



NUCLEAR ENERGY INSTITUTE

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Ralph L. Andersen, CHP  
SENIOR DIRECTOR  
RAD SAFETY & ENVR PROTECTION  
NUCLEAR GENERATION DIVISION

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USNRC

Ms. Annette L. Vietti-Cook  
Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
ATTN: Rulemakings and Adjudications Staff

January 12, 2010 (3:45pm)  
OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

**Subject:** Nuclear Energy Institute Comments on the U.S. Nuclear Regulatory Commission (NRC) Proposed Revisions to Environmental Review for License Renewal of Nuclear Power Plant Operating Licenses (*Federal Register* of July 31, 2009, FR 38117, 38238, and 38239)

**Project Number: 689**

Dear Ms. Vietti-Cook:

This letter provides comments of the Nuclear Energy Institute (NEI)<sup>1</sup> on behalf of the nuclear energy industry on the proposed rulemaking to Title 10 Code of Federal Regulations (CFR) Part 51, the draft regulatory guide DG-4015 (proposed Revision 1 to NRC Regulatory Guide 4.2), and the draft update to the Nuclear Regulatory Commission (NRC) Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants (proposed Revision 1 to NUREG-1437), in response to the subject Federal Register notices.

These comments were developed by a nuclear energy industry task force made up of subject matter experts from 15 companies involved in nuclear power plant license renewals. The task force comments reflect a substantial body of industry licensing and technical expertise, experience, and lessons-learned gained from successful completion of 59 nuclear power plant license renewal applications, along with 18 submitted applications currently under review by the NRC, and 9 applications under development that are expected to be submitted in the 2010-2011 timeframe.

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

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NEI is also submitting comments in a separate letter that are focused on legal and regulatory issues raised by the proposed changes to the NRC framework for license renewal. The two NEI comment letters are intended to be complementary and should be considered together by the NRC as representing the nuclear energy industry's comprehensive view of the proposed changes. NEI and industry staff participated in and provided comments at several public meetings conducted by the NRC on the proposed changes to the license renewal framework. The comments contained in the two NEI letters, in part, supplement and expand upon the comments provided by NEI and industry staff at the NRC public meetings.

This letter includes four attachments that contain detailed comments on the proposed changes to the proposed rule, revised regulatory guide, and draft updated GEIS.

Attachment 1 recommends the reclassification from Category 2 to Category 1 of four environmental issues identified by the NRC in the proposed rule and the removal of two Category 1 issues from the scope of the proposed rule. A detailed justification for each recommendation is included in Attachment 1.

Attachment 2 provides comments on the proposed rule. In addition to addressing specific environmental issues contained in the proposed rule, the attachment also reflects a general comment that was made by NEI staff at the NRC public meetings regarding the restructuring and aggregation of issues in the proposed rule. The format used by the NRC in presenting the environmental issues in Table B-1 of the proposed rule appears to imply that some issues previously classified as Category 1 are being reclassified as Category 2 due solely to their aggregation with other Category 2 issues. It is our understanding that this was not the intent in the proposed rule and therefore we recommend that NRC expand the level of detail provided in the table to make clear that issues previously classified as Category 1 will retain that classification in the new final rule and need not be assessed in an applicant's environmental report, absent new and significant information.

Some of the comments in Attachment 2 recommend that NRC rely on decisions of federal and state agencies in considering the impacts of license renewal on the environment. Agency decisions relevant to regulatory requirements such as the Clean Water Act, the Clean Air Act, and other environmental regulations, and documented in permits and authorizations, are based on a thorough site-specific analysis of potential impacts to ensure maintenance of the chemical, physical and biological integrity of the environment. Nuclear plants are required to operate in compliance with all permits, which are renewed on a periodic basis and are subject to regulatory and public scrutiny. Although 10 CFR 51 implies that compliance with environmental quality standards and regulations is not a substitute for and does not negate the requirement to weigh all environmental effects, NEI believes it would not be efficient for NRC to duplicate the thorough, site-specific analyses performed by other regulatory agencies, equivalent to that performed by the NRC, as documented in permits and authorizations issued by those agencies.

Attachment 3 provides comments on draft regulatory guide DG-4015. The comments contain a number of suggestions for enhancing the clarity and internal consistency of the guide, as well as recommendations intended to improve the efficiency of the process for preparing, submitting and reviewing an applicant's environmental report.

Attachment 4 provides detailed comments on the draft updated GEIS, including recommended substantive changes, suggested clarifications and factual corrections, and editorial comments.

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In total, the changes being proposed to the rule, regulatory guide, and GEIS (as well as concurrent changes being made to the standard review plan for license renewal) are extensive and significant in terms of how the proposed changes will affect the preparation, submittal, docketing, and review of future license renewal applications. Therefore, it is important for the industry that the effective date of the final rule, when issued, provide adequate time and flexibility such that licensees who have substantially completed the research, reviews, and analyses necessary to develop a license renewal application will not be unduly impacted by having to revisit and supplement completed work, thereby resulting in the applicant having to significantly revise and restructure the application.

