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DRAFT REGULATORY GUIDE

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DRAFT REGULATORY GUIDE DG-1047  
(Supersedes Draft 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) 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

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This regulatory guide is being issued in draft form to involve the public in the early stages of the development of a regulatory position in this area. It has not received complete staff review and does not represent an official NRC staff position.

Public comments are being solicited on the draft guide (including any implementation schedule) and its associated regulatory analysis or value/impact statement. Comments should be accompanied by appropriate supporting data. Written comments may be submitted to the Rules Review and Directives Branch, DFIPS, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Copies of comments received may be examined at the NRC Public Document Room, 2120 L Street NW., Washington, DC. Comments will be most helpful if received by **November 29, 1996.**

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is determined by the integrated plant assessment and an evaluation of time-limited aging analyses.

The following general provisions 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)]

### PURPOSE AND APPLICABILITY

The purpose of this guide is to provide a uniform format and content acceptable to the Nuclear Regulatory Commission (NRC) staff for structuring and presenting the information to be submitted in an application for renewal of a nuclear power plant operating license. 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 staff if it provides an adequate basis for approval of the application for license renewal.

This draft guide was issued in December 1990 as DG-1009. However, the NRC amended the license renewal rule on May 8, 1995 (60 FR 22461), and the guidance in DG-1009 no longer adequately reflects the current requirements for renewal of operating licenses.

The guidance provided herein is appropriate for use in 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).

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 Commission's regulations, techniques used by the staff in evaluating specific problems or postulated accidents, and guidance to applicants. Regulatory guides are not substitutes for regulations, and compliance with regulatory guides is not required. Regulatory guides are issued in draft form for public comment to involve the public in the early stages of developing the regulatory positions. Draft regulatory guides have not received complete staff review and do not represent official NRC staff positions.

The information collections contained in this draft 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. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

## **B. DISCUSSION**

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 utilization 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 aging management reviews, on TLAAAs, and on 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 methods used to identify systems, structures, and components within the scope of license renewal, (2) the methods used to determine the structures and components subject to an aging management review, (3) the methods used to identify and evaluate TLAAAs, and (4) the actions taken or to be taken to manage the effects of aging during the period of extended operation and to ensure that TLAAAs remain valid for the period of extended operation. The NRC staff will review these areas to (1) determine whether the methodologies are acceptable and whether the resultant lists of systems, structures, or components and TLAAAs 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 TLAAAs will remain valid for the period of extended operation or have been acceptably 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 TLAAAs. 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 TLAAAs will receive appropriate review by the licensee.

Technical specification changes or additions that are necessary to manage the effects of aging during the period of extended operation and their justification must also be included in the 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.

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 0<sup>1</sup> (March 1, 1996), to provide guidance to licensees regarding implementation of the license renewal rule. The NRC staff 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; however, the NRC will determine the acceptability of other methods on a case-by-case basis.

Additional guidance for developing the information necessary for preparing a license renewal application will be provided in the Standard Review Plan for License Renewal (SRP-LR). The NRC staff intends to issue the SRP-LR after gaining experience with implementation of the license renewal rule based on the review of a number of license renewal applications. When issued, the staff will use the SRP-LR for review of all license renewal applications.

