

# POLICY ISSUE NOTATION VOTE

SECY-00-0210

October 20, 2000

FOR: The Commissioners  
FROM: William D. Travers  
Executive Director for Operations  
SUBJECT: DENIAL OF PETITION (PRM 51-7) FOR RULEMAKING TO DELETE THE REQUIREMENT FROM 10 CFR PART 51 TO CONSIDER SEVERE ACCIDENT MITIGATION ALTERNATIVES IN OPERATING LICENSE RENEWAL REVIEWS

- [PURPOSE:](#)
- [BACKGROUND:](#)
- [DISCUSSION:](#)
  - The Petition
  - Basis for Denying the Petition
  - Related Staff SAMA Activities
- [COORDINATION:](#)
- [RECOMMENDATION:](#)

## PURPOSE:

To obtain Commission approval for denying the petition for rulemaking to delete the requirement from [10 CFR Part 51](#) to consider Severe Accident Mitigation Alternatives (SAMAs) in operating license renewal reviews (PRM 51-7).

## BACKGROUND:

By letter dated July 13, 1999, the Nuclear Energy Institute (NEI), on behalf of the commercial nuclear energy industry, submitted a petition for rulemaking seeking to delete [10 CFR 51.53\(c\)\(3\)\(ii\)\(L\)](#). This provision requires an evaluation of SAMAs as part of the Commission's National Environmental Policy Act (NEPA) review of applications for license renewal. The petitioner requested that the NRC take this action to achieve consistency in the scope of its regulatory requirements for environmental protection under NEPA (10 CFR Part 51), and its technical requirements for license renewal under the Atomic Energy Act (10 CFR Part 54). A notice of receipt of the petition was published in the Federal Register on September 2, 1999, (64 FR [EXIT](#) 48117) with the comment period closing on November 16, 1999. The NRC received letters from 11 commenters. Ten of the comment letters supported the petition. Nine of those letters were from nuclear utilities and the tenth was from NEI, providing supplemental information to support the arguments made in the petition. A public interest group provided the one letter opposed to the petition.

The Part 51 requirement to consider SAMAs in license renewal reviews was placed in the final rule, "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, (61 FR 28467; June 5, 1996) after careful deliberation. Section 51.53(c)(3)(ii)(L) states--

If the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided.

This requirement reversed the provision in the proposed Part 51 rule (56 FR 47016; September 17, 1991) that SAMAs need not be assessed in individual license renewal reviews. The provision in the proposed rule was thought to be justified for three reasons. First, the 1980 Commission policy statement, "Statement of Interim Policy, Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969" (45 FR 40101; June 12, 1980) stated that the consideration of additional features or other actions that would prevent or mitigate the consequences of severe accidents should be made before the operating license review stage because plant changes may be more easily incorporated when construction has not progressed very far. Second, the NRC has in place a process and programs to effectively identify and appropriately disposition issues related to the prevention and mitigation of severe accidents subsequent to the receipt of an operating license. Third, the risk to the environment from a severe accident is low.

After considering public comments and the implications of the decision in *Limerick Ecology Action v. NRC*, 867 F.2d 719 (3d Cir. 1989), the staff concluded that the reasons under the proposed rule for not requiring SAMA analyses were not legally sufficient and that SAMAs need to be considered in license renewal reviews. Because a generic assessment of SAMAs was not performed for NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," May 1996, the final rule requires a SAMA analysis for each license renewal review unless the NRC staff has previously considered SAMAs for the applicant's plant. Note that in the final rule, the phrase "Severe Accident Mitigation Alternatives (SAMAs)" was adopted, rather than the previously used phrase "Severe Accident Mitigation Design Alternatives (SAMDAs)." This terminology recognizes that severe accident mitigation can involve plant procedural and programmatic improvements in addition to plant design modifications. In promulgating the final rule, the Commission stated--

The Commission notes that upon completion of its IPE/IPEEE (individual plant examination/individual plant examination for externally initiated events) program, it may review the issue of severe accident mitigation for license renewal and consider, by separate rulemaking, reclassifying severe accidents as a Category 1 issue.

In the rule, Category 1 issues are those that have been satisfactorily assessed generically, and Category 2 issues are those that have not been satisfactorily assessed generically and thus need to be assessed in individual license renewal reviews. The NEI petition would eliminate the requirement to address SAMAs in license renewal, in contrast to addressing SAMAs generically and reclassifying it as a Category 1 issue that need not be reviewed for individual license renewal applications.

## DISCUSSION:

### The Petition

In its petition, NEI makes three arguments for eliminating the requirement to consider SAMAs as part of the NEPA review associated with license renewal reviews. The first argument is that severe accident mitigation is within the scope of each licensee's current licensing basis and not within the scope of the technical requirements for renewal of operating licenses specified in [10 CFR Part 54](#). NEI argues that the provisions of Part 54 define the scope of the proposed Federal action and, therefore, the scope of the environmental review. It cites a number of NEPA court cases that it believes supports its argument. The second argument is that the decision in *Limerick Ecology Action v. NRC* does not extend to renewal of licenses for operating reactors. The third argument is that there is a legal basis to eliminate SAMAs upon a finding that severe accidents are highly unlikely.

### Basis for Denying the Petition

NEI's principal argument for eliminating SAMAs as part of the NEPA review associated with license renewal is that Part 54 defines the scope of the proposed Federal action and, thereby, the scope of the environmental review. NEI states that, because NRC's safety review under Part 54 does not require consideration of all aspects of plant operation and administration, the NRC's review of environmental impacts pursuant to NEPA should be similarly limited. In its petition and subsequent comments submitted on November 16, 1999, NEI identified several Federal court cases and NRC decisions to support its position. NEI believes that the primary thrust of these cases is that no consideration of impacts is necessary when the proposed Federal action either maintains the current level of safety or does not change the "status quo."

