

February 9, 1996

FOR: The Commissioners
 FROM: James M. Taylor, Executive Director for Operations /s/
 SUBJECT: FINAL RULEMAKING ON "ENVIRONMENTAL REVIEW FOR RENEWAL OF NUCLEAR POWER PLANT OPERATING LICENSES,"
 10 CFR PART 51

PURPOSE:

To obtain Commission approval for publication of a final rule notice, [10 CFR Part 51](#), "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses" and the required supporting documents.

BACKGROUND:

On September 17, 1991 (56 FR 47016), the NRC published proposed amendments to its environmental protection regulations, 10 CFR Part 51, that would streamline requirements for the environmental review of applications to renew operating licenses for nuclear power plants. In SECY-92-198, dated May 29, 1992, the NRC staff (staff) informed the Commission of major concerns raised in comments by the Environmental Protection Agency (EPA [EXIT](#)), the Council on Environmental Quality (CEQ), various States, and others about the proposed rule. In SECY-93-032, dated February 9, 1993, the staff informed the Commission of an understanding reached with EPA and CEQ that would resolve their procedural concerns with the proposed rule. The staff also informed the Commission that the public comments, especially those from the States, had raised significant policy issues associated with the treatment of need for generating capacity, alternative energy sources, economic costs, and cost-benefit balancing in the proposed rule.

In a Staff Requirements Memorandum (SRM) dated April 22, 1993, the Commission instructed the staff to develop an options paper for responding to the States' concerns, to solicit State views on the options, and to present these options to the Commission. In a memorandum dated December 17, 1993, a staff options paper entitled "Addressing The Concerns Of States And Others Regarding The Role Of Need For Generating Capacity, Alternative Energy Sources, Utility Costs, And Cost-Benefit Analysis In NRC Environmental Reviews For Relicensing Nuclear Power Plants: An NRC Staff Discussion Paper," was submitted for Commission review. Also attached was a draft Federal Register notice announcing the scheduling of three regional workshops and the availability of the options paper. In a Staff Requirements Memorandum (SRM) dated January 12, 1994, the Commission approved release of the options paper and instructed the staff to report on the results of the workshops.

In SECY-94-165, dated June 16, 1994, the staff informed the Commission of the results of three regional workshops held in February 1994. Additionally, the staff proposed an approach for resolution of the States' issues and sought permission to seek public comment on this proposed approach. The notice was published on July 25, 1994 (59 FR 37724), and the public comment period closed on September 8, 1994.

In SECY-95-029, dated February 7, 1995, the staff informed the Commission of the public comments on its published approach and of its intentions for completion of the rulemaking. In an SRM dated March 16, 1995, the Commission approved the staff's approach for completing the Part 51 rulemaking.

In SECY-95-160, dated June 19, 1995, the staff enclosed a draft Notice of the Final Rule for publication in the Federal Register and informed the Commission that the final rule would be submitted after certain enhancements to the generic environmental impact statement (GEIS) are completed. These enhancements have been completed. These enhancements have also not materially altered the final rule provisions.

DISCUSSION:

- [Public Comments](#)
- [Regulatory Requirements of Final Rule](#)
- [Procedural Modifications](#)
- [Technical Modifications](#)

This paper forwards to the Commission for its approval the Federal Register notice to amend 10 CFR Part 51 with respect to renewal of nuclear power plant operating licenses ([Enclosure 1](#)) and three technical documents supporting the rule: (1) "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," NUREG-1437 (GEIS) ([Enclosure 2](#)); (2) "Public Comments on the Proposed 10 CFR Part 51 Rule for Renewal of Nuclear Power Plant Operating Licenses and Supporting Documents: Review of Concerns and NRC Staff Response," NUREG-1529 ([Enclosure 3](#)); and, (3) "Regulatory Analysis of Proposed Amendments to Regulations Concerning the Environmental Review for Renewal of Nuclear Power Plant Operating Licenses," NUREG-1440 ([Enclosure 4](#)). The staff intends to complete the Regulatory Guide and the Environmental Standard Review Plan within 1 year after the final rule is published.

