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NUCLEAR ENERGY INSTITUTE

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OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

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November 28, 2005

Ms. Annette L. Vietti-Cook  
Secretary  
U.S. Nuclear Regulatory Commission  
Rulemakings and Adjudications Staff  
Mail Stop 0-16C1  
Washington, DC 20555-0001

SUBJECT: Request for Comment  
NRC Petition for Rulemaking PRM-54-03

Dear Ms. Vietti-Cook:

On behalf of the commercial nuclear energy industry, the Nuclear Energy Institute ("NEI")<sup>1</sup> submits the following comments in opposition to the July 20, 2005 petition for rulemaking filed with the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") by Michele Donato, Esq., on behalf of Mayor Joseph Scarpelli of Brick Township, N.J. ("Petitioner"). The NRC published a notice of receipt of the rulemaking petition (docketed as PRM-54-03) at 70 Fed. Reg. 54,310 (Sept. 14, 2005). We appreciate the Commission's consideration of the industry's views on this important matter.

The Petitioner acknowledges that the relief requested in PRM-54-03 is essentially identical to that sought in an earlier rulemaking petition filed with the NRC by Mr. Andrew J. Spano, County Executive for Westchester County, New York ("Spano petition" or "PRM-54-02"). Petitioner Scarpelli asks that the NRC consider the two rulemaking

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<sup>1</sup> The Nuclear Energy Institute is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel fabrication facilities, nuclear materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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SECY-02

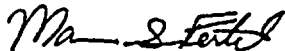
petitions together. Given the similarities between these petitions, NEI agrees that joint consideration would be efficient.

Both rulemaking petitions demand fundamental and sweeping modifications to the NRC's license renewal process. In brief, the Petitioners propose that license renewal applicants be required to meet criteria in 10 C.F.R. Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54 55, 73 and 100 applicable to initial operating licenses for *new* nuclear power plants, as a prerequisite to the issuance of a *renewed* license. However, both PRM-54-02 and PRM-54-03 fail to provide any valid basis for such radical changes to the NRC's existing and well-established license renewal rule. In this regard, the Petitions are similarly defective. Each fails to demonstrate that "sufficient reason exists" within the meaning of 10 C.F.R. 2.803 for the NRC to grant the relief sought.

NEI previously submitted timely comments to the NRC opposing the grant of the Spano rulemaking petition.<sup>2</sup> For the reasons set forth in the August 29, 2005 NEI response to PRM-54-02, as well as the reasons discussed in the attached response to PRM-54-03, NEI urges the NRC to deny Mr. Scarpelli's petition for rulemaking in its entirety. For convenient reference, a copy of NEI's comments on PRM-54-02 is included as an enclosure to our submittal.

If further information is needed regarding NEI's comments on this petition, please contact me.

Sincerely,



Marvin S. Fertel

Enclosures

c: Jim Dyer, NRC Office of Nuclear Reactor Regulation  
R. William Borchardt, NRC Office of Nuclear Reactor Regulation  
Bruce Boger, NRC Office of Nuclear Reactor Regulation  
Karen Cyr, NRC Office of General Counsel

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<sup>2</sup> See August 29, 2005 letter from Marvin Fertel, NEI, to Annette L. Vietti-Cook, Secretary, NRC, and enclosed NEI response in opposition to Westchester County, New York Petition for Rulemaking PRM-54-02.

**NUCLEAR ENERGY INSTITUTE RESPONSE TO PETITION  
FOR RULEMAKING 54-03 FILED BY BRICK TOWNSHIP,  
NEW JERSEY MAYOR JOSEPH SCARPELLI**

On September 14, 2005, the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") docketed receipt of a petition for rulemaking (PRM-54-03 or the "Petition") filed pursuant to 10 C.F.R. § 2.802 on behalf of Mr. Joseph Scarpelli, mayor of Brick Township, New Jersey.<sup>1</sup> Brick Township is located in Ocean County, N.J., approximately 18 miles from the Oyster Creek Nuclear Generating Station. Petitioner Scarpelli asserts that the NRC should extensively amend its license renewal rule "to provide that a renewed license will be issued only if the plant operator demonstrates that the plant meets all criteria and requirements that would be applicable if the plant was being proposed de novo for initial construction." In this regard, Petitioner would require license renewal applicants to meet criteria in 10 C.F.R. Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54 55, 73 and 100 (and their appendices) applicable to operating licenses for new nuclear plants. NEI believes that this rulemaking petition is completely without merit and should be denied.

The relief requested by PRM-54-03 is substantively identical to that sought by an earlier license renewal-related rulemaking petition filed by Westchester County, N.Y., county executive Andrew Spano, docketed by the NRC as PRM-54-02.<sup>2</sup> Indeed, the language of the two petitions is identical in several sections. Echoing the Spano rulemaking petition, Petitioner Scarpelli proposes (in addition to the far-reaching revisions noted above), comprehensive changes to license renewal requirements in 10 C.F.R. Part 54, including revisions to Sections 54.4, 54.19, 54.21, 54.23, and 54.29, and the deletion of Section 54.30.

Moreover, PRM-54-03 contends that NRC license renewal reviews should be radically expanded beyond their current scope to address numerous additional issues, such as demographics, new plant siting issues, plant design issues, spent fuel storage issues, emergency planning and evacuation, security, worst-case

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<sup>1</sup> See 70 Fed. Reg. 54,310. As filed, PRM-54-03 consists of a July 20, 2005 cover letter to the NRC from Michele Donato, Esq., a July 13, 2005 letter to the NRC from Mr. Joseph C. Scarpelli, Mayor, Brick Township, N.J., a July 13, 2005 letter to the NRC from Mr. Jeff Tittel, Director, New Jersey chapter, Sierra Club, and a July 13, 2005 letter to the NRC from the NJ Environmental Federation. The NRC is treating this correspondence as one Petition.

<sup>2</sup> See the May 10, 2005 rulemaking petition filed by Mr. Andrew J. Spano, County Executive for Westchester County, New York ("Spano petition" or "PRM-54-02"). NEI submitted a timely response in opposition to PRM-54-02 on August 29, 2005; see August 29, 2005 letter from Marvin Fertel, NEI, to Annette L. Vietti-Cook, Secretary, NRC, and enclosed NEI response in opposition to PRM-54-02. ("NEI Spano PRM Comments").

accidents, and the results of recent National Academy of Sciences studies. Petitioner also proposes that NRC license renewal reviews be required to consider more nebulous topics such as population growth, the effects of changes in federal, state and local regulations, increases in public awareness, changes in public attitudes toward nuclear power, improvements in technology, and changes in plant economic values, as well as several broad legal, political, and policy questions.

In support of the extraordinary relief requested, Petitioner Scarpelli alludes generally to the accident at Three Mile Island, the accident at Chernobyl, the "controversy" about Yucca Mountain and the terrorist attacks of 9/11. Petitioner also refers to the growth around Brick Township over the past 40 years, and his concern with the evacuation of communities surrounding the Oyster Creek nuclear plant. However, PRM-54-03 contains no legal or factual analyses to support its claim that the NRC license renewal process is "seriously flawed." On the contrary, the Petition inaccurately describes the NRC's existing license renewal process<sup>3</sup> and the way it operates. The changes proposed by PRM-54-03 are so sweeping in scope that their implementation would essentially duplicate the Commission's ongoing reactor oversight process for license renewal applicants. Such changes to the legal and regulatory framework of the license renewal rule are unwarranted.

In our previous comments on PRM-54-02, NEI showed that the current NRC license renewal rule is well-founded, appropriately focused and adequately protective of public health and safety. The historical development of the license renewal rule set forth in 10 C.F.R. Part 54 and Part 51, and its implementation over the last 15 years, support this conclusion.<sup>4</sup>

Specifically, NEI's comments on PRM-54-02 emphasized the rigorous technical review of license renewal applications that is conducted by the NRC. That review focuses on the most significant concern posed by extended plant operation — the detrimental effects of aging. License renewal applicants must demonstrate how their programs will manage aging effects during the period of extended operation, and how all "important systems, structures and components will continue to perform their intended function in the period of extended operation." They must identify additional actions to be taken to manage the effects of aging. They must also reassess all time-limited aging analyses ("TLAAs"), as defined in 10 C.F.R. 54.3, and show that the previous TLAAs will remain valid for the renewal period, or modify and extend the TLAAs to apply to a longer term, or otherwise show that the effects of aging will be adequately managed in the renewal term. License renewal applicants must also satisfy relevant environmental requirements in 10 C.F.R. Part

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<sup>3</sup> The Petition asserts that: "The process for license renewal appears to be based on the theory that if the plant was licensed originally at the site, it is satisfactory to renew the license, barring any significant issues having to do with passive systems, structures, and components."