The staff does not agree with the petitioner's argument. By approving a license renewal application under Part 54, the Commission authorizes operation of the entire plant for an additional 20 years beyond the initial licensing term irrespective of the scope of review determined to be necessary to support the action. The petitioner is correct that the Commission, in promulgating 10 CFR Part 54, has limited its safety review under the Atomic Energy Act to certain aspects of the plant that are directly related to aging and other issues specific to the license renewal. The petitioner is also correct in pointing out that many environmental impact issues, such as SAMAs, are not factored into the NRC's safety review under Part 54. The fact that NRC has excluded a specific aspect of the plant in conducting its safety review under Part 54 does not excuse it from considering the potential for an associated environmental impact in meeting its NEPA obligations. In fact, the vast majority of environmental impacts from license renewal required to be considered by NRC in its NEPA review (in accordance with Part 51) are not related to the specific technical aspects of plant operation analyzed to fulfill the agency's Atomic Energy Act responsibilities under Part 54. The staff believes that the various court cases offered by the petitioner do not provide convincing support for the elimination of SAMAs. The attached Federal Register notice addresses each of the cases raised by the petitioner.

The petitioner's second argument for the elimination of SAMAs as part of the NEPA review associated with license renewal is that *Limerick Ecology Action v. NRC* does not preclude the NRC from eliminating SAMAs, through rulemaking, from the scope of the NEPA review for license renewal. The court held that the NRC could not generically dispense with the consideration of SAMAs through a policy statement. Instead, the NRC would need to do so through a generic rulemaking similar to the one completed for Table S-3 (see [10 CFR 51.51](#)) and upheld by the Supreme Court in *Baltimore Gas and Electric v. Natural Resources Defense Council*, 464 U.S. 87 (1983). Despite the limited nature of its holding, the court in the *Limerick* decision identified a variety of issues that NRC would have to overcome in order to eliminate the consideration of SAMAs. The court suggested that the generic consideration of SAMAs would be difficult to accomplish, given differences in individual plants. The staff agrees with the petitioner that *Limerick* does not preclude NRC from eliminating SAMAs from the NEPA license renewal review through rulemaking. However, the NRC has not made the findings necessary to support such a rulemaking.

Regarding NEI's third argument that there is a legal basis for eliminating SAMAs upon a finding that severe accidents are highly unlikely, the staff agrees that there is support in case law for the proposition that NEPA does not require the consideration of remote and speculative risk. In *Limerick*, the court rejected NRC's argument that severe accidents were remote and speculative because no basis for this conclusion was established in the agency's record. The Commission has continued to commit resources to programs to assess severe accidents and their mitigation. Even though there is a low probability of a severe accident, the NRC has invested considerable resources toward severe accident mitigation in its containment performance improvement program, its IPE/IPEEE program, and its accident management program but it has not yet established an agency record that severe accidents are "remote and speculative" as contemplated by courts.

For these reasons, the staff finds that the arguments presented in the petition do not support rulemaking to delete the

requirement to consider SAMAs as part of the NEPA review associated with operating license renewal reviews from 10 CFR Part 51.

## **Related Staff SAMA Activities**

In early 1999, in anticipation of completion of the IPE and IPEEE programs, the staff began considering the actions needed to fulfill the commitment made in the Federal Register notice for the license renewal Part 51 final rule (61 FR 28467; June 5, 1996). The commitment was that the Commission "may review the issue of severe accident mitigation for license renewal and consider, by separate rulemaking, reclassifying severe accidents as a Category 1 issue."

The IPE program has been completed and the findings of the program are summarized in NUREG-1560, "Individual Plant Examination Program: Perspective on Reactor Safety and Plant Performance," December 1997. The IPEEE program is nearing completion. The current target for completing the reviews of the balance of the individual submittals is January 2001. A draft insights report will be issued for public comment in April 2001, and the final report is scheduled to be completed in October 2001.

Over the past year, the staff has considered the scope of the analysis that would be required to reach generic technical conclusions supporting a rulemaking to reclassify severe accidents as a Category 1 issue. While the information developed in the IPE/IPEEE program provides a valuable starting point to understand the differences among plants at the time the IPE/IPEEE reviews were undertaken, considerable staff and contractor effort would be required to extend the conclusions resulting from the IPE/IPEEE reviews to draw generic conclusions regarding SAMAs. This would include the need to evaluate changes in plant design and procedures since the IPEs/IPEEEs were completed, incorporate changes in the state of knowledge regarding certain severe accident issues, and to extend the IPE/IPEEE analyses to include offsite consequences. In addition, both benefit and cost considerations of potential plant improvements would need to be developed. Further, there is uncertainty whether, at the conclusion of this effort, staff would be successful in developing a sufficient technical basis to reclassify severe accidents as a Category 1 issue.

It should also be noted that the SAMA reviews for Calvert Cliffs Nuclear Power Plant and the Arkansas Nuclear One Nuclear Power Plant identified several cost-beneficial enhancements.

The staff had originally estimated that to develop a technical basis for reclassifying SAMAs from Category 2 to Category 1 would cost approximately 2.0 FTE and \$700,000 over 3 years. The staff estimates that an additional 2 years and approximately 1 to 1.5 FTE would be needed to then complete the rulemaking. Although a reclassification of severe accidents as a Category 1 issue for license renewal would reduce unnecessary regulatory burden and improve the efficiency and effectiveness of staff reviews, these outcomes need to be weighed against the staff resources needed to pursue this rulemaking. Given the resources that would be required and the uncertainty in achieving a successful outcome, the staff does not believe it would be cost beneficial to pursue rulemaking at this time.