### **C. REGULATORY POSITION**

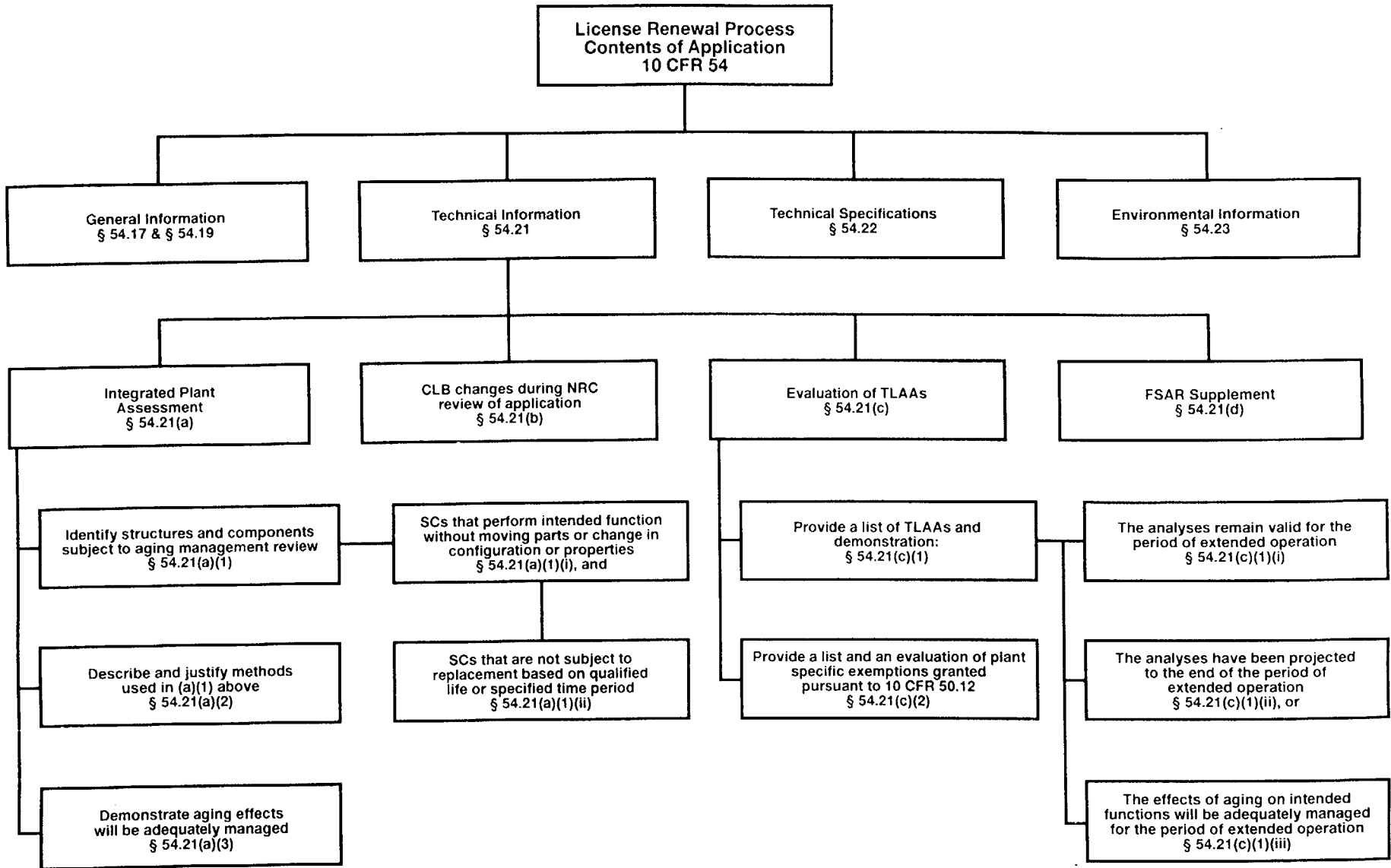
#### **1. CONTENTS OF AN APPLICATION**

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

The general information required by 10 CFR 54.17 and 54.19 should be incorporated into the application. Conforming changes to the standard indemnity agreement to account for the expiration term of the proposed renewed license [10 CFR 54.19(b)] and restricted data agreements [§ 54.17(f) and (g)] should also 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.

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<sup>1</sup>Copies are available for inspection or copying for a fee from the NRC Public Document Room at 2120 L Street NW., Washington, DC; the PDR's mailing address is Mail Stop LL-6, Washington, DC 20555; telephone (202)634-3273; fax (202)634-3343.



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

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 and should comply with the applicable requirements of 10 CFR Part 50. The justification for the changes or additions should also be included in the license renewal application. The NRC staff may include conditions or limitations on the renewed license in accordance with 10 CFR 54.33(b), for example, when a licensee's commitment will not be completed prior to issuance of the license or when the NRC staff determines that the additional regulatory control is warranted to ensure that the effects of aging will be adequately managed.

The 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. The format and content of the environmental report are addressed in Regulatory Guide 4.2, "Preparation of Environmental Reports for Nuclear Power Stations."

To facilitate the NRC staff's review of an application, an implementation plan should be provided. The implementation plan is a summary of the commitments, activities, and schedules required from an applicant's license renewal reviews and evaluations and should include:

1. A list of the commitments described in the license renewal application.
2. A description of the administrative control programs used by the applicant to establish and maintain the commitments described above. The administrative controls should ensure that activities to manage the effects of aging as part of an aging management program are identified and controlled so that changes are not made that could reduce the effectiveness of the program and so that any program modifications are adequately reviewed and approved.
3. A list of tasks and task schedules pertaining to aging management programs and activities not yet in place that will be completed during or prior to the period of extended operation. These tasks may include system design changes, replacements, inspections, program enhancements, and establishing new programs.
4. A schedule for the specific actions that have been committed to be completed. This schedule should be consistent with the evaluations

made in performing the integrated plant assessment and the time-limited aging analyses evaluations.

Guidance on the composition, physical preparation, and revision of an application is provided in Appendix A.

## 2. ENDORSEMENT OF NEI GUIDELINE

NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule,"<sup>1</sup> Revision 0 (March 1, 1996), 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. However, the examples contained in Appendix C to NEI 95-10 provide only an overview of the process described in the guideline. The examples should not be considered sufficient for demonstrating that the effects of aging for the components discussed will be adequately managed for the period of extended operation.

