of 10 CFR Part 54 have been met. The format in which this information is presented should provide for optimum use of the applicant's resources and should facilitate the NRC staff review of the license renewal application. An application will consist of general information concerning the applicant and the plant, technical information referenced or contained in the integrated plant assessment (IPA) and the evaluation of time-limited aging analyses (TLAAs), a supplement to the Final Safety Analysis Report (FSAR), technical specification changes and their justification, and a supplement to the environmental report.

The technical information submitted should focus on reviews of aging management, TLAAs, and the activities necessary to ensure that the CLB for the plant will be maintained for the period of extended operation. The technical content of a license renewal application should be sufficient to allow an NRC reviewer to understand (1) the methodologies used to determine the structures and components subject to an aging management review and (2) the actions taken or to be taken to manage the effects of aging during the period of extended operation. The NRC staff will review these areas to (1) determine whether the methodology is acceptable and whether the resultant lists of systems, structures, or components and TLAAs are comprehensive, (2) assess the effectiveness of actions taken or to be taken to manage aging during the period of extended operation, and (3) determine that TLAAs will remain valid for the period of extended operation or have been acceptably resolved or dispositioned for the purposes of license renewal.

The FSAR supplement should contain a summary description of programs and activities for managing the effects of aging and the evaluation of TLAAs. The regulatory controls associated with placing a summary description of these activities and evaluations into the FSAR, along with the existing regulatory process, should ensure that future changes to programs that could decrease the overall effectiveness of aging management activities and the evaluation of TLAAs will receive appropriate review by the licensee.

The general information required by 10 CFR 54.17 and 54.19 is to be incorporated into the application. Any conforming changes to the indemnity agreement to account for the expiration term of the proposed renewed license [10 CFR 54.19(b)] and restricted data agreements [10 CFR 54.17(f) and (g)] should be included in the application. The technical information required by 10 CFR 54.21 and 54.22 should be contained or referenced in the integrated plant assessment, the evaluation of time-limited aging analyses, or the supplement to the current FSAR.

Technical specification changes or additions that are necessary to manage the effects of aging during the period of extended operation should be included or referenced in the license renewal application. The applicant should identify technical specification changes or additions when additional regulatory control is warranted to ensure that the effects of aging will be managed such that the necessary quality of systems, structures, and components is maintained, that facility operation is within safety limits, and that limiting conditions for operation will continue to be met. Justification for the changes or additions should be included in the application and the

justifications must comply with the requirements of 10 CFR Part 50. The NRC staff may also include conditions or limitations on the renewed license in accordance with 10 CFR 54.33(b) when the NRC staff determines that the additional regulatory control is warranted to ensure that the effects of aging will be adequately managed.

Environmental information should be provided in a supplement to the environmental report that complies with the requirements of Subpart A of 10 CFR Part 51 as required by 10 CFR 54.23. Guidance on the format and content of the environmental report is in Supplement 1 to Regulatory Guide 4.2, "Preparation of Supplemental Environmental Reports for Applications To Renew Nuclear Power Plant Operating Licenses" (September 2000).[4]

2. ENDORSEMENT OF NEI GUIDELINE

The Nuclear Energy Institute's NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule," Revision 3 (March 2001),[2] provides methods that are acceptable to the NRC staff for complying with the requirements of 10 CFR Part 54 for preparing a license renewal application.

3. FORMATTING SPECIFICATIONS

The filing requirements for a license renewal application are specified in 10 CFR 54.17. The application may be submitted to the NRC in electronic or paper format, as described in Regulatory Issue Summary (RIS) 2001-05, "Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-Rom."[1] This guide applies to license renewal applications or portions thereof.

3.1 Graphical Presentations

Graphical presentations such as drawings, maps, diagrams, sketches, and tables should be employed if the information may be presented more adequately or conveniently by such means. Due concern should be taken to ensure that all information so presented is legible, that symbols are defined, that no essential information is lost when colored drawings are printed in black on white paper, and that scales are not reduced to the extent that visual aids are necessary to interpret pertinent items of information. These graphical presentations should be located in the section where they are primarily discussed. References used may appear either as footnotes to the page where discussed or at the end of each chapter.