Since the completion of the Calvert Cliffs and Oconee reviews, the staff has issued Supplement 1 to Regulatory Guide 4.2, "Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses," which includes guidance on information and analysis content on SAMAs for the environmental reports submitted as part of license renewal applications. Its use is intended to ensure the completeness of the information provided, to assist the NRC staff and others in locating the information, and to shorten the review process. The staff will continue to work with stakeholders to determine if additional efficiencies in the process can be realized. Furthermore, if new information becomes available that indicates that it is feasible to reclassify SAMAs to Category 1, the staff will notify the Commission and provide a recommendation as to a course of action.

## **COORDINATION:**

The Office of the General Counsel has no legal objection to the denial of the petition. The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objection. The Office of the Chief Information Officer has reviewed this Commission paper for information technology and information management implications and concurs in it.

## **RECOMMENDATION:**

That the Commission:

Approve publication of the attached Notice of Denial of Rulemaking Petition in the Federal Register and the issuance of the attached letter of denial to the petitioner.

/RA/

William D. Travers  
Executive Director for Operations

CONTACT: Donald P. Cleary  
NRR/DRIP/RGEB  
301-415-3903

## NUCLEAR REGULATORY COMMISSION

### 10 CFR Part 51 [Docket No. PRM 51-7] Nuclear Energy Institute Denial of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission

ACTION: Denial of petition for rulemaking

SUMMARY: The Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking submitted by the Nuclear Energy Institute (NEI) (PRM 51-7). The petitioner requested that the NRC amend its regulations to delete the requirement to consider Severe Accident Mitigation Alternatives (SAMAs) as part of the environmental review to support license renewal decisions. The NRC is denying the petition because the NRC must continue to consider SAMAs for issuance of a new or renewed operating license for a power reactor in order to meet its responsibilities under the National Environmental Policy Act (NEPA), notwithstanding the legal arguments presented in the petition. However, the NRC staff will continue to work with stakeholders to determine if efficiencies in the conduct of SAMA analyses for environmental reviews can be realized.

ADDRESSES: Copies of the petition for rulemaking, the public comments received, and the NRC's letter of denial to the petitioner are available for public inspection or copying for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. These documents are also available at the NRC's rulemaking website at <http://ruleforum.llnl.gov>

FOR FURTHER INFORMATION CONTACT: Donald P. Cleary, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, telephone (301) 415-3903, email [dpc@nrc.gov](mailto:dpc@nrc.gov).

SUPPLEMENTARY INFORMATION:

- [Background](#)
- [The Petition](#)
- [Public Comments on the Petition](#)
- [Reasons for Denial](#)
  - [1. Scope of the License Renewal Rule.](#)
  - [2. Impact of the Limerick Decision.](#)
  - [3. Consideration of Remote and Speculative Impacts.](#)

## Background

On July 14, 1999, the NRC received a petition for rulemaking submitted by the NEI, by letter dated July 13, 1999. On September 2, 1999 (64 FR 48117), the NRC published a notice of receipt of the petition (PRM-51-7). The petitioner requested that the NRC amend its regulations to delete the requirement for the NRC to evaluate Severe Accident Mitigation Alternatives (SAMAs) as part of its National Environmental Policy Act (NEPA) review associated with license renewal. The petitioner requests that the NRC take this action to achieve consistency in the scope of its regulatory requirements for environmental protection under NEPA, 10 CFR Part 51, and its technical requirements for license renewal under the Atomic Energy Act, 10 CFR Part 54.

The technical requirements for renewal of operating licenses are specified in 10 CFR Part 54 (60 FR 22461; May 8, 1995). This regulation focuses the license renewal review on certain types of systems, structures, and components that the NRC has determined require evaluation to ensure that the effects of aging will be adequately managed in the period of extended operation. This regulation is based on two regulatory principles. The first principle of license renewal is that, with the possible exception of the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the period of extended operation and possibly a few other issues related to safety only during extended operation, the ongoing regulatory process is adequate to ensure that the licensing bases of all currently operating plants provide and maintain an acceptable level of safety. The second principle of license renewal is that the plant-specific licensing basis must be maintained during the renewal term in the same manner and to the same extent as during the original licensing term. This principle is attained, in part, through a program of age-related degradation management for systems, structures, and components that are within the scope of license renewal. There is no requirement in 10 CFR Part 54 for analysis of SAMAs.

The NRC's regulations implementing NEPA appear in 10 CFR Part 51. The regulations contain specific provisions related to

the requirements for the environmental review of applications to renew the operating licenses of nuclear power plants. See, for example, 10 CFR 51.53(c) and Subpart A, Appendix B. The regulations were developed to improve the efficiency of the process of environmental review for applicants seeking to renew a nuclear power plant operating license for up to an additional 20 years. The regulations are based on generic analyses reported in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (May 1996) and in part on NUREG-1437, Vol. 1, Addendum 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Main Report Section 6.3-Transportation," Table 9.1 "Summary of findings on NEPA issues for license renewal of nuclear power plant," Final Report" (August 1999). Those environmental issues for which the NRC made generic findings that may be adopted in individual plant license renewal reviews are defined as Category 1 issues in the rule. Those environmental issues that require further site-specific review are defined as Category 2 issues in the rule. The regulations also provide for the consideration of "new and significant information" that might change a previous finding or introduce issues not previously reviewed and codified in the regulations.