<sup>4</sup> In fact, the history of license renewal for NRC power reactors goes back some years earlier than the 1991 initial rule. See "Final Rule, Nuclear Power Plant License Renewal," 56 Fed. Reg. 64,943, 64,944-45 (Dec. 13, 1991).

51. See NEI Spano PRM Comments, at pp. 4-8. In sum, the NRC Staff's existing review process for license renewal applications ensures that public health and safety requirements are satisfied, and the Petitioner has not shown otherwise.

In our view, broadening license renewal reviews to include the new topics proposed by Petitioners Scarpelli and Spano would unnecessarily encumber the NRC license renewal process without an attendant increase in public health and safety. Equally important is the fact that such changes would be totally inconsistent with the legal and regulatory framework of the license renewal rule, which the Commission has developed, implemented, refined and applied over the last 15 years. As emphasized in NEI's comments on PRM-54-02, the NRC has previously considered — and explicitly rejected — the overly expansive approach to license renewal reviews that the Petitioners recommend.

Underlying the NRC's license renewal process is the agency's informed determination that the issues and concerns relevant to an extended 20 years of plant operation are not identical to those issues relevant to initial plant licensing and construction. Sound legal, technical and policy considerations underlie that determination. As discussed in NEI's Spano PRM comments, the Commission has concluded that the issues material to the renewal of a nuclear power plant operating license are those issues found to be relevant to protecting the public health and safety and preserving the common defense and security during the period of extended operation (e.g., operation after the initial forty-year license term). Other issues, by definition, are relevant to the safety and security of the public during plant operation in the current license term. In this regard, the Petitioners ignore (and fail to refute) the Commission's 1991 conclusion that: "It is not necessary for the Commission to review each renewal application against standards and criteria that apply to newer plants or future plants in order to ensure that operation during the period of extended operation is not inimical to the public health and safety." See 56 Fed. Reg. 64,943, 64,945. Such a duplicative regulatory approach is not warranted. See NEI Spano PRM comments, at pp. 9-12.

Because the NRC has an ongoing obligation to oversee the safety and security of operating nuclear power plants, matters relevant to current plant operation are addressed through the existing NRC regulatory process, within the current license term, rather than being deferred until the renewal term.<sup>5</sup> To do otherwise, as Petitioner Scarpelli proposes, would be wasteful of NRC resources and is not needed to protect public health and safety.

Existing NRC processes effectively maintain a nuclear power plant's current licensing basis ("CLB") during both the initial term and the extended licensing term. See NEI Spano PRM comments, at pp. 12-15. Beyond the two principles of

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<sup>5</sup> See "Final Rule, Nuclear Power Plant License Renewal; Revisions," 60 Fed. Reg. 22,461, 22,463-64 (May 8, 1995).

license renewal (*see id.* at pp. 12-13), the current license renewal rule provides for the continuing acceptability of the CLB.<sup>6</sup> At the time of initial plant licensing, NRC regulatory processes ensure that a nuclear power plant is in compliance with its licensing basis, and, therefore, that an acceptable level of safety exists. The initial licensing basis evolves throughout the term of the operating license through the continuing regulatory activities of the NRC, including regulatory oversight, and mandatory licensee programs. Intensive NRC oversight continues throughout any extended term of nuclear plant operation.

NRC activities may change a nuclear plant's licensing basis through imposition of new or revised regulations, licensee commitments, or the issuance of orders or confirmatory action letters: this process is unchanged throughout the term of the renewed license. The NRC's processes generate ongoing assurance that commercial nuclear plants' licensing bases provide an acceptable level of safety. When NRC licensees seek to modify their facility's licensing basis, such modifications are subject to the NRC's formal regulatory controls, which ensure that a documented basis exists for the change and that NRC review and approval has been obtained as needed. Thus, contrary to Petitioner Scarpelli's claim, the existing license renewal process does in fact address the impact of changes that have occurred since initial plant licensing. *See* NEI Spano PRM comments, at pp. 13-15.

Moreover, this Petition should also be denied because none of the specific proposals it advances for expanding the scope of the NRC's license renewal review is valid. These proposals are largely identical to those made in the Spano Petition; *see id.* at pp. 15-22. Petitioner Scarpelli has not shown that requiring site-specific consideration of any of the additional legal, regulatory or policy questions he poses is necessary to adequately protect public health and safety during a period of extended plant operation. In some instances the existing license renewal rule explicitly *excludes* consideration of such topics. In other instances, these topics have been categorized as generic issues under 10 C.F.R. Part 51, and therefore need not be addressed in individual license renewal applications. In developing its license renewal process, the Commission has concluded that none of the specific topics that Petitioner now seeks to graft onto that process is germane to license renewal. Significantly, the Scarpelli petition offers no reasonable basis for challenging the NRC's carefully-reasoned determinations on any of these matters.

In sum, the proposed changes, if implemented, would essentially duplicate the NRC's initial plant licensing process during license renewal, with no corresponding increase in public health and safety. Accordingly, no valid safety or other basis

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<sup>6</sup> The NRC has formulated two "principles of license renewal" that articulate the general regulatory basis for maintaining an acceptable level of plant safety throughout both the initial license term and any renewal term. A review of the Commission's license renewal process, including the application of these "principles" and the NRC oversight and regulatory processes that assure the continued adequacy of a reactor's CLB, confirms that the modifications sought in PRM-54-03 are unwarranted.

exists for the fundamental changes to the license renewal process that Petitioners Scarpelli and Spano request.<sup>7</sup> PRM-54-03, like PRM-54-02, fails to show that the NRC license renewal process is defective and fails to justify the broad, disruptive regulatory changes proposed. Petitioner Scarpelli has therefore failed to demonstrate that “sufficient reason exists” within the meaning of 10 C.F.R. § 2.803 for the NRC to grant relief.

Accordingly, for the reasons set forth in NEI’s previous response to PRM-54-02, as well as in this response to PRM-54-03, NEI strongly urges the NRC to deny Mr. Scarpelli’s petition for rulemaking in its entirety. (For convenient reference, a copy of NEI’s previously filed comments on PRM-54-02 is included as Enclosure B to this submittal.) Should the NRC opt to consider PRM-54-02 and PRM-54-03 together, as Petitioner Scarpelli has suggested, NEI requests that the NRC deny both petitions in their entirety.

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<sup>7</sup> In a recent decision, the Commission affirmed that license renewal reviews need not address emergency planning and preparedness issues:

[Although] *all* our Part 50 regulations are aimed, directly or indirectly, at protecting public health and safety . . . that does not mean that they are all suitable subjects for litigation in a license renewal proceeding. They are not. In fact, the primary reason we excluded emergency-planning issues from license renewal proceedings was to limit the scope of those proceedings to ‘age-related degradation unique to license renewal.’ Emergency planning is, by its very nature, neither germane to age-related degradation nor unique to the period covered by the Millstone license renewal application. Consequently, it makes no sense to spend the parties’ and our own valuable resources litigating allegations of *current* deficiencies in a proceeding that is directed to *future*-oriented issues of aging.

*See Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, \_\_ NRC \_\_ (Oct. 26, 2005 slip op., at 8-9) (internal citations omitted) (emphasis in original).

**NUCLEAR ENERGY INSTITUTE RESPONSE TO**  
**WESTCHESTER COUNTY, NEW YORK**  
**PETITION FOR RULEMAKING PRM-54-02**

**I. INTRODUCTION AND BACKGROUND**

**A. The Petition Fails to Provide a Valid Basis for the Relief Requested**

On May 10, 2005, Mr. Andrew J. Spano, County Executive for Westchester County, New York ("Petitioner"), filed a petition for rulemaking (the "Petition" or "PRM-54-02") with the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") pursuant to 10 C.F.R. § 2.802, requesting that the NRC extensively amend its license renewal ("LR") rule in 10 C.F.R. Part 54. The County, a political subdivision and municipality of the State of New York, is the site of the Indian Point Nuclear Generation Station, Units 2 and 3, at the Indian Point Energy Center. The Petition states that the County has "long had an interest and concern with the environmental, emergency, and public safety issues with respect to Indian Point." (Petition, p. 2). Although no license renewal application has been filed for Indian Point, the Petition asserts that because the scope of 10 C.F.R. Part 54 is limited, "the safety of the residents and communities near Indian Point will be in question during any extended operating period." (*Id.*).