The final rule maintains the original concept envisioned in the proposed rule of establishing regulatory efficiency regarding environmental reviews for license renewal. The final rule accomplishes this through the codification of generic analyses of many of the expected environmental impacts of nuclear plant operation beyond the terms of original operating licenses. The codification consists of a table of environmental issues and impact magnitudes that have been categorized according to whether or not the generic analysis needs additional site-specific review at the time of a license renewal application (Category 1 needs no additional site-specific analysis; Category 2 requires some additional site-specific analysis). The rule also specifies the scope of additional site-specific analyses required for Category 2 issues. Data supporting the Commission's positions are given in the GEIS (NUREG-1437).

Public Comments

In response to the proposed rule, 68 organizations and 49 private citizens submitted written comments. The opportunity for additional public comment was provided at several stages during the staff's resolution of the public concerns. The comments received ranged from States' concerns over the NRC's role in performing analyses regarding need for power, economics, and alternative energy sources (i.e., procedural) to comments concerning the analyses contained in the GEIS on various environmental issues (i.e., technical).

The staff has reviewed and responded to all public comments and has made revisions to both the GEIS and proposed rule as a result of these comments. An analysis of public comments and the NRC's responses to these comments are documented in NUREG-1529. A summary of these comments and resulting staff revisions to the GEIS are contained in

the attached Statement of Considerations for the final rule. This paper does not repeat this summary; however, the major procedural and technical modifications to the rule and GEIS, resulting from resolution of the public comments, are highlighted below.

Regulatory Requirements of Final Rule

The attached rule package contains a detailed description of the regulatory requirements of the final rule. A summary of these requirements is provided below.

As provided in the attached final rule, the regulatory requirements for performing a review under the National Environmental Policy Act of 1969 (NEPA) for a license renewal application are similar to the NEPA review requirements for other major licensing actions for nuclear power plants. Consistent with current 10 CFR Part 51 requirements for major plant licensing actions, this final rule requires the applicant to submit an environmental report and the NRC to write an environmental impact statement (EIS), each of which analyzes the environmental impacts associated with the proposed action, considers alternatives to the proposed action, and considers any alternatives for reducing adverse environmental effects.

However, this final rule allows renewal applicants to take advantage of the generic analysis of environmental impacts for the many environmental issues that are codified in Table B-1 of the final rule by adopting the analysis and finding for each issue in the plant specific license renewal review. Issues for which a generic finding has been reached have been designated as

Category 1 issues in Table B-1. Absent new and significant information related to any Category 1 issue, no further analyses of these issues are required in a plant-specific review. The renewal applicant must address on a plant specific basis all other issues listed in Table B-1. These issues are designated as Category 2 in the table. The final rule specifies the scope of analysis to be provided by an applicant for all Category 2 issues. Additionally, the final rule excludes from consideration, in both the applicant's environmental report and the staff's supplemental environmental impact statement, the issues of need for power, economic costs and benefits of the proposed action for most aspects of the analysis, and other issues not related to the environmental effects of the proposed action. The rule requires the NRC staff to conduct a site-specific supplemental scoping process, prepare a supplemental environmental impact statement (SEIS) for the proposed action, issue the statement in draft for public comment, and issue a final statement after considering public comments on the draft.

The final rule requires the Commission, in its site-specific supplemental environmental impact statement, to compare the impacts of license renewal (i.e. the aggregate impacts of all Category 2 issues; the Category 1 impacts from implementation of the rule; and any new issues identified through the required scoping and public comment process) to the impacts associated with a range of alternative energy sources. The Commission would then determine whether granting a renewed license is reasonable in light of this comparison.

This action involves no resource adjustments to the NRC Five-Year Plan.

Procedural Modifications

In its March 16, 1995, SRM, the Commission approved the staff's procedural modifications designed to resolve the States' policy issues associated with the treatment of need for generating capacity, alternative energy sources, economic costs, and cost-benefit balancing in the proposed rule. These modifications included (1) redefining the purpose of and need for license renewal so as to eliminate NRC judgments regarding need for generating capacity in license renewal reviews, (2) eliminating generic conclusions regarding the comparison of alternative energy sources to license renewal (reserved for site-specific consideration), (3) eliminating the traditional cost-benefit analysis from license renewal NEPA reviews, and (4) utilizing a site-specific decision standard whereby the NRC would consider only the environmental impacts of the proposed action and alternatives, and would reject an application if the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decision makers would be unreasonable.