With respect to the issue of environmental effects of severe accidents from license renewal, the NRC found that the probability weighted consequences are small. Specifically, the regulations state in Table B-1: "The probability-weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to groundwater, and societal and economic impacts from severe accidents are small for all plants." Accordingly, the impacts of severe accidents are encoded in the rule and are not open for review in individual license renewal actions. However, one of the criteria for a Category 1 finding is, as stated in footnote 2 of Table B-1, Part 51, "Mitigation of adverse impacts associated with the issue have been considered in the analysis, and it has been determined that additional plant-specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation." At the time the final rule was promulgated in 1996, the NRC discussed the ongoing regulatory programs focused on individual plant vulnerabilities to severe accidents and cost-beneficial improvements for reducing severe accident frequency or consequences. For each plant, an individual plant examination (IPE) to look for plant vulnerabilities to internally initiated events and a separate IPE for externally initiated events (IPEEE) was performed (61 FR 28467; June 5, 1996). The NRC believed that it would be premature to reach a generic conclusion regarding severe accident mitigation alternatives before completing these programs. Therefore, even though the Commission has reached a generic conclusion on the magnitude of severe accident impacts, the issue is nevertheless designated as a Category 2 issue because of the unresolved questions regarding mitigation, and applicants for license renewal are subject to the following requirement at 10 CFR 51.53(c)(3)(ii)(L): "If the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided." The NRC stated, "...that upon completion of its IPE/IPEEE program, it may review the issue of severe accident mitigation for license renewal and consider, by separate rulemaking, reclassifying severe accidents as a Category 1 issue" (61 FR 28481; June 5, 1996).

## The Petition

The petition was submitted by the Nuclear Energy Institute (NEI) by letter dated July 13, 1999. Its receipt was noticed in the Federal Register on September 2, 1999 (64 FR 48117), with a full description of its content. The petitioner requested the NRC "... to delete 10 CFR 51.53(c)(3)(ii)(L) and, thereby, eliminate the requirement for NRC to evaluate SAMAs as part of the NEPA review associated with license renewal." The rulemaking would include conforming changes to 10 CFR Part 51, Appendix B and NUREG-1437.

The petitioner requests elimination of the requirement for SAMA reviews in 10 CFR Part 51 on the belief that the requirement conflicts with the technical requirements for license renewal in 10 CFR Part 54. The petitioner argues that actions to evaluate and address SAMAs are part of each licensee's current licensing basis and that 10 CFR Part 54 is designed to separate matters related to maintaining the current licensing basis from those considered in a license renewal review. The petitioner's argument, briefly stated, is as follows. The petition makes reference to the two principles of license renewal, discussed in the Background section above. The first principle focuses the license renewal review on age-related degradation of plant systems, structures, and components. The second principle is continuation of the current licensing basis during the renewal term, in part, through a program of age-related degradation management of systems, structures, and components that are important to license renewal. The petitioner notes that 10 CFR 54.39, "Matters not subject to a renewal review," specifically provides that deviations from the current licensing basis identified in the integrated plant assessment performed for license renewal, will be corrected under the terms of the current license and are not within the scope of the license renewal review. The petitioner then states that actions to evaluate and address SAMAs are part of each licensee's current licensing basis, citing the IPE and IPEEE program to identify and evaluate plant-specific severe accident vulnerabilities and ways to mitigate those vulnerabilities.

Concluding that SAMAs are outside of the scope of a 10 CFR Part 54 license renewal review, the petitioner then presents legal arguments for deleting SAMAs from the NEPA review. The essence of these arguments is that 10 CFR Part 54 defines the scope of the proposed Federal action, and that Federal action establishes the scope of environmental consequences of license renewal that are to be reviewed under NEPA. Citing several court cases, the petitioner asserts that this approach is consistent with the "rule of reason" that generally governs environmental impact reviews under NEPA. The petitioner then states, "Thus, under the 'rule of reason,' the impacts appropriately considered under NEPA would be those that reasonably flow from the Part 54 decision-making." Next, the petitioner cites two cases to support the position that there should be no consideration of SAMAs for license renewal. In *City of Aurora v. Hunt*, the court ruled that a new procedure to use a specific airport runway in particular weather conditions involved "...no significant safety impact...to trigger further assessment or inquiry under NEPA." 749 F.2d 1457, 1468 n. 8 (10<sup>th</sup> Cir. 1984) overruled on other grounds by *Village of Los Ranchos de Albuquerque v. Marsh*, 956 F.2d 970 (10<sup>th</sup> Cir. 1992). In the second court case, *Upper Snake River Chapter of Trout Unlimited v. Hodel*, the court ruled that the Department of Interior did not have to prepare an

environmental impact statement (EIS) to adjust the flow of water from a dam to accommodate drought conditions where the range of flow change was within the contemplation of the original project. 921 F.2d 232, 235 (9<sup>th</sup> Cir. 1990). The petitioner concludes from these decisions that a NEPA review of SAMAs is not required in the license renewal review because, (1) the current licensing basis is not subject to evaluation in a license renewal review, and (2) by maintaining the current licensing basis in the renewal term, there will be no change in risk of a severe accident due to license renewal.

The petitioner goes on to assert that NRC's requirement to include SAMAs in NEPA license renewal reviews was based on an overly broad application of language in the *Limerick Ecology Action v. NRC*, 869 F.2d 719 (3<sup>rd</sup> Cir. 1989), decision and that the decision "...leaves undisturbed the proposition that the 'rule of reason' defines whether the EIS has addressed the significant aspects of the probable environmental consequences...that reasonably may flow from the proposed action-renewing a plant's license as that plant is currently designed and operated." Finally, citing a number of court cases, the petitioner argues that "...judicial precedents allow the NRC to eliminate SAMAs from consideration in license renewal proceedings based on a determination, through proper rulemaking, that severe accidents are highly unlikely."

## Public Comments on the Petition

The NRC received letters from 11 commenters. Ten of the comment letters supported the petition. Nine of those letters were from nuclear utilities and the tenth was from NEI, providing supplemental information to support the arguments made in the petition. Except for one comment, Comment 1 below, all of the comments made by supporters of the petition reiterated arguments made in the petition. Because those arguments are addressed in the NRC's reasons for denying the petition they are not addressed in the comment response below. A public interest group provided the one letter opposed to the petition, and NRC's responses to their comments are provided below.