Throughout the extensive regulatory process for review and completion of 59 license renewal applications for nuclear power plants to date, no impact on the environment has been found unreasonable as it relates to preserving the option of license renewal for energy planning decision-makers. Accordingly, we view the proposed changes (taking into account the comments in our two letters and provided at the NRC public meetings) as refinements and enhancements that should improve the transparency, efficiency and practicality of the license renewal regulatory process – not as changes that are necessary to correct deficiencies in the regulatory framework or to assure adequate protection of public health and the environment. With that understanding, we suggest that the NRC allow licensees that submit license renewal applications within 18 months following the effective date of the new rule to not have to comply with the new rule – i.e., such licensees should have the option of having their application docketed, reviewed and completed under the current rule.

We appreciate the opportunity to provide our comments on the proposed rule, draft regulatory guide, and draft updated GEIS. Due to the extensive nature and unavoidable overlap in our comments (given that the proposed changes cover three layers of regulatory documents), we would like to meet with NRC staff to discuss the comments and help confirm understanding of their scope and intent. We suggest that such a meeting should occur after the NRC staff has been able to review all of the stakeholder comments on the proposed changes.

If you have any questions regarding our comments, please contact me at 202.739.8111; [rla@nei.org](mailto:rla@nei.org).

Sincerely,



Ralph L. Andersen

Attachments

c: Rulemaking and Directives Branch, Division of Administrative Services, NRC  
Mr. Michael T. Lesar, ADM/DAS/RDB, NRC

**Nuclear Energy Institute**  
**Comments on U.S. Nuclear Regulatory Commission**  
**Proposed Category 1 and 2 Issues**

Comments and supporting justifications recommending changes to the Nuclear Regulatory Commission's (NRC) conclusions regarding designation of issues defined in the draft updated GEIS and the proposed 10 CFR 51, Appendix B, Table B-1 as Category 1 or 2 are contained in this document. These comments are categorized as follows:

- Re-classification of Category 2 Issues to Category 1
- Removal of Category 1 Issues from the Scope of 10 CFR 51

## **A. Re-classification of Category 2 Issues to Category 1**

### **1. Air quality (non-attainment and maintenance areas) impacts**

The U.S. Environmental Protection Agency (EPA) establishes national ambient air quality standards (NAAQS) pursuant to the Clean Air Act (CAA) and requires States to develop State Implementation Plans (SIPs) that contain emission limits and other measures, such as offsetting emission reductions, to assure compliance with NAAQS. Industrial facilities, such as nuclear power plants, must comply with the enforceable requirements contained in SIPs. As noted in the draft updated GEIS, primary NAAQS specify maximum ambient (outdoor air) concentration levels of the criteria pollutants with the aim of protecting public health with an adequate margin of safety. Secondary NAAQS specify maximum concentration levels with the aim of protecting public welfare. Thus, the federal NAAQS (and State standards where established) protect human health and the public welfare. The SIPs establish each state's plan to ensure the NAAQS and state goals are met, which, in turn, provides assurance that state and local air quality is protective of public health and welfare. Individual nuclear plant air permits are issued by the EPA and/or the state to assure compliance with NAAQS, state air quality standards, and SIPs for each area, including those locales that are in non-attainment or maintenance areas. The NRC would meet the goals of NEPA by verifying compliance of facilities seeking license renewal with these CAA programs.

Under the CAA, construction and operating permits, as well as reviews of new stationary sources and major modifications to existing sources, are required. Emission limits or other measures stipulated in permits are established to be protective of human health and welfare, and the environment. For example, for a facility located in a non-attainment area, the regulating agency may require the facility to install technology that limits emissions, or to implement best management practices, or to obtain emission credits, or to limit operational time associated with the emission sources in order to meet established air quality standards. Although the CAA requires the NRC to ensure that their actions conform to SIPs, this obligation is *de facto* met since all nuclear licensees are required to comply with federal and state CAA regulations and associated permits.

In the 1996 GEIS, a bounding analysis assuming 2300 vehicles for refurbishment activities was presented that concluded the emissions from 2300 vehicles may exceed the thresholds for carbon monoxide, oxides of nitrogen, particulate matter less than 10  $\mu\text{m}$ , and volatile organic compounds in nonattainment and maintenance areas. This analysis forms an upper bound of potential emissions because some workers would carpool to the refurbishment sites, and if the proposed refurbishment activities were not occurring, others would be driving to other construction sites. Based on lessons learned and knowledge gained during previous license renewal reviews as stated in Section 1.10 of the draft updated GEIS, the issue of air quality from refurbishment activities should be classified as Category 1. This is further supported by the Beaver Valley (Supplement 36), Three Mile Island (Supplement 37) and Indian Point (Supplement 38) Supplemental Environmental Impact Statements, all of which are located in nonattainment counties as shown in Table D.2-2 of the draft updated GEIS, where the NRC concluded that impacts would be SMALL, with emissions associated with refurbishment activities being well below regulatory conformity thresholds specified in 40 CFR 51.853(b)(1) and 40 CFR 51.853(b)(2). The air quality impacts associated with refurbishment activities for plants located in attainment areas would also be SMALL.