In the March 16, 1995, SRM, the Commission instructed the staff to consider whether the use of the word "utility" in the redefinition of purpose and need as presented in SECY-95-029 may be too narrow a term given today's environment of deregulation. The staff has considered the use of the term "utility" and has determined that its use does not create any problem even in the event that an independent power producer obtains ownership of a nuclear plant and seeks a renewed license. First, the purpose and need statement for renewal is not being codified in the Commission's regulations; instead, the rule codifies the Commission's elimination of consideration of need for generating capacity in license renewal NEPA reviews. Therefore, the exact wording of the need statement can be adjusted in individual cases if warranted. Second, the statement of purpose and need in the GEIS is intended to convey that license renewal serves the purpose of providing a power generating option to meet the generating needs determined by other authorities. In other words, determining generating need is not an appropriate role for the NRC. The staff believes that, for the purposes of its intent regarding the NRC's role in the issue of need for power, no distinction is necessary between a "utility" and an independent power producer.

In addition to the above procedural changes, the staff has made several additional procedural changes to the rule in response to earlier comments made by CEQ and EPA. Most of these procedural changes were discussed in SECY-93-032. First, the staff will prepare a supplemental site-specific environmental impact statement, rather than an environmental assessment (as initially proposed), for each license renewal application. The NRC will also review and consider any new and significant information presented during the review of individual license renewal applications. Finally, the NRC will review the rule and the GEIS on a schedule that allows revisions, if required, every 10 years. This review will be initiated approximately 7 years after completion of the last cycle.

Technical Modifications

Several significant changes were made in the process for handling technical issues, including: (1) revision of the category definitions that are used to indicate the applicability of analyses and findings for each issue to individual plants, (2) revision of the definitions that are used to characterize the significance of the impacts for each issue, and (3) the consideration of mitigation of adverse impacts for each issue. Also, the category designation of several issues has changed as a result of additional analysis performed in response to public comments.

Two rather than three categories are now used for determining whether an issue needs to be addressed on a plant specific basis. Criteria for specifying an issue as Category 1 are provided, thereby defining those issues for which the staff is required to adopt the generic analysis and finding in plant-specific reviews, absent new information. All Category 2 issues must be assessed as part of a plant-specific review. Also, the consideration of mitigation is more explicit in response to comments that the category definitions and the impact-significance definitions in the proposed rule were ambiguous and appeared to be somewhat interconnected, and that mitigation was inadequately addressed in the GEIS. The potential for additional mitigation is now addressed separately in the GEIS for each Category 1 issue, and the definitions of the significance levels (small, moderate and large) are independent of the consideration of mitigation. Further,

the significance level of a nonradiological impact is now more clearly tied to sustaining specific attributes of the affected resource that are important to its viability, health or usefulness. For the purposes of assessing radiological impacts, those impacts that do not exceed permissible levels in the Commission's regulations are considered small. This clarifies the meaning of the term "small" as it applies to radiological impacts. The definition of "small" in the proposed rule did not logically apply to such impacts.

For the proposed rule, a total of 104 issues were identified and included in Table B-1 of Part 51. The final rule includes 92 issues in Table B-1. Sixty-seven issues were found to be adequately addressed in the GEIS and, therefore, additional assessment will not be required in a plant specific review. Twenty-four issues were found to require additional assessment for at least some plants at the time of the license renewal review. The reduction of the number of issues from 104 in the proposed rule to 92 in the final rule is resulted from (1) eliminating consideration of need for generating capacity and direct economic benefits and costs from the review; (2) removing alternatives as an issue from Table B-1 and addressing review requirements only in the text of the rule; (3) combining the five severe accident issues used in the proposed rule into one issue; (4) eliminating several economic issues not directly related to environmental impacts from the socioeconomic issues; (5) making minor changes to the grouping of issues under aquatic ecology and groundwater; (6) identifying collective offsite radiological impacts associated with the fuel cycle and impacts of high-level waste and spent fuel disposal as separate issues; and (7) adding environmental justice as an issue.

Issues that were identified as not requiring plant-specific review in the proposed rule and that do require plant-specific review in the final rule are (1) water use conflicts for plants with cooling towers on small rivers and plants using ponds for cooling; (2) groundwater use for cooling water make-up from small water bodies potentially affecting aquifer recharge; (3) air quality degradation from vehicle exhaust emissions in certain areas, as described by the Clean Air Act; (4) several socioeconomic issues that could be adversely affected by a large refurbishment workforce; (5) historic and archaeological resources, because of the consultation requirement of the National Historic Preservation Act; (6) severe accident mitigation alternatives, because of a court-imposed requirement; and (7) transportation of fuel and waste, because a detailed analysis of the environmental impacts of transportation to the candidate repository at Yucca Mountain is not yet available. Therefore, these issues have been reclassified as Category 2 issues in the final rule.