## 3. ADDITIONAL IMPLEMENTATION GUIDANCE

### 3.1 Matters Not Subject to a Renewal Review

The license renewal rule at 10 CFR 54.30 specifies matters that are not subject to NRC review and that may not be contested in a hearing for license renewal. The intent of the provisions in 10 CFR 54.30 is to clarify that safety matters of noncompliance for the current operating term should not be the subject of the renewal application or the subject of a hearing in a renewal proceeding, absent specific Commission direction. Issues concerning operation during the currently authorized term of operation should be addressed as part of the current license in accordance with the Commission's current regulatory process rather than deferred until a renewal review (which will not occur if the licensee chooses not to renew its operating license). Furthermore, 10 CFR 54.30 is intended to make clear that aging issues discovered during the renewal review for the structures and components that are reviewed in 10 CFR 54.21(a)(3) or 54.21(c)(1) and that raise questions about the capability of these structures and components to perform their intended function during the current term of operation must be addressed under the current license.



However, an applicant for renewal is not relieved from addressing the issue relevant to the period of extended operation as part of its renewal application.

Section 54.30 does not require a general demonstration of compliance with the CLB as a prerequisite for issuing a renewed license. Section 54.30 discusses the applicant's responsibilities for addressing safety matters under its current license, which are not within the scope of the renewal review. Conversely, 10 CFR 54.30 does not support the position that, because aging is a continuous process, aging management being performed on structures and components within the scope of license renewal during the current term is acceptable for the period of extended operation. The demonstrations required by the license renewal rule must still be provided for these aging management programs.

### **3.2 Resolution of Current Generic Issues**

Section 1.5 of NEI 95-10 provides general guidance on the resolution of generic issues related to aging management reviews for license renewal or on evaluation of TLAAs that have been identified by the NRC as unresolved safety issues (USIs) or generic safety issues (GSIs). USIs and GSIs are identified and tracked in the NRC's formal generic safety issues resolution process set forth in NUREG-0933, "A Prioritization of Generic Safety Issues."<sup>2</sup>

During the preparation and review of a renewal application, an applicant or the NRC may become aware of an aging management or time-limited aging analysis issue that may be generically applicable to other nuclear plants. If issues may have generic applicability (but are not yet part of the formal generic safety issues resolution process), an applicant must still address the issue in its application to demonstrate that the effects of aging are or will be adequately managed or that TLAAs have been evaluated for the period of extended operation.

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<sup>2</sup>R. Emrit et al., "A Prioritization of Generic Safety Issues," NUREG-0933, January 1991. Copies may be purchased at current rates from the U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20402-9328 (telephone (202)512-2249); or from the National Technical Information Service by writing NTIS at 5285 Port Royal Road, Springfield, VA 22161. Copies are available for inspection or copying for a fee from the NRC Public Document Room at 2120 L Street NW., Washington, DC; the PDR's mailing address is Mail Stop LL-6, Washington, DC 20555; telephone (202)634-3273; fax (202)634-3343.

#### **D. IMPLEMENTATION**

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

This draft guide has been released to encourage public participation in its development. Except in those cases in which an applicant proposes an acceptable alternative method for complying with specified portions of the Commission's regulations, the method to be described in the active guide reflecting public comments will be used in the evaluation of applications to renew nuclear power plant operating licenses.

**APPENDIX A**  
**PREPARATION AND REVISION OF APPLICATIONS**

This appendix provides guidance on the composition, physical preparation, and revision of a license renewal application.

**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, 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.

**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.

### **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.

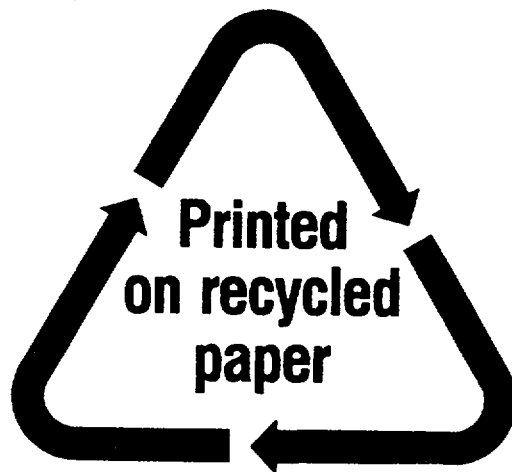
All pages submitted to update, revise, or add pages to the report should show the date of the change and the change or amendment number. A guide page listing the pages to be inserted and the pages to be removed should accompany the revised pages. When major changes or additions are made, a revised table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

## **REGULATORY ANALYSIS**

A separate regulatory analysis was not prepared for this draft 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, entitled "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 the Gelman Building, 2120 L Street NW., Washington, DC.

## **BACKFIT ANALYSIS**

This draft regulatory guide proposes the first 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.



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