For plants that require refurbishment for license renewal, site specific analyses will be considered. As noted above, under the CAA, construction permits, as well as reviews of new stationary sources and major modifications to existing sources, are required. Refurbishment activities will be temporary in nature, with increased emissions having no credible potential for a significant long-term impact on human health and welfare or the environment. Potential adverse impacts are easily foreseeable on a generic basis – with the key issues being increased vehicle emissions due to materials transported to and from the site, and refurbishment workers transportation to the site each day. Although previous license renewal experience has shown SMALL impacts, possible mitigation measures are also easily addressed on a generic basis for this temporary increase in site workers – staggered shifts to minimize spikes of emissions, and/or applicant use of buses and car pools to minimize the emissions of individual workers. In some cases, refurbishment construction activities could result in temporary increases in dust emissions that would be controlled by best management practices and other control measures specified in the air quality permit. Therefore, air quality issues associated with refurbishment are subject to federal or state requirements that would be coordinated between the site and air quality permitting agency, with appropriate controls implemented to ensure a SMALL impact.

The air quality impact of plant operations in the current licensing period was evaluated during the original licensing process for each plant. The impact of continuing operations has been re-evaluated with each renewal of air quality permits for each nuclear plant, including those in attainment, non-attainment or maintenance areas, and will continue to be evaluated considering any applicable new air quality standards.

A single determination of SMALL impact is appropriate for continued operations for all plants because it has been shown that current operational impacts neither alter nor destabilize air quality. Classifying this issue as Category 1 is further substantiated on Page 3-47 (Lines 4 - 7) of the draft updated GEIS where air quality impacts as a result of equipment and cooling tower operations at Hope Creek were evaluated. It was concluded and the regulating agency concurred that even in the worst case situation, the air quality impacts would be considered small, at least in part because of the fact that licensees would be required to operate within State permit requirements.

In several places throughout the draft updated GEIS, the NRC relies on the existence of and widespread facility compliance with regulatory controls to help justify classifying issues associated with radiation or radioactive releases as Category 1 issues (i.e., Human Health, Solid Waste Management, Uranium Fuel Cycle), or to support a conclusion that impacts associated with such issues would be SMALL. The same justification is applicable to air quality impacts since the permittee must comply with emission limits and regulatory controls. Hence, compliance with the permits and regulations ensures that impacts to air quality are SMALL.

In conclusion, the air quality issue meets the Category 1 criteria discussed on Page S-5 of the draft updated GEIS since:

- Environmental impacts associated with the air quality issue apply to all plants.
- A single significance level (SMALL) can be assigned to the impacts.
- Mitigation of adverse impacts associated with the air quality issue, if needed, would be placed in the Air Permit and re-evaluated during the permit renewal cycle by the permitting agency.

2. Thermal impacts on aquatic organisms (plants with once-through cooling systems or cooling ponds)

Section 4.6.1.2 of the draft updated GEIS analyzes various factors of potential impacts related to thermal discharges from different cooling systems (pages 4-88 through 4-96). Included are analyses of heat shock (for plants with once-through cooling and cooling pond heat dissipation systems), cold shock (for all plants), thermal plume barrier to migrating fish (for all plants), distribution of aquatic organisms (for all plants), and premature emergence of aquatic insects (for all plants), which were each evaluated as a separate issue in the 1996 GEIS. The draft updated GEIS concludes in Section 4.6.1.2 on page 4-91 (lines 26 - 30) that the impacts of thermal discharges from plants with once-through cooling systems or cooling ponds are a Category 2 issue because the magnitude of the impacts would depend on plant-specific characteristics of the cooling system and characteristics of the aquatic resource. As discussed below and in the draft updated GEIS, these plant-specific characteristics have been evaluated and are managed to assure that thermal impacts from nuclear plants are SMALL.

The draft updated GEIS (page 4-88, lines 36-38) cites York et al. (2005)<sup>1</sup> as the basis to assert that the thermal discharges from the San Onofre and Diablo Canyon plants in California have had significant impacts on aquatic habitats. The draft updated GEIS concludes without any plant-specific data or further analysis, that since neither of these plants has requested renewal of their operating licenses as of this date<sup>2</sup>, "...thermal discharges **could** be a concern .." (emphasis added) and, ultimately, that there may be plants with specific characteristics that require this issue to be classified as Category 2. In fact, the York et al. study specifically states on page 66 of Appendix A of the report that Southern California Edison (SCE) meets the thermal requirements of its NPDES permits for environmental limits. Consistent with the NRC's conclusion that the impacts attributable to radioactive releases below regulatory limits are small, the fact that SCE is complying with the thermal limits in its NPDES permits supports the GEIS statement (page 4-88, lines 25-26) that the impacts are SMALL and that thermal discharge on aquatic organisms should be classified as a Category 1 issue.