NEI notes that the relief the County seeks is generic in nature, extending well beyond the Indian Point facility, and would affect all commercial nuclear power plants in the United States that are now seeking, or may in the future seek, renewal of their operating licenses from the NRC. The Petition requests that 10 C.F.R. Part 54 be totally revised "to provide that a renewed license will be issued only if the plant operator demonstrates that the plant meets all criteria and requirements that would be applicable if the plant was being proposed *de novo* for initial construction." (Petition, p. 1).<sup>2</sup> It proposes to require LR applicants to meet "all criteria" in 10 C.F.R. Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 73, and 100 applicable to initial operating licenses. It argues that 10 C.F.R. § 54.30 should be "rescinded." PRM-54-02 also contends that LR application reviews should be expanded to include "demographics, siting, emergency evacuation, site security,"

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<sup>2</sup> Alternatively, Petitioner requests that the license renewal process examine "all issues related to the plant and its original license, and then concentrate on any issues that are new to that plant or has [sic] changed since the original license was issued or that deviate from the original licensing basis." (Petition, p. 3). NEI's opposition applies to both of Petitioner's alternative statements of relief requested.



(*id.*, p. 1), the effects of changes in federal, state and local regulations, increases in public awareness, improvements in technology, and changes in plant economic values (*id.*, pp. 3-4), as well as several broad legal, political, and policy questions. (*id.*, pp. 4-5).<sup>3</sup> The Petition incorrectly describes the NRC's existing license renewal process<sup>4</sup> and reflects only a minimal understanding of how that process operates.

This rulemaking petition is a full-fledged assault on the current NRC license renewal process for commercial reactors in this country. Granting Petitioner's request would gut the LR rule, because the proposed amendments are so fundamental and so sweeping that their implementation would duplicate the Commission's ongoing reactor oversight process. Additionally, the relief sought is unwarranted and without supporting bases. The NRC has previously considered — and explicitly rejected — the approach to license renewal that the Petition recommends. Petitioner urges the NRC to bootstrap onto the LR process consideration of certain additional issues whose inclusion would be totally inconsistent with the legal and regulatory framework of the license renewal rule. That framework has been carefully developed and implemented, and continually refined, by the Commission and the NRC Staff over the last 15 years,<sup>5</sup> in a process that has also offered numerous opportunities for public involvement.

More specifically, the Petitioner's claim that the focus of the LR process is too narrow ignores one of the fundamental regulatory bases for license renewal, and the sound policy considerations that underlie that basis. The Commission has concluded that the issues material to the renewal of a nuclear power reactor operating license are confined to those issues found to be relevant to protecting the public health and safety and preserving the common defense and security *during the period of extended operation* (e.g., operation after the initial forty-year license term). Other issues, by definition, are relevant to the safety and security of the public during plant operation *in the current license term*. Because the NRC has an ongoing obligation to oversee the safety and security of operating nuclear power plants, matters relevant to current plant operation are addressed through the existing NRC regulatory process, within the current license term, rather than being

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<sup>3</sup> Although the Petition states that these questions should be considered "for all nuclear plants when the extended operating lives raise widespread and profound safety and security concerns," NEI interprets the Petition as proposing that these issues be addressed in connection with all future license renewal applications.

<sup>4</sup> The Petition asserts (p. 3) that: "The process for license renewal appears to be based on the theory that if the plant was licensed originally at the site, it is satisfactory to renew the license, barring any significant issues having to do with passive systems, structures, and components."

<sup>5</sup> In fact, the history of license renewal for NRC power reactors goes back some years earlier than the 1991 initial rule. See "Final Rule, Nuclear Power Plant License Renewal," 56 Fed. Reg. 64,943, 64,944-45 (Dec. 13, 1991).

deferred until the renewal term.<sup>6</sup> This NRC oversight continues throughout any extended term of operation.

In this regard, the NRC formulated two "principles of license renewal" that articulate the general regulatory basis for maintaining an acceptable level of plant safety throughout both the initial license term and any renewal term. A review of the Commission's LR process, with particular focus on the application of these "principles" and the numerous NRC oversight and regulatory processes that assure the continued adequacy of a nuclear power plant's current licensing basis ("CLB"), confirms that the relief sought in PRM-54-02 is unnecessary and unwarranted.

Moreover, in 1991, the Commission explicitly concluded that: "It is not necessary for the Commission to review each renewal application against standards and criteria that apply to newer plants or future plants in order to ensure that operation during the period of extended operation is not inimical to the public health and safety." 56 Fed. Reg. at 64,945. This Petition presents no viable grounds for challenging the Commission's well-founded policy decision. Accordingly, no valid safety or other basis exists for the Petitioner's proposed changes to the license renewal process.

In sum, this Petition fails completely to support the claim that the license renewal process is defective in any way, or to provide any basis whatsoever to justify the extraordinary relief requested. Petitioner has therefore failed to demonstrate that "sufficient reason exists" within the meaning of 10 C.F.R. § 2.803 for the NRC to grant relief.<sup>7</sup> Accordingly, NEI respectfully requests that the Commission deny the Petition in its entirety.

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<sup>6</sup> See "Final Rule, Nuclear Power Plant License Renewal; Revisions," 60 Fed. Reg. 22,461, 22,463-64 (May 8, 1995).

<sup>7</sup> The grant or denial of a petition for rulemaking is completely within the discretion of the NRC. Pursuant to 10 C.F.R. § 2.803, if the Commission determines that "sufficient reason exists" to grant the petition, it will publish a notice of proposed rulemaking; otherwise, it will deny the petition and provide a "simple statement of the grounds of denial."

**B. The Current NRC License Renewal Process Is Well-Founded, Appropriately Focused, and Adequately Protective of Public Health and Safety**

**1. The Development of the NRC License Renewal Rule**

The Commission has noted that its license renewal regulations in 10 C.F.R. Part 54 and 10 C.F.R. Part 51 “derive from years of extensive technical study, review, interagency input, and public comment.”<sup>8</sup> The NRC’s research program on the degradation of nuclear power plant systems, structures and components (“SSC”) due to aging began in the early 1980s.<sup>9</sup> Concurrently, the nuclear industry performed analyses and evaluations considered prerequisites for the renewal of existing nuclear power plant operating licenses,<sup>10</sup> and undertook various initiatives to support plant life extension. A series of rulemaking activities culminated in the 1991 promulgation of a new 10 C.F.R. Part 54. This rule established the requirements that an applicant for renewal must meet, the information that an applicant must submit for the NRC to determine whether the requirements have in fact been met, and application procedures. It provided the regulatory framework necessary for extending reactor operating licenses beyond forty years. *See* 56 Fed. Reg. 64,943. NRC received nearly 200 comment letters on the proposed rule.<sup>11</sup>

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<sup>8</sup> *Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 7 (2001) (“*Turkey Point*”).

<sup>9</sup> In 1986-1987, the Staff sought public comments on the establishment of a policy statement on nuclear power plant life extension. Based in part on these comments, the Staff began to address numerous technical and policy issues relevant to reactor license renewal. The NRC then decided to bypass the policy statement approach in favor of rulemaking. It solicited public comment on its 1988 Advance Notice of Proposed Rulemaking in 1988. It sought public comments on various regulatory options for plant license renewal in NUREG-1317. In 1988 and 1989, the NRC sponsored a heavily-attended international symposium on plant aging and related workshops on technical issues relating to license renewal. *See* 56 Fed. Reg. at 64,943-44.

<sup>10</sup> In 1982, the Electric Power Research Institute (EPRI) published an economic and technological review of the feasibility of extending nuclear plant operation and, in conjunction with the U.S. Department of Energy (DOE), funded pilot plant studies at the Monticello and Surry facilities. When the pilot plant initiative ended in 1988, it was determined that safe and economical plant operation was feasible for at least an additional thirty-year period. That same year, a “lead plant” program was instituted at Monticello (as the BWR) and Yankee Rowe (as the PWR) to explore possible means of defining the appropriate scope and depth of review and analysis necessary for license renewal. *See* 56 Fed. Reg. at 64,943-44.

<sup>11</sup> To assure that the rule was implemented with the appropriate rigor, the NRC Staff subsequently developed a draft regulatory guide and draft standard review plan for license renewal, and reviewed generic industry technical reports. *See* 56 Reg. at 64,944-45. In 1992-1993, NRC management continued its focus on license renewal, holding public workshops to consider approaches for using existing licensee programs and programs as one basis on which to conclude that aging will be addressed in an acceptable manner during the period of extended operation. *Id.* at 64,945.