**Comment 1:** A utility commented that the costs of performing the SAMA reviews required by Part 51 are not justified when compared to the small potential safety benefits that result from the reviews, when the costs associated with implementing changes to realize those benefits are evaluated, and when the fact that the reviews are largely duplicative of the previously completed Individual Plant Examination (IPE) and Individual Plant Examination for External Events (IPEEE) programs is considered.

**Response:** The NRC believes that it should continue to consider SAMAs for individual license renewal applications to continue to meet its responsibilities under NEPA. That statute requires NRC to analyze the environmental impacts of its actions and consider those impacts in its decisionmaking. In doing so, Sec. 102(2)(C) of NEPA implicitly requires agencies to consider measures to mitigate those impacts when preparing impact statements. See *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989). NRC's obligation to consider mitigation exists whether or not mitigation is ultimately found to be cost-beneficial and whether or not mitigation ultimately will be implemented by the licensee. *Id.* The NRC understands that a SAMA analysis can be relatively expensive and is prepared to discuss ways in which SAMA analyses can be conducted efficiently while, at the same time, ensuring that NRC meets its NEPA responsibilities.

**Comment 2:** Granting the petition would continue the NRC's recent course of "regulatory subtraction" during which it has "methodically amputated and dismantled its statutory authority." Further, numerous site-specific and generic challenges have precipitated "beyond design basis" events, and demonstrate that it is imperative to maintain Severe Accident Mitigation Alternatives evaluations.

**Response:** The NRC has denied the petition because it believes that the legal arguments presented are insufficient to demonstrate that a license renewal NEPA review need not consider alternatives to mitigate the potential for and consequences of severe accidents.

**Comment 3:** Given the NRC's shrinking budget, "this type of frivolous legal action must be indexed to punitive damages." NEI "must be held accountable, and reimburse the NRC for all legal and administrative costs associated with this malicious petition."

**Response:** While NRC has denied the petition, NRC does not believe that there are any aspects of the submittal that would suggest an abuse of the petition process. Accordingly, whether or not reimbursement measures are even available to the Commission, no Commission action is warranted in this regard.

## Reasons for Denial

The Commission is denying the petition for the following reasons:

### 1. Scope of the License Renewal Rule.

The petitioner's principal argument for the elimination of SAMAs as part of the NEPA review associated with individual license renewal reviews is that the scope of license renewal establishes a basis for deleting SAMAs from associated NEPA reviews. In particular, the petitioner believes that because the NRC's safety review under Part 54 does not require consideration of all aspects of plant operation and administration, the agency's review of environmental impacts under NEPA should be similarly limited. In its petition and subsequent comments, NEI identified several Federal court cases and NRC decisions to support its position.<sup>(1)</sup> The petitioner believes that the primary thrust of these cases is that no consideration of impacts is necessary where the proposed Federal action would not change the status quo. In its



comments, the petitioner indicated that "[t]he line of cases using the status quo analysis does not turn on maintaining the level of safety *per se*, but on whether the major federal action will change the operation of the facility sufficient to warrant an inquiry into the changes in environmental effect."

The Commission does not find the petitioner's arguments here compelling. By approving a license renewal application under Part 54, the Commission authorizes operation of the entire plant for an additional 20 years beyond the initial licensing term. Thus, the review of the environmental impacts of this Federal action under the provisions of Part 51 appropriately involves the consideration of environmental impacts caused by 20 additional years of operation. The petitioner is correct in stating that the Commission, in promulgating 10 CFR Part 54, has limited its safety review under the Atomic Energy Act to certain aspects of the plant that are directly related to aging and other issues specific to the license renewal. The petitioner is also correct in pointing out that many environmental impact issues, such as SAMAs, are not addressed in the NRC's safety review under Part 54. In fact, the vast majority of environmental impacts from license renewal required to be considered by the NRC under its NEPA review (in accordance with Part 51) are not included in the analysis conducted in fulfilling the NRC's Atomic Energy Act responsibilities under Part 54 (see, 10 CFR Part 51 Subpart A, Appendix B, Table B-1).

However, under NEPA the NRC is charged with considering all of the environmental impacts of its actions, not just the impacts of specific technical matters that may need to be reviewed to support the action. These impacts may involve matters outside of the NRC's jurisdiction or matters within its jurisdiction that, for sound reasons, are not otherwise addressed in the NRC's safety review during the licensing process. In the case of license renewal, it is the Commission's responsibility under NEPA to consider all environmental impacts stemming from its decision to allow the continued operation of the entire plant for an additional 20 years. The fact that the NRC has determined that it is not necessary to consider a specific matter in conducting its safety review under Part 54 does not excuse it from considering the impact in meeting its NEPA obligations.

We do not believe that the various cases offered by the petitioner provide convincing support for the elimination of the review of SAMAs. It would appear that the logical extension of many of the petitioner's arguments go far beyond the mere elimination of SAMAs consideration from license renewal reviews. Indeed, to the extent that license renewal involves a continuation of impacts already experienced at the site under the current operating license, the arguments made by the petitioner would appear to call for the elimination of almost the entire environmental review of impacts from operation during the license renewal term, a position clearly at odds with the Commission's approach to the matter and also, as discussed below, inconsistent with case law related to relicensing.

We do not dispute that a line of cases exists under NEPA law which excuses agencies from preparing EISs (or considering certain environmental impacts) where the Federal action does not change existing environmental conditions. See, for example, *State of North Carolina v. Federal Aviation Administration*, 957 F.2d 1125 (4<sup>th</sup> Cir. 1992); *Cronin v. Department of Agriculture*, 919 F.2d 439 (7<sup>th</sup> Cir. 1990). In most of these cases, the Federal action taken does

not itself create any additional impacts to activities that are ongoing and will continue with or without the Federal action. None of these cases appears to provide firm support for the petitioner's argument that the NRC can ignore the impacts of its actions in the context of license renewal. In fact, at least one circuit court squarely addressed the issue of relicensing and concluded that there is the need to consider environmental impacts in that context.