In the final rule, the Commission concludes that, although no standard exists that can be used to reach a conclusion as to the significance of the magnitude of the collective radiological effects attributable to any plant, these impacts are acceptable in that these impacts would not be sufficiently large to require the NEPA conclusion, for any plant, that the option of extended operation under 10 CFR Part 54 should be eliminated. Similarly, the Commission also concludes with respect to the effects of high-level waste and spent fuel disposal that, even taking into account the current uncertainties about the performance of the proposed Yucca Mountain repository and the licensing standards specifically applicable to that repository, these impacts are acceptable in that these impacts would not be sufficiently large to require the NEPA conclusion, for any plant, that the option of extended operation under 10 CFR Part 54 should be eliminated. Unlike other Category 1 issues, these two issues will not be considered in judging the total impact of an individual license renewal decision.

Low-level radioactive waste (LLW) storage and disposal were identified in the proposed rule as requiring plant-specific reviews if an applicant does not have access to an offsite disposal facility. Mixed waste was identified as not requiring plant-specific reviews. For the final rule, the analysis of radiological and nonradiological environmental impacts of storage and disposal of LLW and mixed waste were strengthened in response to comments. The analysis was found to apply to all plants (Category 1 issue) and the staff has concluded that the likely impacts associated with the issue are small. Thus, the issue need not be subject to plant-specific reviews. This conclusion is based on the staff's generic determination that storage and ultimate disposal of the additional LLW and mixed waste associated with renewal of the operating license of a nuclear power plant can be accomplished safely and without significant environmental impacts. This determination is tantamount to making a generic waste confidence determination for LLW and mixed waste similar to the waste confidence rulemaking for high-level waste and spent fuel. Recognizing the limited progress to date in developing new LLW disposal facilities, this aspect of the rulemaking could be controversial. However, the staff concluded that classification of storage and disposal as a

Category 1 issue is appropriate because States are proceeding, albeit slowly, with the development of new disposal facilities, and LLW and mixed waste have been and can be safely stored at reactor sites until new disposal capacity becomes available. In addition, classification of the storage and disposal issue as Category 1 now for license renewal will result in less resource intensive reviews in future years, yet will not preclude consideration of storage impacts on a site-specific basis if warranted by special circumstances. Further, classification as Category 1 now would avoid the need to reconsider this issue in the future when disposal capacity becomes available.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper and the enclosed final rule.

RECOMMENDATION:

That the Commission:

1. Approve the final generic environmental impact statement, NUREG-1437 ([Enclosure 2](#)) and responses to public comments, NUREG-1529 ([Enclosure 3](#)) after review and consideration as required in [10 CFR 51.94](#).
2. Approve the Notice of the Final Rule for publication in the Federal Register ([Enclosure 1](#)) but no sooner than 45 days after EPA publication of an FRN as described in Note 4c and qualified in Note 4d.
3. Certify that this rule will not have a negative economic impact on a substantial number of small entities, in order to satisfy requirements of the Regulatory Flexibility Act, 5 U.S.C. 605(b).
4. Note:
 - a. Unless the Commission directs otherwise, within 10 working days from the date of the paper, the staff will submit the final generic environmental impact statement NUREG-1437 and responses to public comments NUREG-1529 to the EPA pursuant to Section 309 of the Clean Air Act. These documents also will be made available in the NRC Public Document Room.
 - b. Unless the Commission directs otherwise, the staff will also provide to the EPA a copy of this paper, the Federal Register notice, and the regulatory impact analysis NUREG-1440 ([Enclosure 4](#)). These documents also will be made available in the NRC Public Document Room.
 - c. In accordance with [10 CFR 51.100](#), final Commission action cannot be taken until 30 days after publication by the EPA of a Federal Register notice stating that the final generic environmental impact statement has been filed with EPA.