In 1994, the Staff published proposed revisions to 10 C.F.R. Part 54 (*see* 59 Fed. Reg. 46,574), on which it received 42 public comment letters, some of which were later supplemented. The amendments to Part 54 that were promulgated in 1995 were designed to establish a “simpler, more stable, and more predictable” regulatory process for license renewal, that clearly set forth agency expectations while still ensuring that continued operation beyond the term of the original operating license will not be inimical to the public health and safety.<sup>12</sup> The revisions clarified that the proper focus of the LR rule is on the detrimental effects of aging on structures and components requiring an aging management review, and any time-limited issues applicable to the renewal term, rather than the identification of aging effects unique to the period of extended operation.<sup>13</sup> The 1995 amendments also continued the rule’s emphasis on assuring that important SSCs will perform their intended functions.

The 1995 rule added a new Section 54.30 to distinguish between those issues that require resolution during the renewal process and those that require resolution during the current license term. Significantly, the Commission also specified those portions of the 1991 LR rule and accompanying Supplementary Information conclusions (including “the concept of the CLB, the nature of the current regulatory process, [and] the regulatory process for assuring compliance with the CLB”) that remained unchanged by the 1995 amendments to Part 54. *See* 60 Fed. Reg. at 22,463. Additionally, the NRC reaffirmed the regulatory philosophy and approach underlying the 1991 LR regulations, and clarified the two “principles of license renewal.” *Id.* at 22,463-66.

As a corollary to the promulgation of 10 C.F.R. Part 54, the NRC in 1996 amended its environmental regulations in 10 C.F.R. Part 51 to establish the environmental review requirements for license renewal applicants. As with the health and safety review, in developing the environmental review process for LR, the NRC was cognizant of the need for a regulatory framework that was “both efficient and more effectively focused,”<sup>14</sup> while maintaining public health and safety.

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<sup>12</sup> *See* 60 Fed. Reg. 22,461, 22,463.

<sup>13</sup> The concept of “Age-related degradation unique to license renewal (ARDUTLR)” was eliminated from the license renewal rule, in recognition that aging is a continuing process (not confined to the period of extended operation) and that many licensee programs and regulatory activities focus on mitigating the effects of aging to ensure safety in the current operating term. *See* 60 Fed. Reg. at 22,464.

<sup>14</sup> *See Turkey Point*, CLI-01-17, 54 NRC at 11. *See also* the NRC discussion accompanying the final rules amending 10 C.F.R. Part 51, published at 61 Fed. Reg. 66,543 (Dec. 18, 1996), 64 Fed. Reg. 48,506 (Sept. 3, 1999), and 68 Fed. Reg. 58,810 (Oct. 10, 2003).

## 2. Overview of the Current License Renewal Rule

Under 10 C.F.R. Part 54, the NRC conducts a rigorous technical review of LR applications to ensure that public health and safety requirements are satisfied. Part 54 focuses on the most significant concern posed by extended plant operation — the detrimental effects of aging. Because adverse aging effects (*e.g.*, from metal fatigue, erosion, corrosion, thermal and radiation embrittlement, microbiologically induced effects, creep, shrinkage) may affect some reactor and auxiliary systems, Part 54 requires applicants to demonstrate — at the component and structure level — how their programs will manage the effects of aging during the proposed period of extended operation, and how all “important systems, structures and components will continue to perform their intended function in the period of extended operation.” The applicant must identify any additional actions (maintenance, part replacement, *etc.*) to be taken to manage the effects of aging.<sup>15</sup>

Additionally, the LR applicant must reassess all time-limited aging analyses (“TLAAs”) — that is, any reviews or analyses conducted during the original license term that may have been based on a specific time period, such as an assumed service life or some period of operation defined by the original forty-year license term.<sup>16</sup> As a prerequisite to receiving a renewed license, the applicant must show that the previous TLAAs will remain valid for the renewal period, or modify and extend the TLAAs to apply to a longer term, or “otherwise demonstrate that the effects of aging will be adequately managed in the renewal term.”<sup>17</sup>

Similarly, the treatment of environmental license renewal issues under 10 C.F.R. Part 51 reflects “an extensive, systematic study of the potential environmental consequences of operating a nuclear power plant for an additional 20 years.” In developing Part 51 LR provisions, the NRC Staff evaluated environmental and safety data from the operating experience of all light-water nuclear power reactors licensed to operate as of 1992.<sup>18</sup> The resulting Generic Environmental Impact

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<sup>15</sup> *Turkey Point*, CLI-01-17, 54 NRC at 8. See also 60 Fed. Reg. at 22,462-63. See generally 10 C.F.R. § 54.21.

<sup>16</sup> 10 C.F.R. § 54.3 defines time-limited safety analyses as those licensee calculations and analyses that involve SSCs within the scope of license renewal, consider the effects of aging, involve time-limited assumptions defined by the current operating term (*e.g.*, 40 years), were determined by the licensee to be relevant in making safety determinations, involve conclusions or provide the basis for conclusions related to the capability of the SSC to perform its intended functions as delineated in Section 54.4(b), and are contained or incorporated by reference to the CLB.

<sup>17</sup> *Turkey Point*, CLI-01-17, 54 NRC at 8.

<sup>18</sup> See NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants” (May 1996) (“GEIS”); “Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses,” 61 Fed. Reg. 28,467-68 (June 5, 1996). Numerous interest groups participated in the Commission’s study through public workshops and by submittal of written public comments; see GEIS at 1-4.

Statement ("GEIS") for license renewal identified possible environmental impacts, both generic and plant-specific, that could result from extended plant operation.

For a number of these impacts, NRC determined that it could reach generic conclusions applicable to all existing U.S. nuclear plants (or to a specific subgroup of plants). These generic environmental issues ("Category 1" issues; *see* Part 51, Subpart A, Appendix B) involve environmental effects that are essentially the same for all nuclear plants. Therefore, "they need not be assessed repeatedly on a site-specific basis, plant-by-plant."<sup>19</sup> However, renewal applicants must conduct a plant-specific review of any environmental issues for which the NRC has not made a generic environmental finding; these are "Category 2" issues under Part 51. If the severity of a potential environmental impact might vary significantly between facilities, or if the facility must take additional plant-specific measures to mitigate the impact, then the applicant must include a plant-specific analysis. Thus, contrary to the Petitioner's suggestion (Petition, p. 3), the current license renewal process is in fact "site specific and site sensitive to an appropriate degree." Additionally, the NRC's environmental review of each license renewal application affords several opportunities for public input.<sup>20</sup>

Moreover, even where the GEIS has found that a particular environmental impact applies generically, the applicant must still provide additional analysis if it is aware of "any new and significant information regarding the environmental impacts of license renewal."<sup>21</sup> The Petition does not specifically discuss the existing NRC requirement in Section 51.53(c)(3)(iv) that requires consideration of "new and significant information" on license renewal-related impacts. However, this provision is directly pertinent to the concerns expressed in the Petition, and undercuts the County's concern that the LR process does not assure consideration of issues that have changed since the original license was issued. (*See* Petition, p. 3).

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<sup>19</sup> *Turkey Point*, CLI-01-17, 54 NRC at 11. Category 1 issues are not analyzed individually in the applicant's license renewal Environmental Report (*see* 10 C.F.R. § 51.53(c)(3)(i)); rather, the applicant may reference and adapt the generic environmental impact findings codified in Part 51, Appendix B, Table B-1, absent any new and significant information.

<sup>20</sup> The NRC independently assesses the adequacy of the applicant's Environmental Report and then prepares a draft Supplemental Environmental Impact Statement (SEIS), a site-specific supplement to the GEIS for each renewal application. Public comment is solicited on each draft SEIS. The final SEIS will consider such public comments, plus plant-specific claims and any new information on generic findings. *See* 61 Fed. Reg. at 28,470. The NRC hearing process also provides an opportunity for individuals to alert the NRC to "new and significant information" that may invalidate a generic finding either with regard to a specific nuclear plant (*see* 10 C.F.R. § 2.335) or all nuclear plants (*see* 10 C.F.R. § 2.802). Independent of NRC license renewal proceedings, the NRC will review the license renewal rule and GEIS environmental analyses every ten years, provide an opportunity for public comment, and initiate a new rulemaking if Part 51 or its generic underpinnings require revision. *See* 61 Fed. Reg. at 28,468.