[4] Single copies of regulatory guides, both active and draft, and draft NUREG documents may be obtained free of charge by fax to (301)415-2289, or by email to <DISTRIBUTION@NRC.GOV>. Active guides may also be purchased from the National Technical Information Service on a standing order basis. Details on this service may be obtained by writing NTIS, 5285 Port Royal Road, Springfield, VA 22161; telephone (703)487-4650; online <http://www.ntis.gov/ordernow>. Copies of certain guides and many other NRC documents are available electronically at <WWW.NRC.GOV> in the Reference Library. Documents are also available through the Electronic Reading Room (NRC's ADAMS document system, or PARS) at the same web site.

3.2 Physical Specifications

Paper Size

1. Text pages: 8-1/2 x 11 inches.
2. Drawings and graphics: 8-1/2 x 11 inches; however, a larger size is acceptable provided that the finished copy when folded does not exceed 8-1/2 x 11 inches.

Paper Stock and Ink. Suitable quality in substance, paper color, and ink density for handling and reproduction by microfilming or image-copying equipment.

Paper Margins. A margin of no less than 1 inch should be maintained on the top, bottom, and binding side of all pages submitted.

Printing.

1. Composition -- Text pages should be single spaced.
2. Type face and style -- Should be suitable for microfilming or image-copying equipment.
3. Reproduction -- May be mechanically or photographically reproduced. All pages of text should be printed on both sides and the image printed head-to-head.

Binding. Pages should be punched for standard 3-hole loose leaf binders.

Page Numbering. Pages should be numbered with the two digits corresponding to the chapter followed by a hyphen and a sequential number (e.g., the third page of Section 4.1 of Chapter 4 should be numbered 4.1-3). Do not number the entire report sequentially.

Table of Contents. A table of contents and index of key items should be provided for the renewal application.