SCE owns and operates the San Onofre Nuclear Generating Station (SONGS) power plant located on the Pacific Coast in northern San Diego County. SONGS consists of two active units, each discharging approximately 1,200 million gallons per day of slightly heated sea water to the Pacific Ocean. The two active units employ once-through cooling water systems, withdrawing cooling water from the Pacific Ocean through each unit's approximately 3,200 feet long intake conduit and discharging it to the ocean through separate (unit-specific) discharge conduits that are just beneath the ocean substrate. The Unit 2 discharge conduit is approximately 8,400 feet (2,500 meters) long in approximately 45 feet (15 meters) depth and the Unit 3 discharge conduit is approximately 6,100 feet (1,800 meters) long in about 35 feet (12 meters) depth. The last (farthest offshore) 2,500 feet (762 meters) of each discharge conduit, is equipped with 63 diffuser ports, evenly spaced at 40-foot (12.2-meter) intervals, and angled away from the ocean floor to minimize thermal impacts on the marine environment. The diffusers are placed such that sensitive near-shore marine habitat, especially intertidal

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<sup>1</sup> Editorial note: the reference in the draft updated GEIS is incorrect. The reference should be: <http://www.energy.ca.gov/2005publications/CEC-700-2005-013/>

<sup>2</sup> PG&E submitted its license renewal application on November 23, 2009 for Diablo Canyon Power Plant.

and shallow sub-tidal habitat, will not be affected by the warm water from the discharge. [SWRCB 1999]<sup>3</sup>

Independent monitoring by the Marine Review Committee under the auspices of the California Coastal Commission and by SCE during start-up of Units 2 and 3 showed the highest temperature detected in the environment to be approximately 4°F above ambient temperatures at 1,000 feet (305 meters) from the discharge structure.

The Thermal Plan and the SONGS current discharge permits require that the effluent from SONGS Units 2 and 3 not exceed the receiving water temperature by more than 25°F. In May 1997, the San Diego Regional Water Quality Control Board (SDRWQCB) granted SCE an exception to a 20°F differential from receiving water temperature limitation that would allow discharges from Units 2 and 3 to exceed the receiving water temperature by no more than 25°F. [SWRCB 1999]

In its April 1999 resolution on the request, the (California) State Water Resources Control Board determined that "*SCE has provided information which demonstrates that the proposed limitation will protect and maintain balanced indigenous communities in the vicinity of the SONGS discharges based on a number of considerations:*

- *There is no evidence of adverse impacts caused by the thermal component of the discharge*
- *Effects due to the proposed increase in temperature will be minimal because the discharge structures are designed and placed such that sensitive near shore marine habitat, especially intertidal and shallow sub-tidal habitat, will not be affected by heat from the discharge. Further, thermal plume modeling of the new discharge conditions as reported in SDRWQCB's Initial Study shows clearly that permit requirements will not be violated as a result of the requested permit modification, and that thermal impacts on the sensitive kelp bed environment will be insignificant."* [SWRCB 1999]

The Regional Water Quality Control Board, San Diego Region concluded, and continues to conclude, that SCE meets NPDES limits for thermal impacts in the marine environment.

As such, there has been no measurable impact due to thermal discharges and the state agency has not required any mitigation measures. Hence, the experience at SONGS does not support the NRC's assertion that thermal discharges could result in MODERATE OR LARGE impacts during the license renewal term for plants with once-through cooling systems.

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the Nation's water" as already stated by the NRC on page F-4 (lines 12 – 14) of the draft updated GEIS. As part of the implementation of the CWA, the EPA established a National Pollutant Discharge Elimination System (NPDES) permitting program as described in 40 CFR Part 122 to ensure that the discharge of pollutants such as chlorine, metals, biocides, and thermal heat are regulated to ensure that the chemical, physical and biological integrity of the Nation's water is maintained.

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<sup>3</sup> SWRCB (State Water Resources Control Board) 1999. California State Water Resources Control Board Resolution No. 99 – 028, Approval Of The San Diego Regional Water Quality Control Board's Adoption Of An Exception To The California State Thermal Plan (Thermal Plan) For San Onofre Nuclear Generating Station (SONGS). April 14, 1999

Permit conditions are based on two criteria: (1) The State's water quality standards, which set minimum standards for the ambient quality of water in surface water bodies, and (2) technological standards, such as "best available technology (BAT)," which create a floor of technology that must be applied to any discharge of a certain industrial type. In regard to thermal heat, effluent limitations are established by the permitting agency based either on state and/or water body specific water quality standards or on limitations that the agency has determined will assure measures necessary for the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is made ("balanced indigenous population"). When determining thermal limitations that will be protective of the plant-specific surface waters, CORMIX modeling studies, specific-site information, or other related thermal monitoring studies are used by the permitting agency for discharge specific evaluation.