<sup>21</sup> *See* 10 C.F.R. § 51.53(c)(3)(iv); *see also Turkey Point*, CLI-01-17, 54 NRC at 11-12.

The Petitioner's claim that 10 C.F.R. Part 54 is "seriously flawed" also ignores the NRC's application of the LR rule. Since Part 54 was promulgated, the NRC has continued to improve and refine its license renewal process. For example, the NRC has issued its Generic Aging Lessons Learned ("GALL") report, which is designed to provide the technical basis for the Standard Review Plan for License Renewal. The GALL Report contains the NRC Staff's generic evaluation of existing plant programs and documents the technical basis for determining where those programs are adequate and where existing programs should be augmented for the extended period of operation. The evaluation results documented in the GALL report indicate that many existing programs are adequate to manage the aging effects for particular structures or components for license renewal without change. The GALL report is currently being revised to reflect new and updated information, and "lessons learned," available since the original GALL was prepared. This is another example of the methods used by the NRC to continually strengthen the license renewal process, with the goal of protecting public health and safety.<sup>22</sup>

Moreover, the NRC has now reviewed a number of license renewal applications and made the required findings under 10 C.F.R. § 54.29. In no case has the NRC determined that a broad, *de novo* review of issues beyond the scope of the license renewal process (such as Petitioner proposes) is warranted to support a renewal license.

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<sup>22</sup> The NRC has also developed improved LR guidance documents, such as the Standard Review Plan for License Renewal, Regulatory Guide 1.188, and NEI-95-10 (Industry Guideline for Implementing the Requirements of 10 CFR Part 54 –The License Renewal Rule), to further strengthen the LR review process. As experience is gained during LR reviews, these guidance documents may be revised to capture new insights or address emerging issues. To document these "lessons learned," the NRC has applied an interim staff guidance (ISG) process. The ISG process improves the efficiency and effectiveness of the LR process, and protects public health and safety, by providing guidance to future LR applicants until the relevant guidance documents are updated.

## II. DISCUSSION

- A. The Petition Should Be Denied Because the Regulatory Framework of the Existing NRC License Renewal Process Is Appropriately Focused and Adequately Protects Public Health and Safety
1. The Commission Has Properly Concluded that License Renewal Reviews Need Not Duplicate the Original Licensing Review

In evaluating the relief the Petition requests, it is important to recognize that the Commission has carefully considered, and then rejected, the all-inclusive regulatory scope for license renewal that PRM-54-02 proposes.<sup>23</sup> Petitioner offers no viable basis for challenging or overturning the Commission's informed determination on this question.

The Commission has cogently summarized the rationale for the scope of license renewal reviews as follows:

In anticipation of potential license renewal application, the NRC began in the 1980s a program to develop license renewal regulations and associated guidance. We sought to develop a process that would be both efficient, avoiding duplicative assessments where possible, and effective, allowing the NRC Staff to focus its resources on the most significant safety concerns at issue during the renewal term. *The issues and concerns involved in an extended 20 years of operation are not identical to the issues reviewed when a reactor facility is first built and licensed.* For example, many safety questions related to plant aging will become important only during the extended renewal term.

In contrast, other safety issues were thoroughly reviewed when the facility was first licensed, and now are routinely monitored and assessed by ongoing agency oversight and agency-mandated licensee programs. To require a full reassessment of these issues at the license renewal stage, the Commission found, would be both unnecessary and wasteful. Accordingly, the NRC's license renewal review focuses upon those potential detrimental effects of aging that are not routinely addressed by ongoing regulatory oversight programs. License renewal reviews are not intended to "duplicate the

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<sup>23</sup> In connection with the initial license renewal rule, the NRC stated: "As part of this rulemaking, the Commission has carefully considered the desirability of license renewal reviews that would duplicate the Commission's ongoing review of operating reactors." See 56 Fed. Reg. at 64,946.



Commission's ongoing review of operating reactors." See Final Rule, "Nuclear Power Plant License Renewal," 56 Fed. Reg. 64,943, 64,946 (Dec 13, 1991).<sup>24</sup>

By determining that the potential detrimental effects of aging, and not other issues, define the scope of license renewal proceedings, the Commission has ensured that its license renewal process avoids redundant, "unnecessary," and "wasteful" reassessment of issues at the license renewal stage, while still protecting public health and safety.<sup>25</sup>

The Supplementary Information accompanying the 1991 license renewal rule contains a fuller discussion of this same fundamental regulatory approach:

*It is not necessary for the Commission to review each renewal application against standards and criteria that apply to newer plants or future plants in order to ensure that operation during the period of extended operation is not inimical to the public health and safety.* Since initial licensing, each operating plant has continually been inspected and reviewed as a result of new information gained from operating experience. Ongoing regulatory processes provide reasonable assurance that, as new issues and concerns arise, measures needed to ensure that operation is not inimical to the public health and safety and common defense and security are "backfitted" onto the plants. The Commission cannot conclude that its regulation of operating reactors is "perfect" and cannot be improved, that all safety issues applicable to all plants have been resolved, or that all plants have been and at all times in the future will operate in perfect compliance with all NRC requirements. However, based upon its review of the regulatory programs in this rulemaking, the Commission does conclude that (a) its program of oversight is sufficiently broad and rigorous to establish that the added discipline of a formal license renewal review against the full range of current safety requirements would not add significantly to safety, and (b) such a review is not

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<sup>24</sup> *Turkey Point*, CLI-01-17, 54 NRC at 7 (emphasis added). See also *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), LBP-02-4, 55 NRC 49, 69-72 (2002). (Citing the Commission decision in the *Turkey Point* license renewal proceeding, the Licensing Board emphasized that in developing the LR rule, the Commission did not "believe it necessary or appropriate to throw open the full gamut of provisions in a plant's current licensing basis to re-analysis during the license renewal review.").

<sup>25</sup> See *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 NRC 631, 637-38 (2004) (internal citations omitted) ("*Millstone*") (The license renewal process "focuses on 'the potential impacts of an additional 20 years of nuclear power plant operation,' not on everyday operational issues. Those issues are 'effectively addressed and maintained by ongoing agency oversight, review, and enforcement.'"). See also *Turkey Point*, CLI-01-17, 54 NRC at 7.

needed to ensure that continued operation during the period of extended operation is not inimical to the public health and safety.<sup>26</sup>

Thus, in articulating the standards and scope of review applicable to license renewal decisions, the Commission squarely addressed Petitioner's claim that LR applicants should be required to meet all requirements imposed on applicants for initial plant licensing. Notably, the Commission clearly rejected the duplicative approach that the Petitioner now proposes. This 1991 Commission determination directly refutes the Petitioner's arguments, and the County provides no basis for revisiting that agency determination in 2005. In particular, the Petition offers nothing to challenge the Commission's carefully-considered conclusion that its current license renewal rule and process:

[P]rovide reasonable assurance that the discipline of a formal license renewal review against either the full range of current safety requirements or the requirements on common defense and security would not add significantly to safety or common defense and security and is not needed to ensure that continued operation during the renewal term is not inimical to the public health and safety or the common defense and security.<sup>27</sup>

This conclusion was not changed or undermined by the 1995 revisions to 10 C.F.R. Part 54.<sup>28</sup>

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<sup>26</sup> 56 Fed. Reg. at 64,945-46 (emphasis added). With regard to security matters, the NRC similarly concluded that:

The regulatory process also reviews the ownership and operation of the facility to ensure that the operation of nuclear power plants will not be inimical to the common defense and security. Accordingly, the Commission concludes that a formal license renewal review against applicable common defense and security requirements is not needed to ensure that continued operation during the period of extended operation is not inimical to the common defense and security. *Id.*

<sup>27</sup> See 56 Fed. Reg. at 64,947.

<sup>28</sup> See 60 Fed. Reg. at 22,485 (In response to a comment by the State of Nevada that the NRC should analyze whether there was any condition, act, or practice from the initial license term that would affect the period of extended operation, the NRC responded that the agency "continuously analyzes conditions, acts, and practices that could affect safe operation of plants and takes appropriate action.").

