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REGULATORY GUIDE 1.188

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

A. INTRODUCTION

The issuance of renewed operating licenses for nuclear power plants is governed by Title 10, Part 54, of the *Code of Federal Regulations* (10 CFR Part 54), "Requirements for Renewal of Operating Licenses for Nuclear Power Plants" (commonly known as the license renewal rule). As such, 10 CFR Part 54 specifies the information that a nuclear power plant applicant must include as part of an application to renew an operating license issued by the U.S. Nuclear Regulatory Commission (NRC). As discussed in this regulatory guide, the application should include (1) general information, (2) an integrated plant assessment (IPA), (3) an evaluation of time-limited aging analyses (TLAAs), (4) a supplement to the plant's final safety analysis report (FSAR), (5) any necessary changes to the plant's technical specifications (along with related justifications), and (6) a supplement to the plant's environmental report. The FSAR supplement should provide a summary description of the programs and activities that the applicant will use to manage the effects of aging for the period of extended operation, which is determined by the IPA and the evaluation of TLAAs.

The following general provisions, with the corresponding regulations, apply to filing an application for a renewed operating 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 applicant may not submit the application to the Commission earlier than 20 years before the expiration of the operating license currently in effect. [10 CFR 54.17(c)]

The U.S. Nuclear Regulatory Commission (NRC) issues regulatory guides to describe and make available to the public methods that the NRC staff considers acceptable for use in implementing specific parts of the agency's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff need in reviewing applications for permits and licenses. Regulatory guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions that differ from those set forth in regulatory guides will be deemed acceptable if they provide a basis for the findings required for the issuance or continuance of a permit or license by the Commission.

This guide was issued after consideration of comments received from the public. The NRC staff encourages and welcomes comments and suggestions in connection with improvements to published regulatory guides, as well as items for inclusion in regulatory guides that are currently being developed. The NRC staff will revise existing guides, as appropriate, to accommodate comments and to reflect new information or experience. Written comments may be submitted to the Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Regulatory guides are issued in 10 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.

Requests for single copies of draft or active regulatory guides (which may be reproduced) should be made to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Reproduction and Distribution Services Section, or by fax to (301) 415-2289; or by email to Distribution@nrc.gov. Electronic copies of this guide and other recently issued guides are available through the NRC's public Web site under the Regulatory Guides document collection of the NRC's Electronic Reading Room at http://www.nrc.gov/reading-rm/doc-collections/ and through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML050730286. Note, however, that the NRC has temporarily limited public access to ADAMS so that the agency can complete security reviews of publicly available documents and remove potentially sensitive information. Please check the NRC's Web site for updates concerning the resumption of public access to ADAMS.

- For the timely renewal provisions of 10 CFR 2.109(b) to apply, the applicant must file a sufficient application 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 kinds 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)]

This regulatory guide applies to license renewal applications or portions thereof. The requirements for filing a license renewal application are specified in 10 CFR 54.17. Applicants may submit their license renewal applications to the NRC in either paper format or electronically, as described in Regulatory Issue Summary (RIS) 01-005, "Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-ROM."[1] The RIS provides general guidance on acceptable formats for electronic submittals and references detailed instructions, which are available through the NRC's public Web site at http://www.nrc.gov/site-help/eie.html.

This regulatory guide contains information collections that are covered by the requirements of 10 CFR Part 54, which the Office of Management and Budget (OMB) approved under OMB control number 3150-0155. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number.

[1] Regulatory issue summaries are available through the NRC's public Web site at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/.

B. DISCUSSION

This revised guide provides guidance on the information that applicants must submit in their applications for renewal of nuclear power plant operating licenses, as well as the uniform format that the NRC staff considers acceptable for structuring and presenting the required information. Conformance with this guide is not required, but its use facilitates both an applicant's preparation of a license renewal application and the NRC staff's timely and consistent review. The NRC staff will consider different formats if they provide an adequate basis for approval of the application for license renewal.

The NRC initially issued Regulatory Guide 1.188 in July 2001, after soliciting and resolving public comments on three draft regulatory guides (DG-1104 in August 2000, DG-1047 in August 1996, and DG-1009 in December 1990). As such, Regulatory Guide 1.188 incorporated lessons learned from the review of license renewal applications and Owners Group topical reports. The guide also incorporated 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 a summary of public comments received on those documents (NUREG-1832, "Analysis of Public Comments on the Revised License Renewal Guidance Documents."[2])

Since the NRC initially published Regulatory Guide 1.188 in July 2001, the staff proposed to update both the SRP-LR (NUREG-1800) and GALL Report (NUREG-1801) based on experience gained from numerous license renewal application reviews and other insights identified by industry. Consequently, the staff also decided to revise Regulatory Guide 1.188 to reflect the proposed updates to the guidance documents. Toward that end, the staff prepared DG-1140, in which the NRC endorsed (with two exceptions) Revision 5 of NEI 95-10, "Industry Guidelines for Implementing the Requirements of 10 CFR Part 54 — The License Renewal Rule," which the Nuclear Energy Institute (NEI) published in January 2005.[3] Specifically, the staff took exception to the use of a portion of Appendix F to Revision 5 of NEI 95-10, from the unnumbered paragraph following paragraph 4.4 through the end of Section 4, "Non-Safety SSCs Directly Connected to Safety-Related SSCs." In addition, the NRC staff took exception to the use of paragraph 5.2.3.1, "Exposure Duration."