Pursuant to federal regulation, NPDES permits may not allow a discharge that causes or contributes to a violation in water quality standards or that, in the case of a thermal discharge, impairs the balanced indigenous population. It should be noted that permitting agencies evaluate thermal heat discharges associated with all nuclear plant facilities (once-through cooling, closed-cycle cooling and cooling ponds) during the initial permitting cycle and on a five year renewal basis thereafter. Discharge specific evaluations are developed during each renewal cycle to establish effluent limitations that assure the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is made. For example, Grand Gulf Nuclear Station, a closed-cycle cooling plant, was required to conduct extensive thermal monitoring studies during the operational phase and is currently required to conduct a thermal monitoring study during each permit renewal cycle to ensure that the thermal discharge does not impact the physical, chemical or biological integrity of the Mississippi River.

In addition, as stated in Section 1.7.1 of the draft updated GEIS, the NRC properly defers to the EPA or the State for setting effluent and operational parameters in plant-specific NPDES permits to meet water quality standards that have been established to be protective of the aquatic environment and its beneficial uses. Language consistent with this statement also appears in the Environmental Protection Plans for new and existing nuclear plants.

Industry submits that the statements in the updated draft GEIS that are discussed above, along with other statements in the updated draft GEIS cited below, demonstrate that the NPDES permitting program and oversight from the NPDES permitting agencies ensures that impacts from thermal heat and other effluents from nuclear plants seeking license renewal will be SMALL and that the issue should be categorized as Category 1.

- **Page 3-132 (Lines 3 - 6):** Impacts of chemical discharges to human health are considered to be small if the discharges of chemicals to water bodies are within effluent limitations designed to ensure protection of water quality and if ongoing discharges have not resulted in adverse effects on aquatic biota.
- **Page 4-35: (Lines 37 - 41):** Because of State regulatory involvement, and because regulatory and resource agencies have not found significant problems with outfall monitoring, the impacts from the discharge of chlorine and other biocides and minor spills of sanitary wastes and chemicals during license renewal and refurbishment

were considered to be small for all plants and designated as Category 1 issues in the 1996 GEIS.

- **Page 4-142 (Lines 12 - 13):** Discharges of sanitary wastes are regulated by NPDES permit, and discharges that do not violate the permit limits are considered to be of small significance.
- **Page 4-221 (Lines 18 - 22):** For some resource areas (e.g., water and aquatic resources), the contributions of ongoing actions within a region on cumulative impacts are regulated and monitored through a permitting process (e.g., NPDES) under State or Federal authority. In these cases, it may be assumed that cumulative impacts are managed as long as these actions (facilities) are in compliance with their respective permits.
- **Page A-12 (Lines 36 - 40):** The amount of the water discharged by each individual plant and the chemical levels in that water are determined by individual States through the National Pollutant Discharge Elimination System permitting program, not the NRC. The licensee is required by the NRC to operate in compliance with all its permits, therefore minimizing the impacts to the environment.

For the four Category 1 issues in the 1996 GEIS — “Cold shock (for all plants),” “Thermal plume barrier to migrating fish (for all plants),” “Distribution of aquatic organisms (for all plants),” and “Premature emergence of aquatic insects (for all plants)” — that have been consolidated with “Heat shock (plants with once-through and cooling pond heat dissipation systems)” in the draft updated GEIS to form the issue of “Thermal impacts on aquatic organisms (plants with once-through and cooling pond heat dissipation systems)”, there is inadequate justification in the GEIS to require site-specific analyses in supplemental EISs. These issues should continue to be resolved generically for all plants as Category 1 issues.

In conclusion, the NPDES permitting process established under the Clean Water Act requires that the permitting agency issue a permit that assures the protection and propagation of a balanced, indigenous community of shellfish, fish and wildlife in and on the body of water into which the discharge is made. Therefore, the issue of thermal impacts on aquatic organisms (plants with once-through cooling systems or cooling ponds) should be classified as Category 1, consistent with the criteria discussed on Page S-5 of the draft updated GEIS:

- Environmental impacts associated with the thermal issue apply to all plants.
- A single significance level (SMALL) can be assigned to the impacts.
- Mitigation of adverse impacts associated with the thermal issue, if needed, would be placed in the NPDES Permit and re-evaluated every five years during the permit renewal cycle by the permitting agency.

### 3. Radionuclides released to groundwater

The issue of "Radionuclides released to groundwater" was not addressed in the 1996 GEIS, but was added to the draft updated GEIS based on industry events in which an unplanned or unmonitored release of radioactive liquids to the environment has resulted in low but detectable levels of radionuclides in groundwater. In all but one instance, the contamination remained on-site, and all of the events were well below regulatory limits. None of the inadvertent releases presented an impact on public health, safety, or the environment.