- d. The staff of the EPA has informed the NRC staff that they will need 45 days for review of the generic environmental impact statement due to the complexity and precedential nature of the document and the rule. Unless the Commission directs otherwise, the staff will agree to a 45-day review period.
- e. After Commission approval to publish the final rule and the supporting documents is received, NUREG-1437, NUREG-1529 and NUREG-1440 will be published and made available in the Public Document Room.
- f. The Chief Counsel for Advocacy of the Small Business Administration will be informed of the certification regarding economic impact on small entities and the reasons for it as required by the Regulatory Flexibility Act.
- g. This rule has been reviewed and the information collection approved by the Office of Management and Budget.
- h. A public announcement will be issued ([Enclosure 5](#)).
- i. The appropriate Congressional committees will be informed ([Enclosure 6](#)).

James M. Taylor
Executive Director for Operations

CONTACT: Donald Cleary, RES
415-6263

Enclosures: As Stated (6)

ENCLOSURE 5

NRC ESTABLISHES REQUIREMENTS FOR ENVIRONMENTAL REVIEWS OF APPLICATIONS TO RENEW NUCLEAR POWER PLANT OPERATING LICENSES

The Nuclear Regulatory Commission is moving to streamline requirements governing environmental reviews of applications to renew operating licenses for nuclear power plants.

It is amending its regulations to define two categories of environmental impacts: (1) those for which a generic analysis based on experience gained from operating nuclear power plants has been performed and will be adopted in plant-specific reviews; and (2) those environmental impacts for which a plant-specific analysis will have to be performed.

These environmental issues are included in a table which addresses the relative magnitude of the impact of each issue and categorizes it according to whether or not additional site-specific review is needed at the time an application for license renewal is being reviewed. The scope of the additional site-specific analysis also is spelled out.

In addition, the amendments:

- eliminate NRC judgments regarding the need for electric generating capacity, which is the responsibility of other regulatory bodies;
- require a plant-specific comparison of the environmental impacts of alternative energy sources to those of license renewal;
- eliminate consideration of utility economics and the traditional cost-benefit analysis from license renewal reviews; and
- use a site-specific decision standard under which a license renewal application would be rejected if the environmental impacts of license renewal are so great that preserving that option for energy planning decisionmakers would be unreasonable.

The results of the environmental review will be detailed in a supplemental site specific environmental impact statement and members of the public will be given the opportunity to participate in a public meeting to discuss what issues should be addressed in that document. A draft of the new impact statement will be made available for public comment and any comments received will be taken into account in preparing the final version which will contain the staff's conclusions regarding the acceptability of the environmental impacts associated with license renewal.

The amendments also include a provision that they and the supporting "Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants" (NUREG-1437), will be reviewed on a schedule that will permit revisions to be made, if needed, every 10 years. Copies of NUREG-1437 can be purchased from the Government Printing Office, P. O. Box 37082, Washington, DC. 20402-9328; telephone: 202/512-1800.

These amendments to Part 51 of the Commission's regulations will become effective on (date).

ENCLOSURE 6

The Honorable Dan Schaefer, Chairman
Subcommittee on Energy and Power
Committee on Commerce
United States House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Enclosed for the information of the subcommittee is a copy of a final rule to be published in the Federal Register that contains amendments to 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," which establish new requirements for the environmental review of applications to renew the operating licenses of nuclear power plants.

The amendment defines (1) those environmental impacts for which a generic analysis has been performed will be adopted in plant-specific reviews for license renewal and (2) those environmental impacts for which plant-specific analyses are to be performed.

This rule improves regulatory efficiency in environmental reviews for license renewal. Efficiency is improved by drawing on the considerable experience of operating nuclear power reactors to generically assess many of the environmental impacts that are likely to be associated with license renewal. Efficiency has also been improved by eliminating from the environmental reviews consideration of the need for generating capacity and of utility economics; these matters are under the regulatory jurisdiction of the States and are not necessary for the NRC's understanding of the environmental consequences of a license renewal decision. This increased efficiency will result in lower costs to applicants for license renewal and lower costs to the NRC in reviewing applications. At the same time, these amendments will provide the NRC with the flexibility to address unreviewed impacts at the site-specific stage of review and otherwise allow the NRC to consider fully the environmental impacts of license renewal.

Sincerely,

Dennis K. Rathbun, Director
Office of Congressional Affairs

Enclosure: Federal Register Notice

cc: Representative Frank Pallone

The Honorable Lauch Faircloth, Chairman
Subcommittee on Clean Air, Wetlands, Private
Property and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

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Sincerely,

Dennis K. Rathbun, Director
Office of Congressional Affairs

Enclosure: Federal Register Notice

cc: Senator Bob Graham