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[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 at 5285 Port Royal Road, Springfield, VA 22161; http://www.ntis.gov; or (703) 487-4650. Copies are available for inspection or copying for a fee from the NRC's 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; or email PDR@nrc.gov. These documents are also available electronically through the NRC's public Web site at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/.

[3] Copies are available for inspection or copying for a fee from the NRC's 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 PDR@nrc.gov. Revision 5 of NEI 95-10 is also available through the NRC's license renewal Web page at http://www.nrc.gov/reactors/operating/licensing/renewal/guidance.html#nuclear, and through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML050280113. Note, however, that the NRC has temporarily limited public access to ADAMS so that the agency can complete security reviews of publicly available documents and remove potentially sensitive information. Please check the NRC's Web site for updates concerning the resumption of public access to ADAMS.

Subsequently, in response to the exceptions stated in DG-1140, NEI issued Revision 6 of NEI 95-10 in June 2005[4] to accept the NRC staff's position with respect to each of those issues, thereby rendering the staff's two exceptions unnecessary. Having reviewed this latest revision of NEI 95-10, the NRC staff finds Revision 6 acceptable for use in implementing the license renewal rule, without exceptions, as discussed in this revised regulatory guide. Applicants may meet the intent of the license renewal rule using methods other than those provided in Revision 6 of NEI 95-10; however, the NRC staff will determine the acceptability of such methods on a case-by-case basis. For additional information concerning the preparation of acceptable license renewal applications, applicants should refer to the SRP-LR (NUREG-1800).[5]

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[4] Copies are available for inspection or copying for a fee from the NRC's 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 PDR@nrc.gov. Revision 6 of NEI 95-10 is also available through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML051860406. Note, however, that the NRC has temporarily limited public access to ADAMS so that the agency can complete security reviews of publicly available documents and remove potentially sensitive information. Please check the NRC's Web site for updates concerning the resumption of public access to ADAMS.

[5] 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 at 5285 Port Royal Road, Springfield, VA 22161; http://www.ntis.gov; or (703) 487-4650. Copies are available for inspection or copying for a fee from the NRC's 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; or email PDR@nrc.gov. These documents are also available electronically through the NRC's public Web site at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/.

C. REGULATORY POSITION

This section discusses the NRC staff's regulatory position on the standard format and content of applications for renewal of operating licenses for commercial nuclear power plants. As such, the guidance provided in this section is expected to ensure that applicants have identified and taken (or will take) actions to ensure plant safety throughout the period of extended operation. Specifically, such actions relate to (1) managing the effects of aging on the functionality of plant structures, systems, and components that the NRC staff has identified as requiring aging management, and (2) evaluating TLAAs that the NRC staff has identified as requiring such review. Following this guidance provides reasonable assurance that the applicant will continue to conduct the activities authorized by the renewed licenses, in accordance with the plant's current licensing basis (CLB).