Industry submits that sufficient data are available to classify the issue of radionuclides released to groundwater as Category 1. This is supported by the following statement from the NRC's Liquid Release Lessons Learned Task Force Final Report issued on Sept. 1, 2006: "*Although there have been a number of industry events where radioactive liquid was released to the environment in an unplanned and unmonitored fashion, based on the data available, the task force did not identify any instances where the health of the public was impacted.*"

As a result of the industry events, the nuclear industry voluntarily implemented the industry-wide Ground Water Protection Initiative (*Industry Ground Water Protection Initiative – Final Guidance Document: NEI 07-07 [Final]*, 2007) to ensure timely detection and effective response to situations involving inadvertent radiological releases to groundwater and to enhance licensee communications with their stakeholders about these situations. The early detection of contamination, typically through on-site monitoring wells, allows licensees to take actions as necessary to prevent the off-site migration of licensed radioactive material. This voluntary initiative assists the industry in implementing programs for early detection and allows the industry to effectively mitigate releases, once they occur, to be protective of drinking water supplies and associated human health. The NRC is in the process of reviewing licensees' implementation of the industry-wide Ground Water Protection Initiative as part of its radiation protection program oversight (refer to NRC Inspection Manual – Temporary Instruction 2515/173). On-site groundwater monitoring data are reported to the NRC in either the Annual Radioactive Effluent Release or Annual Radiological Environmental Operating Reports.

Considering the information presented above, it is recommended that the revised GEIS develop a generic impact analysis based on the following:

- Impacts of radioactive material releases to groundwater can be adequately and appropriately addressed for all nuclear power plants in the updated GEIS by describing the process by which an inadvertent release of radiological material to groundwater is already being dealt with at all nuclear plants through the licensee's implementation of the Industry Ground Water Protection Initiative and ongoing Offsite Dose Calculation Manual updates, Annual Radioactive Effluent Release Reports, Annual Radiological Environmental Operating Reports, and NRC oversight. Licensee implementation programs include periodic reviews of the site's potential vulnerability for an inadvertent leak to occur due to equipment failure or human error, an understanding of the site's hydrology and geology, early detection through ground water monitoring, and reporting of the data to the NRC.

- For those instances when a release of radioactive material to groundwater does occur at a nuclear power plant, a site-specific assessment is performed in accordance with the plant's groundwater protection program. Such assessments address site-specific conditions, including site-specific contaminants and potential receptors, and necessary actions to prevent off-site migration. Accordingly, the generic impact analysis should acknowledge that, regardless of whether the NRC renews licenses for nuclear power plants, existing regulations and performance standards already ensure that the environmental impacts are assessed in the event of a radioactive material spill or leak to groundwater or soil. Examples of such existing regulations and standards are listed below:
  1. NEI 07-07 (Industry Groundwater Protection Initiative) guidance document.
  2. Revisions to Regulatory Guide 4.1 (Radiological Environmental Monitoring Programs)
  3. NRC Inspection Manual – Temporary Instruction 2515/173
  4. Revisions to Regulatory Guide 4.21 (Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning)
  5. Revisions to Regulatory Guide 1.21 (Measuring, Evaluating and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste)
  6. EPRI Report 1016099 "Groundwater Protection Guidelines for Nuclear Power Plants" 2008

The above-described level of controls now imposed on unplanned or unmonitored releases of radionuclides to the environment from nuclear power plants and the NRC's regulatory oversight justifies a conclusion that impacts from the issue "Radionuclides released to groundwater" would be SMALL, and that the issue designation should be changed from "Category 2" to "Category 1." These changes would be consistent with the NRC's approach of designating as "Category 1" other issues that are generically evaluated in the updated GEIS and found to have small impacts as a result of monitoring and regulatory controls. Examples include storage and disposal of low-level radiological waste, spent fuel, high-level waste, and mixed waste. For these issues, the GEIS relies on regulatory controls and permissible levels, which are outlined in regulations and implemented by the nuclear industry through operational monitoring programs, to conclude that impacts associated with each issue would be SMALL for all plants, and hence, that the issues are classified as "Category 1."

#### 4. Groundwater and soil contamination impacts

Groundwater or soil chemical contamination from industrial practices is addressed by EPA and state regulations that evaluate the impacts on the appropriate receptors. Generally, use, storage, disposal, release, and/or cleanup of solvents, hydrocarbons, and other potentially hazardous materials are governed by the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Toxic Substances Control Act (TSCA), Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Clean Water Act (CWA). The federal and State regulations implementing these laws protect groundwater, surface water, human health and the environment by imposing standards for hazardous materials management, including monitoring for spills and releases, reporting of monitoring results, and corrective action. The applicability of these regulatory protections to nuclear plants is independent of whether the nuclear plants are granted license renewals, and releases of hazardous materials will be addressed and remediated when they occur, regardless of whether the NRC grants a renewed operating license. Thus, the impacts from this issue are similar to plant decommissioning, where the NRC has noted that the impacts of decommissioning would occur regardless of license renewal. Appropriate environmental and health and safety reviews would occur under NRC, EPA, and State regulations, as necessary. Furthermore, best management practices would be used to reduce the probability of events that could affect groundwater quality during the current and extended license terms.

For Category 1 issues associated with the Surface Water resource, the NRC relies on best management practices employed to control spills, and discharges of metals and other chemicals being monitored in accordance with the NPDES Permit to ensure that impacts remain SMALL. These same practices and permits also apply to this issue since wastewater discharges (i.e., surface impoundments, ponds, lagoons, etc.) and associated chemical concentrations are monitored and governed in accordance with the NPDES Permit, and best management practices along with regulatory reporting and cleanup measures contained in the Spill Prevention, Control and Countermeasures Plan and the Stormwater Pollution Prevention Plan ensures that any impacts would be SMALL. This is consistent with the NRC's SMALL cumulative groundwater quality impact SEIS (Section 4.8.5) determination for Oyster Creek and Palisades which are the two of the reference plants discussed in Sections 3.5.2 (Page 3-56) and 4.5.1.2 (4-45 and 4-46) of the draft updated GEIS.