2. Existing NRC Regulatory Processes Effectively Maintain the Current Licensing Basis during Both the Initial and Extended License Terms

a. *The Need for the Relief that Petitioner Requests Is Obviated by the Principles of License Renewal*

Given the NRC's "ongoing obligation to oversee the safety and security of operating reactors," those issues relevant to both current plant operation and operation during the renewal period must be addressed within the current license term rather than at the time of renewal. See 56 Fed. Reg. at 64,946. To do otherwise, as this Petition proposes, would be wasteful of Commission resources and is not necessary to protect public health and safety. The possibility of requiring LR reviews that would essentially duplicate the agency's ongoing reviews of operating reactors reportedly spurred the NRC to formulate its so-called "principles of license renewal." *Id.*

As reformulated in connection with the 1995 license renewal rule, the first principle of license renewal is as follows:

[W]ith the possible exception of the detrimental effects of aging on the functionality of certain plant systems, structures, and components in the period of operation and possibly a few other issues related to safety only during extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provide and maintain an acceptable level of safety for operation so that operation will not be inimical to public health and safety or common defense and security.<sup>29</sup>

The second and equally important principle is that "each plant's current licensing basis must be maintained during the renewal term, in part through a program of age-related degradation management for systems, structures, and components that

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<sup>29</sup> See 60 Fed. Reg. at 22,464. In the 1991 rule, the NRC had stated this principle as follows:

The first principle [of license renewal] is that, with the exception of age-related degradation unique to license renewal and possibly some few other issues related to safety only during extended operation, the regulatory process is adequate to ensure that the licensing bases of all currently operating plants provide and maintain an acceptable level of safety for operation so that operation will not be inimical to public health and safety or common defense and security. Continuing this regulatory process in the future will ensure that this principle remains valid during any renewal term if the regulatory process is modified to include age-related degradation unique to license renewal. Moreover, consideration of the range of issues relevant only to extended operation has led the Commission to conclude that there is likely only one real issue generally applicable to all plants – age-related degradation. The renewal rule focuses the Commission's review on this one safety issue but provides leeway for the Commission to consider, on a case-by-case basis, other issues unique to extended operation.

are important to license renewal as defined in the final rule.”<sup>30</sup> These regulatory principles support the NRC’s conclusion that, with the exception of those issues specifically designated as within the scope of license renewal, its existing regulatory process adequately assures that the licensing bases of all currently operating plants will provide and maintain an acceptable level of safety for plant operation. This regulatory process is applied to ensure that each plant’s CLB will be maintained during the renewal term.

b. *Existing NRC Regulatory Processes Assure the Continued Acceptability of Nuclear Power Plants’ Current Licensing Bases*

Beyond the two principles of license renewal, the LR rule further addresses the process by which the NRC assures the *continuing* acceptability of the current licensing basis.<sup>31</sup> This discussion is responsive to the Petition’s incorrect assertion that the NRC license renewal process does not consider the impacts of changes that have occurred since the initial plant licensing. Indeed, the Commission emphasized in both the 1991 and the 1995 rules that existing NRC regulatory processes are sufficiently rigorous to provide the necessary reasonable assurance that plant operation during the renewal term will not endanger public health and safety. For example, in connection with the 1995 amendments to Part 54, the Commission reaffirmed its conclusions regarding the current licensing basis and the adequacy of the regulatory processes underlying the CLB. *See* 60 Fed. Reg. at 22,473-76; *see also* 60 Fed. Reg. at 22,469. Because aging is a continuing process, the NRC found that existing programs and regulatory requirements that will continue to apply during the period of extended operation and provide adequate aging management for SSCs should be credited for license renewal.<sup>32</sup> These processes will continue to apply during any period of extended plant operation.

Current regulatory processes confirm at the time of initial plant licensing that a nuclear power plant is in compliance with its licensing-basis and, therefore, that an acceptable level of safety exists, and that the common defense and security is

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<sup>30</sup> 56 Fed. Reg. at 64,946. *See also* 56 Fed. Reg. at 64,947-54 (additional discussion of the principles of license renewal). In the 1995 rulemaking, the NRC also specifically affirmed its support for the second principle of license renewal. *See* 60 Fed. Reg. at 22,464.

<sup>31</sup> The CLB includes all applicable NRC requirements and licensee commitments for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis. This evolving set of requirements and commitments is modified as necessary over the life of the plant to ensure continuation of an adequate level of safety. “The regulatory process is the means by which the Commission continually assesses the adequacy of and compliance with the CLB.” 60 Fed. Reg. at 22,473. *See also* 60 Fed. Reg. at 22,474-75.

<sup>32</sup> Thus, the LR review process appropriately focuses upon SSCs for which current activities and requirements may not be sufficient to manage the effects of aging during the period of extended operation. *Id.* at 22,470.

provided for.<sup>33</sup> Of course, the initial licensing basis does not remain fixed, but rather “evolves throughout the term of the operating license because of the continuing regulatory activities of the Commission, as well as the activities of the licensee.” 56 Fed. Reg. at 64,947. *Continued* compliance with the CLB throughout the term of the license is assured by mandatory licensee programs required by the NRC and by the NRC’s regulatory oversight. *Id.* at 64,951.<sup>34</sup>

NRC activities may result in changes to the licensing basis through new or revised regulations, licensee commitments (*e.g.*, to modify plant design and procedures), or the issuance of orders or confirmatory action letters. This process is unchanged throughout the term of the renewed license. In this way, the Commission’s consideration of new information provides “ongoing assurance that the licensing bases for all nuclear power plants provides an acceptable level of safety.” *See* 56 Fed. Reg. at 64,947. In addition to licensing basis changes required by the Commission, an NRC licensee may also seek to modify the CLB for its plant. Such proposed CLB changes are subject to the NRC’s formal regulatory controls (for example, 10 C.F.R. §§ 50.12, 50.59, 50.90, 50.91, 50.92), which ensure that a documented basis exists for the change and that NRC review and approval of the licensing basis change has been obtained as appropriate.<sup>35</sup> Accordingly, the Petition’s claim that the evolution of licensing factors over time mandates consideration of additional criteria during license renewal (Petition, pp. 3-4) must be rejected.<sup>36</sup>

Moreover, the events and developments that the County cites in support of its Petition (the Browns Ferry fire, the accident at TMI-2, “utility bankruptcies,” the Chernobyl accident, Davis-Besse reactor vessel head problems, and the events of 9/11) have, to the extent that they have generated specific safety implications for U.S. commercial nuclear power plants, been considered and appropriately

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<sup>33</sup> The finding made under 10 C.F.R. § 50.57(a)(1) at the time an initial operating license is issued is “essentially equivalent to a finding that the plant was in compliance with its licensing basis as it existed at the time of the issuance of the operating license.” *See* 56 Fed. Reg. at 64,951.

<sup>34</sup> Licensee programs include, for example, self-inspection, maintenance, audits, and surveillance programs. As a corollary, the NRC’s reactor oversight process includes a variety of routine and special inspection programs, conducted during construction and throughout the life of the plant, including the renewed license term. The NRC may also conduct research, audits, investigations, evaluations of operating experience, and undertake programs to resolve identified issues. *See* 56 Fed. Reg. at 64,947.

<sup>35</sup> In this regard, the NRC will not issue a renewed license unless it finds that reasonable assurance exists that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB, that any changes made to the plant’s CLB are consistent with the Atomic Energy Act of 1954, as amended, and NRC regulations, and that all applicable requirements in 10 C.F.R. Part 51, subpart A have been satisfied. *See* 10 C.F.R. § 54.29(a)-(b).

<sup>36</sup> Thus, to address specific points raised in the Petition (p. 4), existing NRC processes would address whether certain inspection methods may be adopted or may be used inappropriately, or whether regulations have altered plant design after commencement of operations.

addressed through the NRC's existing regulatory process and initiatives. This is evidence of the NRC's timely and appropriate regulatory response, which refutes the need for the relief Petitioner requests.

For example, the TMI-2 incident prompted a number of regulatory changes. More recently, the Davis-Besse issue has prompted the NRC to issue an order directing PWR licensees to increase the frequency and scope of reactor pressure vessel inspections, as well as issue new regulatory guidance on such inspections. Several plants have since replaced or are planning to replace their reactor vessel head. In the area of security, since the terrorist attacks of 9/11 the NRC has enhanced its oversight of nuclear power plant security programs and has intensified site security requirements. Power reactors were required in April 2003 to revise their physical security plans, guard training and qualification plans, and contingency plans. These enhancements were implemented as part of current NRC regulatory processes, and any changes made through these processes will continue to apply during the extended license term.