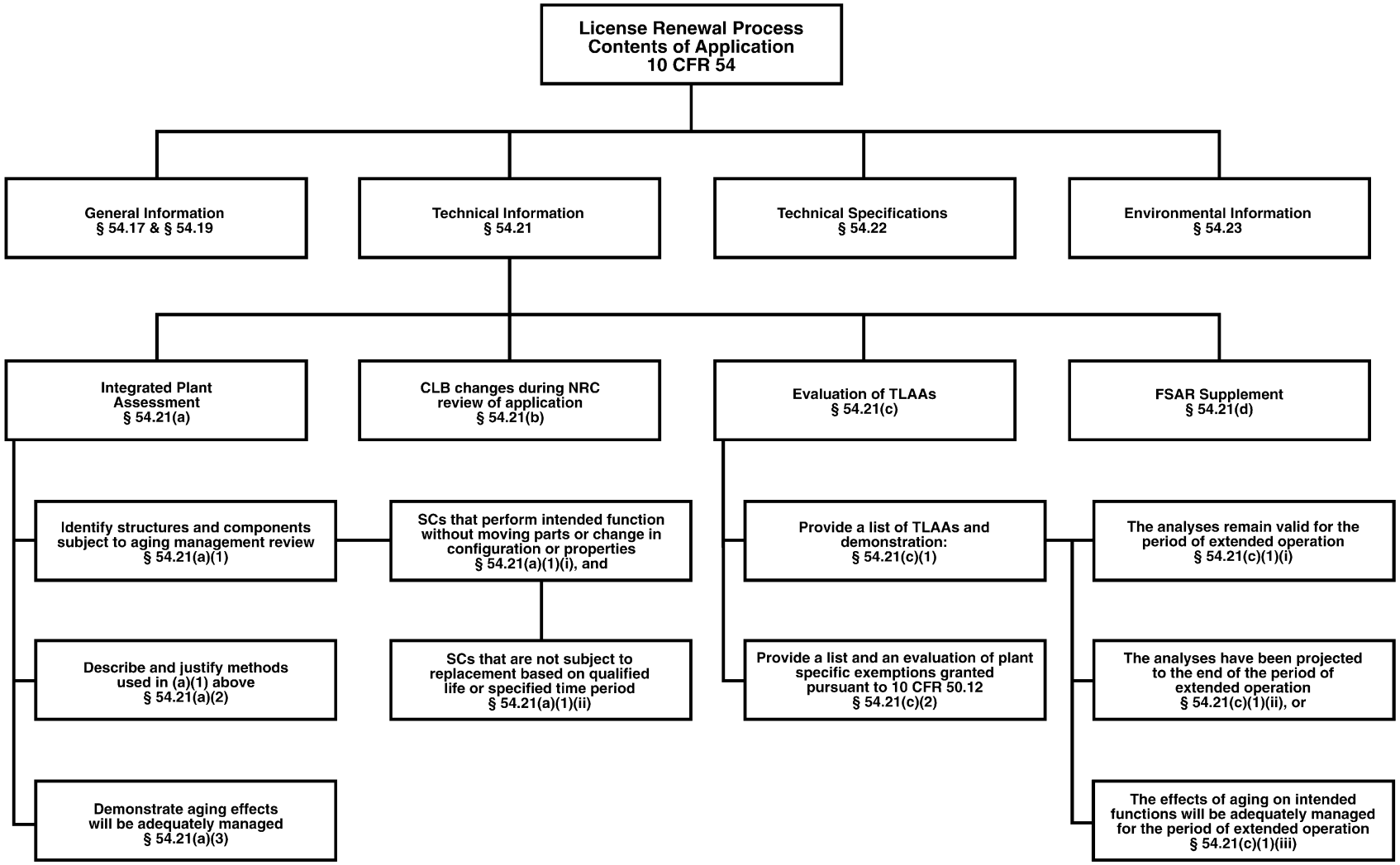
1. Contents of an Application

To renew a nuclear power plant operating license, an applicant must meet the requirements delineated in 10 CFR Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." This license renewal rule establishes the procedures, criteria, and standards governing renewal of an operating license. Figure 1 provides a summary of the contents of a license renewal application.

The information that an applicant develops and submits or retains for license renewal should permit the NRC staff to determine that the applicant has met the requirements of 10 CFR Part 54. The standard format in which the applicant presents this information should allow optimum use of the applicant's resources, while facilitating the NRC staff's review of the license renewal application. As required by 10 CFR Part 54, an application shall consist of general information concerning both the applicant and the plant, technical information referenced or contained in the IPA and the evaluation of TLAAs, a supplement to the FSAR, any technical specification change(s) and their associated justification(s), and a supplement to the plant's environmental report.

The technical information that an applicant submits should focus on identifying structures, systems, and components within the scope of 10 CFR Part 54, and on reviews of aging management, TLAAs, and the activities necessary to ensure that the applicant will maintain the plant's CLB throughout the period of extended operation. The technical content of a license renewal application should be sufficient to allow NRC reviewers to understand (1) the methodologies used to determine the structures, systems, and components that are subject to 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 lists of structures, systems, and 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 whether 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 the TLAA evaluation and the programs and activities that the applicant will use to managing the effects of aging. The regulatory controls associated with placing a summary description of these evaluations and activities into the FSAR, along with the existing regulatory process, should ensure that future program changes that could decrease the overall effectiveness of the TLAA evaluation and aging management activities will receive appropriate review by the applicant.



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

The license renewal application must also incorporate the general information required by 10 CFR 54.17 and 54.19. This information should include any conforming changes to the indemnity agreement to account for the expiration term of the proposed renewed license [10 CFR 54.19(b)] and any restricted data agreements [10 CFR 54.17(f) and (g)]. In addition, the IPA, the TLAA evaluation, and/or the FSAR supplement should contain or reference the technical information required by 10 CFR 54.21 and 54.22.