In addition, groundwater monitoring of potential releases from surface impoundments, ponds, and lagoons are required by existing EPA and State regulatory requirements – CWA and RCRA. Site specific environmental review is already conducted in the event of spills to groundwater or soil under existing federal EPA and State RCRA based regulations for solvents, hydrocarbons, heavy metals, or other chemicals. When a release occurs, appropriate site-specific environmental review is completed in accordance with EPA and/or state regulations that adequately addresses not only site-specific conditions, but also includes contaminant specific fate and transport, and applicable potential groundwater and surface water receptors. Associated remediation (i.e., mitigation) and disposal would also be subject to a site-specific environmental review which would either be governed by regulations, permits, and/or plans that have been established to ensure that impacts are minimized. Therefore, assessing impacts under NEPA would be a redundant

effort since the contamination issue would be reviewed and appropriate mitigation measures implemented to minimize impacts regardless of license renewal.

- On the basis of the considerations mentioned above, the issue of "Groundwater and Soil Contamination" should be changed from Category 2 to Category 1.

## **B. Removal of Category 1 Issues from the Scope of 10 CFR 51**

1. Seismic discussion for Geology and Soils (draft updated GEIS pages S-6, 3-50, 4-25, 4-28, 4-29 & 7-37) and Regulatory Guide 4.2 (Section 3.4)

Although the industry understands the NRC's "environmental resource" approach, consideration of seismic in the geology and soils Category 1 issue is unnecessary since this program unmistakably falls under the Title 10, Part 50 of the Code of Federal Regulations (10 CFR Part 50), "Domestic Licensing of Production and Utilization Facilities: and not Title 10, Part 51 of the Code of Federal Regulations (10 CFR Part 51), "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions".

More specifically, Design Bases for Protection Against Natural Phenomena," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR 50, requires that nuclear power plant structures, systems, and components (SSCs) important to safety must be designed to withstand the effects of natural phenomena such as earthquakes and geologic hazards, without loss of capability to perform their safety functions. Strong vibratory ground shaking, or possible ground failure triggered by seismic shaking, may pose an unacceptable risk to the continued operability of safety related SSCs. 10 CFR 100, Section 100.23, "Geologic and Seismic Siting Criteria" defines criteria for evaluating the suitability of a proposed site based on consideration of geologic, geotechnical, geophysical, and seismic characteristics of the proposed site.

In addition, Appendix S, "Earthquake Engineering Criteria for Nuclear Power Plants," to 10 CFR Part 50, requires that all nuclear power plants be designed so that certain SSCs remain functional if the ground motion from a safe-shutdown earthquake (SSE) occurs. These plant features are necessary to ensure (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shut down the reactor and maintain it in a safe shutdown condition, or (3) the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the guideline exposures of 10 CFR 50.34(a)(1) or 10 CFR 100.11. SSE is defined for evaluation of the possible level of ground shaking based on evaluation of potential earthquake sources, past documented earthquakes, and site characteristics. The safety-related SSCs must be able to remain functional under the site-specific SSE level of ground shaking. Requirements associated with 10 CFR 50 and 10 CFR 100 are incorporated into the plant design and include engineering practices such as "safety margins" in design, construction, and operations. In addition to existing nuclear plants having active seismic monitoring programs and associated licensing requirements, NRC ensures these requirements are satisfied through the licensing, reactor oversight, and enforcement processes.

Therefore, including seismic consideration as one of the criteria in the geology and soils Category 1 issue is unnecessary because evaluation of seismic hazard is already a requirement for initial plant licensing per 10 CFR 50, "Domestic Licensing of Production and Utilization Facilities". The federal action of renewing an operating license does not change the seismic hazard. The ongoing regulatory process addresses changes in seismic hazards independent of the age or operating term of nuclear facilities. For example, Regulatory Guide 1.165, "Identification and Characterization of Seismic Sources and Determination of Safe Shutdown Earthquake Ground Motion", and Generic Issues (i.e., GI-199, "Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States") are products of the regulatory process that address consideration of seismic hazards. Therefore, seismology should be removed from the geology and soils issue since this program cannot logically be analyzed as new and significant information based on continual NRC oversight.