In *Confederated Tribes and Bands of the Yakima Indian Nation v. Federal Energy Regulatory Commission*, 746 F.2d 466 (9<sup>th</sup> Cir. 1984), the Ninth Circuit Court of Appeals considered whether the Federal Energy Regulatory Commission (FERC) was required to prepare an EIS for its relicensing decision for the Rock Island Dam. In response to the FERC's argument that there had been "no change in the status quo" and thus no EIS was necessary, the court found:

Relicensing ... is more akin to an irreversible and irretrievable commitment of a public resource than a mere continuation of the status quo. [Citation omitted] Simply because the same resource had been committed in the past does not make relicensing a phase in a continuous activity. Relicensing involves a new commitment of the resource, which in this case lasts for a forty-year period. <sup>(2)</sup>

The court's statements here are consistent with NRC's position and its practice in promulgating and implementing the license renewal rule. The cases offered in support of the petitioner's arguments offer no compelling reasons to alter this approach.

In *City of Aurora v. Hunt*, <sup>(3)</sup> the Federal Aviation Administration (FAA), through a rulemaking, approved a new approach procedure for the Stapleton airport in order to reduce delays caused by the use of the existing procedure during periods of low visibility. The City of Aurora challenged the rule claiming, among other things, that the FAA failed to discuss the safety risks of the new procedure in its environmental assessment. In ruling against the City's claim, the Court pointed out that the FAA was required by law to issue the new procedure only if it did not involve a change in safety risk. The FAA considered and responded to a vast number of safety concerns as part of the rulemaking process. Accordingly, the Court found that the agency's approval of the procedure, in itself, was adequate to fulfill the agency's responsibility under NEPA. In a footnote, the Court explained that "[w]hile an agency may be required to consider the effects that will occur if a risk is permitted, as here, no significant safety impact exists to trigger further assessment or inquiry under NEPA." 749 F.2d at 1468, n. 8.

While certain aspects in the City of Aurora decision provide some general support for the petitioner's argument, the facts in

that case do not appear to be sufficiently analogous to support the elimination of SAMAs reviews for license renewal. First of all, the Court found the FAA's decision, in essence, served as a finding of an equivalent level of flight safety and thus allowed the FAA to meet its NEPA obligations even though safety was not explicitly considered in the EA itself. Under NRC's license renewal process, NRC's review under Part 54 does not itself meet the agency's NEPA obligations. Environmental issues such as the potential impacts of severe accidents during the license renewal term do not fall under the Part 54 review. Accordingly, unlike the FAA in *City of Aurora*, NRC cannot use the Part 54 process as the vehicle for meeting its NEPA responsibilities for considering SAMAs in the license renewal context in the same way that the FAA was allowed to use its procedure approval process in *City of Aurora*. Secondly, it should be noted that, absent the NRC's decision to approve a license renewal application, the licensee's plant will not operate an additional 20 years. Accordingly, the NRC's action is a "but for" cause of those additional impacts and NRC has the responsibility to consider those impacts under NEPA. In *City of Aurora*, the FAA's rule effected changes to ongoing operations at the airport. While there is no explicit discussion in the decision, it appears that operations at the airport would have continued whether or not FAA had issued the new procedure. Accordingly, the status quo in the context of the *City of Aurora* decision appears to have been the continued operation of the airport, whereas the status quo in the context of license renewal is the expiration of the facility's operating license.

Similarly, the decision in *Upper Snake River Chapter of Trout Unlimited v. Hodel*<sup>(4)</sup> does not appear to provide strong support for the petitioner's proposal. In that case, the court found that the reduction in river flows approved by Federal agencies was not a major Federal action within the meaning of NEPA. The court held that, in allowing the flow reductions, the Federal defendants were "simply operating the facility in the manner intended" and that they were doing "nothing new, nor more extensive, nor other than that contemplated when the project was first operational." 921 F.2d at 235. In other words, the flow reductions were part of the normal operations originally approved by the agencies in that case. Conversely, in the license renewal context, the additional 20 years of operation authorized by a renewed license were not considered during the initial licensing of the facility. Thus, the reasoning in *Upper Snake River Chapter* does not appear to be applicable to NRC's license renewal decisions. The Commission believes, and has stated before, that a license renewal decision by NRC is a major Federal action that warrants the preparation of an environmental impact statement ( 61 FR 55637, 66541; December 18, 1996).

In submitting comments on its petition, NEI identified several NRC decisions which it believes support its position. The first, *Consumers Power Company (Big Rock Nuclear Plant) ALAB 636*, 13 NRC 312 (1982), involved a license amendment request to expand the Big Rock Point Nuclear Plant's spent fuel pool. As NEI indicates, the Appeal Board emphasized the limited scope of the request in rejecting claims that aspects of the plant's continued operation should also be considered in the EA. As quoted by the petitioner, the Appeal Board found that "there are no environmental changes to evaluate" with the secondary or indirect effects (e.g., the plant's continued operation) of the spent fuel pool licensing decision. 13 NRC at 328. The petitioner's comments indicate that:

The Appeal Board correctly noted that, by granting the license amendment request, the Commission is not also issuing approval to alter any other aspect of the plant's operation or the licensed operating term of the facility.