The license renewal application should also include or reference any technical specification changes or additions that are necessary to manage the effects of aging during the period of extended operation. The applicant should identify technical specification changes or additions when additional regulatory control is warranted to ensure that the applicant will manage the effects of aging, such that the necessary quality of systems, structures, and components will continue to be maintained, facility operation will continue to be within safety limits, and limiting conditions for operation will continue to be met. As such, the application should include justifications for the proposed changes or additions, 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 staff determines that additional regulatory control is warranted to ensure that the applicant will adequately manage the effects of aging.

In addition, the applicant should provide environmental information in a supplement to the plant's environmental report, and such information must comply with the requirements of Subpart A of 10 CFR Part 51, as required by 10 CFR 54.23. For additional guidance concerning the format and content of the environmental report, applicants should refer to Supplement 1 to Regulatory Guide 4.2, "Preparation of Supplemental Environmental Reports for Applications To Renew Nuclear Power Plant Operating Licenses," dated September 2000.[6]

2. Endorsement of NEI Guidelines

Revision 6 of NEI 95-10, "Industry Guidelines for Implementing the Requirements of 10 CFR Part 54 — The License Renewal Rule," dated June 2005,[7] provides methods that the NRC staff considers acceptable for complying with the requirements of 10 CFR Part 54 for preparing a license renewal application.

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[6] Single copies of regulatory guides, both active and draft, and draft NUREG documents may be obtained free of charge by writing the Reproduction and Distribution Services, USNRC, Washington, DC 20555-0001, or 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 at http://www.ntis.gov. Copies of active and draft guides are also available for inspection or copying for a fee from the NRC's 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 PDR@nrc.gov.

[7] Copies are available for inspection or copying for a fee from the NRC's 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 PDR@nrc.gov. This document is also available through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html, under Accession No. ML051860406. Note, however, that the NRC has temporarily limited public access to ADAMS so that the agency can complete security reviews of publicly available documents and remove potentially sensitive information. Please check the NRC's Web site for updates concerning the resumption of public access to ADAMS.

3. Formatting Specifications

The filing requirements for a license renewal application are specified in 10 CFR 54.17. Applicants may submit applications to the NRC in electronic or paper format, as described in RIS 2001-05, "Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-ROM."[8] This guidance applies to license renewal applications or portions thereof.

3.1 Graphical Presentations

Applicants should employ graphical presentations (such as drawings, maps, diagrams, sketches, and tables) if such means may convey the information more adequately or conveniently. In so doing, applicants should ensure that all information so presented is legible, symbols are defined, no essential information is lost when colored drawings are printed in black on white paper, and scales are not reduced to the extent that visual aids are necessary to interpret pertinent information. Such graphical presentations should appear in the section where they are primarily discussed. References used may be cited either as footnotes on the page where they are discussed, or as endnotes at the end of the chapter in which they are discussed.

3.2 Physical Specifications

3.2.1 Paper Size

- Text pages: 8½ × 11 inches.
- Drawings and graphics: 8½ × 11 inches. A larger size is acceptable, provided that the finished copy, when folded, does not exceed 8½ × 11 inches.

3.2.2 Paper Stock and Ink

Use suitable quality in substance, paper color, and ink density for handling and reproduction by microfilming or image-copying equipment.

3.2.3 Page Margins

Maintain a margin of no less than 1 inch on the top, bottom, and binding side of all pages submitted.

3.2.4 Printing

- Composition: Text pages should be single-spaced.
- Type Face and Style: Use type faces and styles that are suitable for reproduction by microfilming or image-copying equipment.
- Reproduction: Copies may be mechanically or photographically reproduced. All text pages should be printed on both sides, with the image printed head-to-head.

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[8] Regulatory issue summaries are available through the NRC's public Web site at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/.

3.2.5 Binding

Pages should be punched for standard 3-hole looseleaf binders.

3.2.6 Page Numbering

Pages should be numbered with digits corresponding to the chapter and section, followed by a hypen and a sequential page 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.*

3.2.7 Table of Contents

Provide a table of contents and index of key terms for the renewal application.

3.3 Procedure for Updating or Revising Pages

Text and graphical presentations should be revised by providing replacement pages. The new or modified portion of each page should be highlighted by a "change indicator," consisting of a bold vertical line drawn in the margin opposite the binding margin. The line should be of the same length as the new or modified portion of the page.

All pages submitted to update, revise, or add pages to the report should show the date of the change, as well as the change or amendment number. A guide page listing the pages to be inserted and pages to be removed should accompany each submission of revised pages. In addition, when making major changes or additions, the applicant should provide a revised table of contents.

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 or has previously established an acceptable alternative method for complying with specified portions of the NRC's regulations, the methods described in this guide reflect public comments and will be used in evaluating applications to renew nuclear power plant operating licenses.

REGULATORY ANALYSIS

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

BACKFIT ANALYSIS

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