**B. The Petition Should Be Rejected Because It Fails to Provide a Valid Basis for Expanding License Renewal Reviews to Duplicate the Commission's Initial Plant Licensing Review on Certain Topics**

This Petition should also be denied because none of the specific proposals it advances for expanding the scope of the NRC's license renewal review (to require consideration of all issues considered at the initial plant licensing stage) is valid. As discussed below, Petitioner has failed to show that revision of NRC LR regulations to require site-specific consideration of emergency planning and evacuation issues, siting issues, demographics, postulated accidents, security issues, changes in plant economic values, changes to federal, state and local regulations, increases in public awareness, improvements in technology, or any of the broad policy questions posed, is necessary to adequately protect public health and safety during a period of extended plant operation.

In some instances the LR rule explicitly excludes consideration of the topics that Petitioner wishes to have included, and provides a reasonable basis for their exclusion. In other instances, the subject that Petitioner proposes to address has been categorized as a generic issue under 10 C.F.R. Part 51, and therefore need not be addressed in individual license renewal applications. See 10 C.F.R. § 51.53(c)(3)(i). In sum, in developing its license renewal process, the Commission has concluded that none of the specific topics that Petitioner now seeks to graft onto that process is germane to license renewal. The Petition offers no basis for challenging the NRC's carefully-reasoned determinations on these matters.

1. License Renewal Reviews Need Not Be Expanded to Consider  
Emergency Planning Issues

The Petition asserts that NRC license renewal reviews should include consideration of emergency evacuation matters, with particular focus on “the critical plant-specific factors and conditions that have the greatest potential to affect public safety.” (Petition, p. 1; *see also* pp. 3-4). In particular, Petitioner refers to emergency evacuation plans.

Specifically with respect to emergency planning (“EP”), the Commission noted that its regulations in 10 C.F.R. Part 50 contain requirements and performance objectives to protect the public health and safety by ensuring the existence, implementation, revision, and maintenance of emergency preparedness for licensed nuclear power plants. These requirements are imposed throughout the life of the plant and continue to apply during the renewal term. The Commission further noted that EP requirements are continually reviewed for adequacy, and that periodic exercises are conducted to evaluate performance against definitive criteria. In the normal course, following EP exercises, findings are made concerning the success of the emergency plan and, in some cases, weak and deficient areas requiring correction are identified. Significantly, these processes continue during the renewal term.<sup>37</sup> The Commission therefore concluded:

Through its standards and required exercises, the Commission ensures that existing [emergency] plans are adequate throughout the life of any plant *even in the face of changing demographics and other site-related factors*. Thus, these drills, performance criteria, and independent evaluations provide a process to ensure continued adequacy of emergency preparedness in light of changes in site characteristics that may occur during the term of the existing operating license, *such as transportation systems and demographics. There is no need for a licensing review of emergency planning issues in the context of license renewal.*

The NRC has determined that the current requirements, including continuing update requirements for emergency planning, provide reasonable assurance that an acceptable level of emergency preparedness exists at any operating reactor at any time in its operating lifetime. The Commission has amended 10 C.F.R. 50.47 to clarify that no new finding on emergency preparedness will be made as part of a license renewal decision.<sup>38</sup>

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<sup>37</sup> 56 Fed. Reg. at 64,966.

<sup>38</sup> *Id.* at 64,966-67 (emphasis added). As adopted in 1991, 10 C.F.R. § 50.47(a)(1) provided in part that: “No finding under this section is necessary for issuance of a renewed nuclear power operating license.”

When the Commission amended the renewal rule in 1995, it thoroughly evaluated emergency planning considerations addressed in the original license renewal rulemaking and concluded that: "These evaluations and conclusions are still valid . . ."<sup>39</sup>

Given this regulatory history, it is clear that Petitioner has provided no basis for requiring the NRC to expand its LR process to include changing transportation systems, demographics, highway infrastructure, and other site-related factors cited in the Petition.<sup>40</sup> As the Commission explained in its *Turkey Point* decision:

Just as . . . oversight programs help ensure compliance with the current licensing basis during the original license term, they likewise can reasonably be expected to fulfill this function during the renewal term. In short, the regulatory process commonly is "the means by which the Commission continually assesses the adequacy of and compliance with" the current licensing basis.

For an example of how the ongoing regulatory process works to maintain safety, we can look at the issue of emergency planning. The Commission has various regulations establishing standards for emergency plans. . . . These requirements are independent of license renewal and will continue to apply during the renewal term. They include provisions to ensure that the licensee's emergency plan remains adequate and continues to meet sixteen performance objectives. Through mandated periodic reviews and emergency drills, "the Commission ensures that existing plans are adequate throughout the life of any plant even in the face of changing demographics, and other site-related factors . . . . [D]rills, performance criteria, and independent evaluations provide a process to ensure continued adequacy of emergency preparedness." 56 Fed. Reg. at 64,966.

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<sup>39</sup> 60 Fed. Reg. at 22,468.

<sup>40</sup> To the extent that the Petitioner seeks to include transportation issues relating to emergency evacuation as an environmental LR issue (for example, "roads and infrastructure required for a successful evacuation" (Petition, pp.3-4)), highway traffic impacts are currently considered to some extent as part of the environmental LR review. The NRC has determined that the impact of LR on highway traffic during refurbishment activities and during the renewal term is generally expected to be small. However, the NRC also found that "the increase in traffic associated with additional workers and the local road and traffic control conditions may lead to impacts of moderate or large significance at some sites." See 10 C.F.R Part 51, Subpart A, Appendix B, Table B-1. Accordingly, the applicant's ER must include an assessment of "the impact of highway traffic generated by the proposed project on the level of service of local highways during periods of license renewal refurbishment activities and during the term of the renewed license." See 10 C.F.R. § 51.53(c)(3)(ii)(J).



Emergency planning, therefore, is one of the safety issues that need not be re-examined within the context of license renewal.<sup>41</sup>

2. License Renewal Reviews Need Not Be Expanded to Consider Demographics and Siting Issues

The Petition asserts that LR reviews should include demographics and siting issues. (Petition, p. 1; *see also* pp. 3-4). These topics are outside the scope of 10 C.F.R. Part 54, regardless of whether the siting or population issues are raised in the context of emergency planning. However, note that the NRC's environmental review process for license renewal in Part 51 does consider the impact of renewal upon certain socioeconomic factors. In turn, these factors may bear upon siting and demographics,<sup>42</sup> although 10 C.F.R. Part 51 does not specifically require consideration of the potential impacts of license renewal on "siting" or population.

For example, Part 51 requires LR applicants to include in their license renewal-related ER an assessment of the impact of the proposed license renewal on "housing availability, land use, and public schools (impacts from refurbishment activities only) within the vicinity of the plant," as well as "the impact of population increases attributable to the proposed project on the public water supply." *See* 10 C.F.R. § 51.53(c)(3)(ii)(I). Thus, the existing LR process does address some demography issues. In sum, the Petition does not demonstrate that good cause exists for expanding license renewal reviews to include consideration of siting issues or demographics issues.

3. License Renewal Reviews Need Not Be Expanded to Consider a "Worst-Case Scenario"

The Petition asserts (Petition, p. 1) that 10 C.F.R. Part 54 should be revised to require consideration of a "worst-case scenario" in connection with license renewal,

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<sup>41</sup> *Turkey Point*, CLI-01-17, 54 NRC at 9. *See also* *Millstone*, CLI-04-36, 60 NRC at 640 (The Commission affirmed the Atomic Safety and Licensing Board's dismissal in a license renewal case of a late-filed contention alleging the difficulty of evacuating Connecticut and Long Island.); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), LBP-02-4, 55 NRC 49, 70-71 (2002).

<sup>42</sup> For example, the potential impacts of license renewal on public services (including public safety, social services, tourism, recreation, education) are expected to be small at all sites. Thus, applicants need not consider these generic impacts in their license renewal ERs. The potential environmental impacts of LR on housing may be small, medium or large, depending on whether the plant is located in a medium or high population area, or an area that controls growth. For offsite land use during refurbishment associated with license renewal, the environmental impacts of LR are expected to be small but may be moderate if the plant is located in a low population area. For offsite land use during the extended license term, the environmental impacts may be small, medium or large. Significant changes in land use may be associated with population and tax revenue changes resulting from LR. *See* 10 C.F.R. Part 51, Subpart A, Appendix B, Table B-1.

to the same extent that such issues must be considered at the initial construction/licensing stage. We disagree.