Petition for Rulemaking (Docket No. PRM-51-7; July 13, 1999), letter from NEI to Secretary, NRC, dated November 16, 1999, at pp. 2, 3. The Commission believes that the petitioner's own statement here demonstrates the lack of support *Consumers Power Company* provides for its own position. In the context of license renewal, the Commission is, in fact, approving an extension of the licensed operating term of the facility. Accordingly, the facts in *Consumers Power Company* are reversed in the context of license renewal. While the Commission has appropriately decided through rulemaking that it may focus its safety evaluation on certain matters specified in Part 54, its overall license renewal decision applies to the operation of the entire plant. Therefore, the limited scope considered in *Consumers Power Company* is not present in the license renewal context.

Finally, petitioners have also cited *General Electric (Morris Operation Spent Fuel Storage Facility) LBP-82-14*, 15 NRC 530 (1982). In that case, the Atomic Safety and Licensing Board ruled that NRC did not have to issue an EIS for the license renewal of a storage facility. However, in that case, the NRC staff did issue an environmental impact appraisal (referred to under current NRC regulations as an environmental assessment (EA)) for the action. There is no suggestion that the NRC staff was free to eliminate or ignore consideration of the impacts of the action. Rather, the Board agreed with the NRC staff that the impacts of the action were not significant enough to warrant the preparation of a full EIS and, instead, an environmental impact appraisal was sufficient. The Commission believes that the preparation of EISs, not EAs, are appropriate in the context of license renewal. However, whether an EIS or an EA is prepared for a particular action, the Commission still is responsible for considering the environmental impacts of the action. Accordingly, this case seems to provide little support for the petitioner's position.

## **2. Impact of the Limerick Decision.**

The petitioner is correct in stating that the 3<sup>rd</sup> Circuit's holding in *Limerick Ecology Action v. NRC* does not itself preclude NRC from ever eliminating SAMA reviews from its licensing actions. Specifically, the court held that the NRC could not generically dispense with the consideration of SAMAs through a policy statement. Instead, the NRC would need to do so through a generic rulemaking similar to the one completed for Table S-3 (10 CFR 51.51) and upheld by the Supreme Court in *Baltimore Gas and Electric v. Natural Resources Defense Council*, 464 U.S. 87 (1983). Despite the limited nature of its holding, the court in the *Limerick* decision identified a variety of issues that NRC would have to address in order to eliminate the consideration of SAMAs. In addition to holding that the NRC could not eliminate consideration of these SAMAs



through a policy statement, the court also suggested that the generic consideration of SAMAs may be difficult to accomplish given differences in individual plants. 869 F.2d at 733-739. In addition, as the petitioner has indicated, the court rejected NRC's argument that severe accidents were remote and speculative because there was no basis for this conclusion in the agency's record. Id. at 739-741.

Despite the adverse ruling handed to NRC, the Limerick decision outlines several paths the Commission could attempt to follow in order to eliminate the requirements to analyze both severe accidents and associated mitigation alternatives in individual license renewal reviews. First of all, the Commission could attempt to conclude generically through rulemaking that it has considered these matters and that further consideration in individual license renewal actions is not warranted. In other words, the NRC would change the designation of the severe accident issue to "Category 1" for license renewal in Appendix B of 10 CFR Part 51. Secondly, as discussed in Section 3 of this notice, the Commission could eliminate consideration of SAMAs for license renewal based on a finding that severe accidents, in the context of plant operation during the license renewal term, are remote and speculative.

The Commission does not believe the necessary information is available to conclude generically that a SAMA analysis is not warranted for individual plant license renewal reviews. In promulgating the license renewal rule in 1996, the Commission indicated that it "may review the issue of severe accident mitigation for license renewal and consider, by separate rulemaking, reclassifying severe accidents as a Category 1 issue" (61 FR 66537; 66540; December 18, 1996). In early 1999, in anticipation of completion of the IPE and IPEEE programs, the NRC staff began considering the actions needed to fulfill the commitment made in the Federal Register notice. The IPE program has been completed and the findings of the program are summarized in NUREG-1560, "Individual Plant Examination Program: Perspective on Reactor Safety and Plant Performance," December 1997. The IPEEE program is nearing completion. The current target for completing the reviews of the balance of the individual submittals is January 2001. A draft insights report will be issued for public comment in April 2001, and the final report is scheduled to be completed in October 2001.

Over the past year, the staff has discussed the scope of the analysis that would be required to reach generic technical conclusions supporting a rulemaking to reclassify severe accidents as a Category 1 issue. While the information developed in the IPE/IPEEE program provides a valuable starting point, considerable staff and contractor effort would be required to extend the conclusions resulting from the IPE/IPEEE reviews to draw generic conclusions regarding SAMAs. This would include the need to evaluate changes in plant design and procedures since the IPEs/IPEEEs were completed, incorporate changes in the state of knowledge regarding certain severe accident issues, and to extend the IPE/IPEEE analyses to include offsite consequences. In addition, both benefit and cost considerations of potential plant improvements would need to be developed. Further, there is uncertainty whether, at the conclusion of this effort, the staff would be successful in developing a sufficient technical basis to reclassify severe accidents as a Category 1 issue. Given the resources that would be required and the uncertainty in achieving a successful outcome, the staff does not believe it would be cost beneficial to pursue rulemaking at this time.

In September 2000, the staff issued Supplement 1 to Regulatory Guide 4.2, "Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses," which includes guidance on information and analysis content on SAMAs for ERs submitted as part of license renewal applications. Its use is intended to ensure the completeness of the information provided, to assist the NRC staff and others in locating the information, and to shorten the review process. The staff will continue to work with stakeholders to determine if additional efficiencies in the conduct of SAMA analyses for environmental reviews can be realized. Furthermore, if new information becomes available that indicates it is feasible to reclassify SAMAs to Category 1, the staff will notify the Commission and provide a recommendation as to a course of action.