3.3 Procedure for Updating or Revising Pages

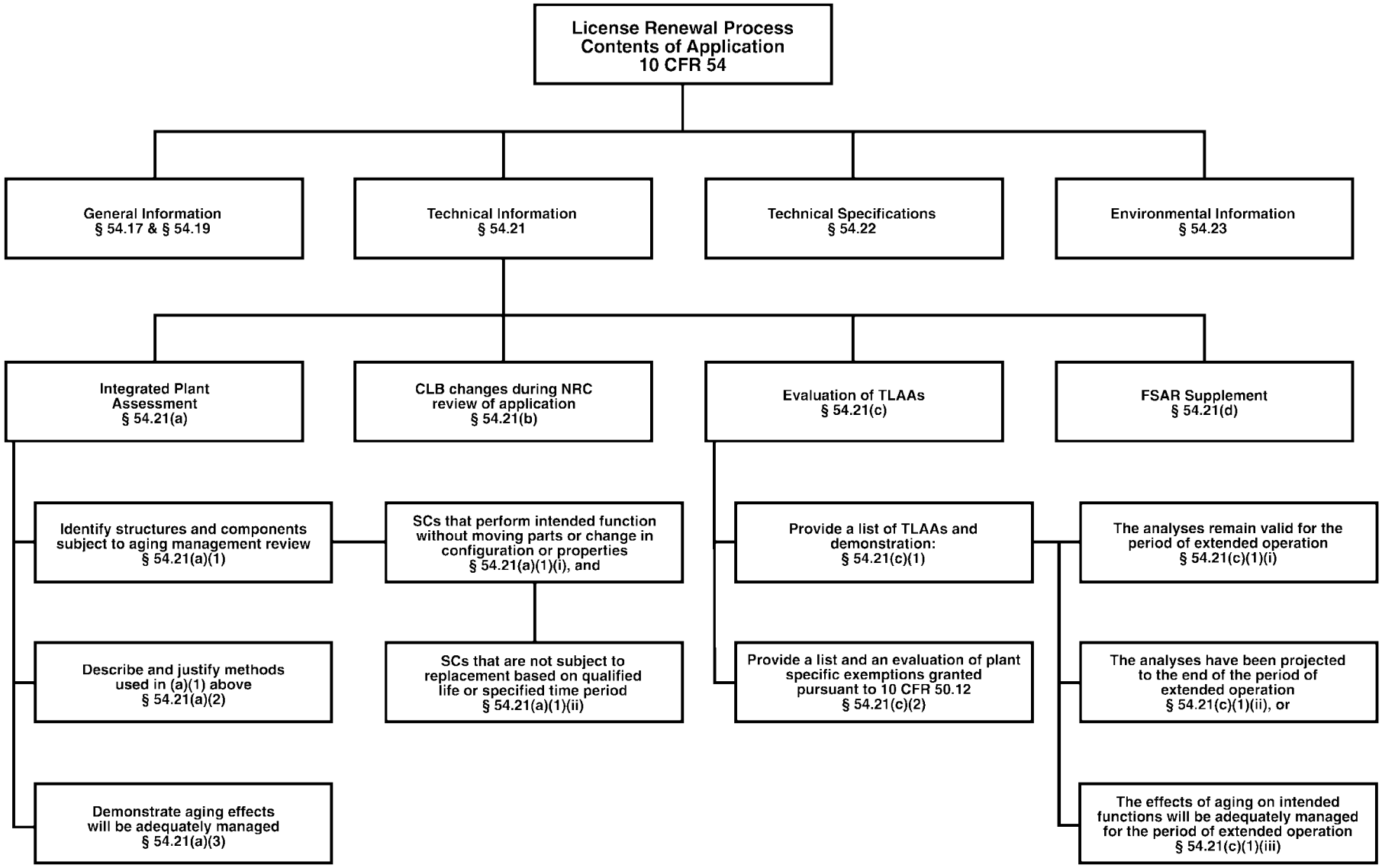
The text should be revised by replacing pages. The changed or revised portion of each page should be highlighted by a "change indicator" mark consisting of a bold vertical line drawn in the margin opposite the binding margin. The line should be of the same length as the portion changed.

All pages submitted to update, revise, or add pages to the report should show the date of the change and the change or amendment number. A guide page listing the pages to be inserted and the pages to be removed should accompany the revised pages. When major changes or additions are made, a revised table of contents should be provided.

D. IMPLEMENTATION

The purpose of this section is to provide information to applicants regarding the NRC staff's plans for using this regulatory guide.

Except in those cases in which an applicant proposes an acceptable alternative method for complying with specified portions of the NRC's regulations, the methods described in this guide that reflects public comments will be used in the evaluation of applications to renew nuclear power plant operating licenses.



CLB: Current licensing basis
SSC: Systems, structures, and components
FSAR: Final safety analysis report
TLAA: Time-limited aging analysis
SC: Structures and components

Figure 1. Contents of Application

REGULATORY ANALYSIS

A separate regulatory analysis was not prepared for this regulatory guide. The regulatory analysis prepared for the final license renewal rule provides the regulatory basis for this guide and examines the costs and benefits of implementing the rule. A copy of the regulatory analysis, "Nuclear Power Plant License Renewal - 10 CFR Part 54," February 1995, is available for inspection and copying for a fee at the NRC's Public Document Room, located at 11555 Rockville Pike, Rockville, MD.

BACKFIT ANALYSIS

This regulatory guide proposes NRC staff guidance on complying with the final license renewal rule, 10 CFR Part 54, effective June 7, 1995. Accordingly, publication of this regulatory guide is not a backfit under 10 CFR 50.109, and no backfit analysis is necessary or has been prepared for this regulatory guide.

Accession Numbers for:
Regulatory Guide 1.188
SRP-LR -
GALL Report -
NEI 95-10, Rev. 3
NUREG-1739 -
Regulatory Issue Summary 2001-05 - ML003768343