Under 10 C.F.R Part 51, Subpart A, Appendix B, Table B-1, the NRC has concluded that the environmental impacts of design basis accidents are "of small significance for all plants;" thus, design basis accident impacts is a Category 1 (generic) issue that applicants are not required to address in their license renewal Environmental Reports. With respect to severe accident impacts, the NRC has determined that "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." However, LR applicants must address "alternatives to mitigate severe accidents" in their ERs if the NRC Staff has not previously considered severe accident mitigation alternatives for the facility in question. See 10 C.F.R. § 51.53(c)(3)(ii)(L). This existing requirement undercuts the Petitioner's effort to show license renewal as a hollow exercise. Rather, the provision is used in certain limited circumstances to ensure that current as well as future plant operation meets all regulatory requirements.

4. The Scope of License Renewal Findings Need Not Be Expanded to Consider Whether the Plant Meets 10 C.F.R. Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 73, and 100

Petitioner specifically asks that the NRC amend 10 C.F.R. § 54.29 to provide that a renewed license will be issued only if the Commission determines upon a *de novo* review that the applicant has met "all criteria" in 10 C.F.R. Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 73, and 100 applicable to initial operating licenses. (Petition, p. 1). 10 C.F.R. § 54.35 currently requires that during the term of a renewed license, NRC licensees remain subject to, and must comply with, all NRC regulations in 10 C.F.R. Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 70, 72, 73, and 100. Thus, the existing NRC license renewal rule substantively meets Petitioner's demand. The renewal rule requires licensees to continue to meet all aspects of these regulations applicable to operating reactors -- consistent with its requirement that the CLB be maintained during the renewal term.

5. License Renewal Reviews Need Not Be Expanded to Consider Physical Security Issues at Reactors

The Petition asserts (p. 1) that LR reviews should include "site security" issues. Matters relating to security are beyond the scope of the NRC license renewal process in Part 54 and Part 51 because the NRC has determined that LR applications do not affect the standards for physical security at nuclear power plants. Rather, 10 C.F.R. Part 73 requirements (like ongoing regulatory requirements in other areas) "will continue to be reviewed and changed to incorporate new information, as necessary." See 56 Fed. Reg. at 64,967.

Petitioner argues that the events of 9/11 justify revision of the license renewal process (Petition, p. 3), and alludes to the need to have security issues and assurance of “public health and safety in a post 9/11 era” included in license renewal. Here again, the Commission has precluded consideration of security and terrorism matters as part of license renewal:

[W]e want to emphasize that security issues at nuclear power reactors, while vital, are simply not among the aging-related questions at stake in a license renewal proceeding. The Commission, as we have often reiterated, takes its security responsibilities seriously and has taken numerous regulatory steps to enhance security at nuclear power reactors.<sup>43</sup>

Additionally, the Commission has specifically determined that terrorism-related issues or other intentional malevolent acts may not be considered in NRC license renewal proceedings, either under the Atomic Energy Act or under the National Environmental Policy Act.<sup>44</sup> The Petition provides no new information to justify changing NRC regulations in this regard.

Regardless of whether a nuclear plant is operating in its initial licensing term or its extended license term, the NRC has updated, revised, and enhanced security requirements for that facility and will continue to do so as is needed. Indeed, following the terrorist attacks of 9/11, U.S. commercial nuclear facilities escalated to the highest level of security in accordance with the system in place at the time. Since then, the NRC has issued more than 35 Advisories, Orders, and Regulatory Issue Summaries to further strengthen security at U.S. power reactors. The actions taken generally include increased patrols, augmented security forces and capabilities, additional security posts, installation of additional physical barriers, vehicle checks at greater stand-off distances, enhanced coordination with law enforcement and military authorities, more restrictive site access controls for all personnel, and expanded, expedited, and more thorough employee background checks. In April 2003, the NRC required power reactors to revise their physical security plans, guard training and qualification plans, and contingency plans. The NRC reviewed these plans and reactor licensees were required to implement them by October 2004. All of these security enhancements were implemented under the Commission’s existing regulatory processes.

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<sup>43</sup> *Millstone*, CLI-04-36, 60 NRC at 638.

<sup>44</sup> *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358 (2002).

6. License Renewal Reviews Need Not Be Expanded to Consider Plant Economic Values

The Petition asserts that license renewal reviews should include consideration of possible changes in plant economic value since the initial licensing of the plant. (Petition, p. 3). The economic value of a nuclear plant is not a nuclear safety issue, and thus is generally outside of the jurisdiction of the NRC. Accordingly, this topic is, by definition, outside the scope of the NRC's license renewal process in Part 54.<sup>45</sup>

7. License Renewal Reviews Need Not Be Expanded to Consider Regulatory Changes, Public Attitude Changes, Technology Improvements, or Other Policy Issues Raised by Petitioner

The Petitioner also argues (Petition, pp. 3-5) that NRC license renewal reviews under 10 C.F.R. Parts 54 and 51 should be required to consider and weigh the possible effects of changes in federal, state and local regulations, increases in public awareness, and improvements in technology. As explained in previous sections of these comments, each of these topics clearly is beyond the proper scope of a license renewal-stage review for a nuclear power plant. None of these topics is relevant to the technical question of nuclear power plant aging, or to the potential environmental impacts (generic or site-specific) of license renewal. Rather, these are public policy matters.

In particular, changes in "public awareness" cannot reasonably be gauged in the context of license renewal. Even assuming that a clear definition of this highly subjective concept were available, "public awareness" is not a nuclear safety issue and is thus beyond the jurisdiction of the NRC. The Commission does not regulate changes in public awareness. For this reason, the NRC's license renewal process does not consider changes in public awareness, and should not be amended to do so.<sup>46</sup>

"Changes in federal, state or local regulations" also is inapt for license renewal. The Petition provides no nexus between such changes and nuclear safety. Most changes to federal, state, and local law do not relate directly to nuclear safety, and, therefore, lie outside the jurisdiction of the NRC. To the extent that a change to a regulation (such as an NRC regulation) is applicable to a nuclear reactor, those changes will be implemented by the NRC's existing regulatory framework for operating reactors. Similarly, the license renewal process need not be modified to

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<sup>45</sup> In this regard, the Commission also excluded consideration of financial qualification matters from the original license renewal rule. See 56 Fed. Reg. at 64,968. (Indeed, consideration of financial qualifications is limited to the initial construction stage.)

<sup>46</sup> To the extent that the Petitioner is concerned about changes in "public awareness" relating specifically to license renewal issues, note that the NRC's existing process already accommodates the need for public awareness by providing for public input during the LR process.

include consideration of "improvements in technology." If an improvement affects the safety of commercial nuclear power plants, falls within the NRC's jurisdiction, and is made applicable to operating reactors, again it would be considered by the NRC's existing processes.

The Petition also argues (pp. 4-5) that site-specific reviews on several broad legal/policy questions should be required as part of the license renewal process. These questions include the following: Could a new nuclear power reactor, designed and built to current standards, be licensed on the original site today? Would "the local societal and infrastructure factors that influenced the original plant licensing have changed in a manner that would make the plant less apt to be licensed today?" Can the plant be "modified to assure public health and safety in a post-9/11 era?" Did the plant's original design basis include extended on-site storage of spent fuel?<sup>47</sup> Here again, the broad policy questions that Petitioner seeks to graft onto the Commission's current LR review process are clearly beyond the scope of license renewal, and no cause has been shown for expanding license renewal reviews to include consideration of these policy questions.

### III. CONCLUSION

For all of the reasons discussed above, NEI respectfully requests that the NRC deny Petition for Rulemaking PRM-54-02.

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<sup>47</sup> 10 C.F.R. Part 51 characterizes the impacts of onsite storage of spent nuclear fuel as a generic Category 1 issue. Thus, this issue is not required to be addressed in the license renewal applicant's Environmental Report. See Part 51, Subpart A, Appendix B, Table B-1. See also *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 343-44 (1999). Moreover, the Commission has ruled that onsite storage of spent fuel is beyond the scope of the NRC's Part 54 license amendment review. See *Turkey Point*, CLI-01-17, 54 NRC at 20-23.

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**Date:** Mon, Nov 28, 2005 2:38 PM  
**Subject:** Request for Comment on NRC Petition for Rulemaking PRM-54-03

On behalf of the commercial nuclear energy industry, the Nuclear Energy Institute ("NEI") submits the following comments in opposition to the July 20, 2005 petition for rulemaking filed with the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") by Michele Donato, Esq., on behalf of Mayor Joseph Scarpelli of Brick Township, N.J. ("Petitioner"). The NRC published a notice of receipt of the rulemaking petition (docketed as PRM-54-03) at 70 Fed. Reg. 54,310 (Sept. 14, 2005). We appreciate the Commission's consideration of the industry's views on this important matter.

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