Accordingly, the Commission believes that there is an inadequate basis for a rulemaking to change severe accidents from a Category 2 to Category 1 issue at this time. Applicants should continue to refer to the guidance set out for SAMA analyses in the Statements of Consideration for the license renewal rule (61 FR 28467, 28480-28482; June 5, 1996). The NRC staff will continue to work with stakeholders to discuss the process by which SAMA reviews are done and to determine if efficiencies are possible while ensuring compliance with NRC's NEPA responsibilities to consider the environmental impacts of its licensing decisions.

### **3. Consideration of Remote and Speculative Impacts.**

The Commission agrees with the petitioner that there is some support in the case law for the proposition that NEPA does not require the consideration of remote and speculative risks.<sup>(5)</sup> The court in the Limerick proceeding rejected the NRC's argument that severe accidents were remote and speculative because the court could find no basis for the conclusion in the NRC record. Id. at 739-741. At this time, the Commission is not prepared to reach the conclusion that the risks of all severe accidents in the context of license renewal are so unlikely as to warrant their elimination from consideration in our NEPA reviews. Even though there is a low probability of a severe accident, the NRC has invested considerable resources toward understanding potential severe accident sequences and alternatives for further reducing the probability of and mitigating the consequences of severe accidents, but has not yet established an agency record that severe accidents may be eliminated from NRC's NEPA reviews. In reviewing licensing actions outside of the license renewal context, it may be possible for the NRC to conclude that certain severe accident scenarios are remote and speculative and do not warrant detailed consideration for the purposes of the NEPA review for that particular NRC action. However, for the purposes of consideration of severe accidents in the context of license renewal NEPA reviews, the NRC staff has not developed the necessary basis for concluding that such occurrences are remote and speculative, and thus inappropriate for NRC review under NEPA.

In its comments, the petitioner cited two cases which, in its view, demonstrate that NEPA's requirements are satisfied where potential impacts to the environment are remote and difficult to quantify and ongoing regulatory safeguards are in place to protect against potential risks of impacts into the future. *Environmental Defense Fund v. Andrus*, 619 F.2d 1368 (10<sup>th</sup> Cir. 1980) *reh'g en banc denied*; and *Citizens for Environmental Quality v. Lyng*, 731 F. Supp. 970 (D. Colo. 1989). While these cases may provide more support for the general proposition that remote and speculative impacts need not be considered under NEPA, they do not displace the Commission's responsibility to make the threshold determination based on the NRC record that severe accidents are remote and speculative for the purpose of license renewal reviews. As discussed, the Commission is unable to reach that conclusion at this time. If new information in the future provides a firm basis for concluding that severe accidents are remote and speculative in this context, the Commission may revisit the issue.

For the reasons cited in this document, the Commission denies the petition.

Dated at Rockville, Maryland, this day of , 2000

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook  
Secretary of the Commission

---

ATTACHMENT 2

Robert Willis Bishop, Esq.  
Nuclear Energy Institute  
Suite 400  
1776 I Street, NW  
Washington, DC 20006-3708

SUBJECT: PETITION FOR RULEMAKING (PRM 51-7) REGARDING SEVERE ACCIDENT MITIGATION ALTERNATIVES  
REVIEWS IN SUPPORT OF OPERATING LICENSE RENEWAL APPLICATIONS

Dear Mr. Bishop:

I am responding to the July 13, 1999, petition for rulemaking you filed on behalf of the Nuclear Energy Institute. The petitioner requested that the NRC regulations be amended to delete the requirement, found in 10 CFR 51.53 (c)(3)(ii)(L), to consider Severe Accident Mitigation Alternatives (SAMAs) as part of the environmental review done in support of operating license renewal applications.

The NRC published a notice of receipt of the petition and request for comment in the September 2, 1999 (64 FR 48117), issue of the *Federal Register*. Subsequently, the NRC heard from 11 commenters.

The petition provides three bases for eliminating SAMA reviews as part of the environmental review for license renewal. First, the petition argues that the scope of the reactor safety review required for license renewal should limit the scope of the environmental review. Second, the petition contends that the previous U.S. Court of Appeals decision in *Limerick Ecology Action v. NRC* 869 F.2d 719 (3<sup>rd</sup> Circuit 1989) does not require the NRC to include SAMA reviews in its environmental reviews for license renewal of operating reactors. Finally, it is argued that the NRC may eliminate SAMA reviews upon finding that severe accidents are highly unlikely.

In its analysis of the petition, the NRC carefully considered the arguments made in support of the three bases discussed above. The NRC has concluded that it does have a legal obligation to consider SAMAs as part of the environmental review done in support of operating license renewal and, therefore, plant-specific SAMA reviews in support of operating license renewal applications will still be required. A detailed discussion of the NRC's reasoning in this matter is contained in the enclosed Notice of Denial of Petition for Rulemaking, which will be published in the *Federal Register*.

Sincerely,

Annette L. Vietti-Cook  
Secretary of the Commission

Enclosure: Notice of Denial of Petition for Rulemaking

---

1. *City of Aurora v. Hunt*, 749 F.2d 1457 (10<sup>th</sup> Cir. 1984)(overruled on other grounds); *Upper Snake River Chapter of Trout Unlimited v. Hodel*, 921 F.2d 232, 235 (9<sup>th</sup> Cir. 1990); *In the Matter of Consumers Power Company*, (Big Rock Point Nuclear Plant), ALAB 636, 13 NRC 312 (1982); and *In the Matter of General Electric Company* (GE Morris Operation Spent Fuel Storage Facility), LBP-82-14, 15 NRC 530 (1982).

2. 746 F.2d 466 at 476-477.

3. 749 F.2d 1457 (10<sup>th</sup> Cir. 1984).

4. 921 F.2d 232 (9<sup>th</sup> Cir. 1990).

5. See, e.g., Limerick Ecology Action v. NRC, 869 F.2d at 739; San Luis Obispo Mothers for Peace v. NRC, 751 F.2d 1287, 1300-01 (D.C.Cir. 1984).