2. Physical occupational hazards (draft updated GEIS Pages S-16, 2-14, 4-150, 4-151, 4-206, 4-209)

The issue of "Physical occupational hazards" was not addressed in the 1996 GEIS and was not raised in any scoping comment received by the NRC during the public scoping process for the updated GEIS (see draft updated GEIS, Volume 2, Appendix A). Industry recognizes that NEPA imposes several obligations on federal agencies regarding the scope of an environmental impact statement. However, the NRC and Council on Environmental Quality (CEQ) NEPA regulations and guidance contain no indication that an NRC EIS must address human health hazards, such as physical occupational hazards, that are controlled by the Occupational Safety and Health Act (29 U.S.C. 651 et seq.) as implemented by the Occupational Safety and Health Administration (OSHA) pursuant to the 1988 Memorandum of Understanding between NRC and OSHA regarding worker protection at facilities licensed by the NRC. Hazards of this type are not unique to nuclear power plants. Rather, they occur in all types of industrial and commercial business facilities where they are similarly controlled by the OSHA. Accordingly, evaluating these hazards in the updated GEIS is unnecessary and requiring nuclear power plant license renewal applicants to conduct reviews of whether new and significant information concerning these hazards exists at their plants would waste resources. For this reason, the issue of "Physical occupational hazards" should be deleted from the issues listed in Table B-1 of Appendix B in the updated GEIS (Volume 2) and Table B-1 in 10 CFR 51, Appendix B.

**Comments on Proposed Rulemaking to 10 CFR 51 (Consolidated)**

Section	Page	Comment
General Comment-- ---	----	The final rule should specify for all Category 1 and 2 issues involving transmission lines, that only those transmission lines currently needed to connect the nuclear power plants to the regional electrical distribution grid are considered in scope for purposes of the license renewal environmental review.
General Comment		The format used by the NRC in presenting the environmental issues in Table B-1 of the proposed rule appears to imply that some issues previously classified as Category 1 are being reclassified as Category 2 due solely to their aggregation with other Category 2 issues. It is our understanding that this was not the intent in the proposed rule and therefore we recommend that NRC expand the detail in the table to make clear that issues previously classified as Category 1 will retain that classification in the new final rule.
V (v)(8)	38121, col. 2	<p><i>Impacts of Nuclear Plants on Geology and Soils</i> – The first two sentences in this section of the <i>Federal Register</i> notice states that the proposed language adds a new Category 1 issue, “Impacts of nuclear plants on geology and soils,” as a result of which license renewal applicants will need to determine if there is new and significant information in regard to regional or local seismology. New seismological conditions are said to be limited to the identification of previously unknown geologic faults and are expected to be rare.</p> <p>The NRC should remove the seismology component from the issue of “Impacts of nuclear plants on geology and soils.” While seismology is a geologic attribute of a power plant site that influences the design of plant structures and control mechanisms to withstand events of nature, it is not a resource that is impacted by plant refurbishment and operations during the extended term of operation resulting from license renewal. Hence, any consideration of seismology should occur pursuant to 10 CFR Part 50 rather than in the environmental report for license renewal pursuant to 10 CFR Part 51.</p> <p>Furthermore, as already discussed in Section IV of this proposed Rule regarding Category 1 issues, it is understood that applicants are required to describe in their environmental reports any “new and significant information” of which they are aware as it relates to these issues in accordance with 10CFR51.53(c)(3)(iv). Therefore, it is unnecessary and inconsistent with the manner in which other Category 1 issues are formulated to specifically single out “seismology” in this Category 1 issue as requiring a new and significant information determination.</p>
V(vii)(27)	38122, col. 3	<p>Item (27) Groundwater and Soil Contamination, is added as a new Category 2 issue. This issue should be a Category 1 issue based on the acknowledged authority of State and EPA regulators.</p> <p>As a general comment on Groundwater and Soil Contamination, it does not appear that the NRC considered that (1) there has to be current or planned remediation activities occurring in order to have an impact that can be</p>

Section	Page	Comment
		assessed, (2) contamination is <u>regulated</u> at the State and/or EPA level, as stated in the last sentence associated with this issue, (3) programs for handling waste and hazardous materials is <u>generic</u> to all plants as determined in the draft updated GEIS Issue 72 (Nonradioactive waste storage and disposal) which states that "facilities and procedures are in place to ensure continued proper handling, storage, and disposal, as well as negligible exposure to toxic materials for the public and the environment at all plants", and (4) draft updated GEIS Category 1 Issue 25 (Plants with cooling ponds in salt marshes) has already generically determined that ponds located in salt marshes are not expected to degrade groundwater quality.
V(vii)(31)	38123	Draft updated GEIS Issue 31 involves cooling system impacts on terrestrial resources as it relates to plants with once-through cooling systems or cooling ponds. However, this issue would also appear to apply to plants with cooling towers since it involves several of the impacts such as contaminants in surface water.
V(ix)(37)	38124	Based on the draft updated GEIS (page 4-80, lines 38 – 40), the NRC stated that the entrainment of phytoplankton and zooplankton was evaluated in the 1996 GEIS and was categorized as a Category 1 issue for all cooling systems. Therefore, in the final rule, the NRC should clarify that the Category 1 portion (entrainment of phytoplankton and zooplankton) of the Impingement and Entrainment of Aquatic Organisms (Plants with Once-Through Cooling Systems or Cooling Ponds), need not be assessed absent new and significant information.
V (ix)(39)	38124, col. 2	<u>Thermal Impacts on Aquatic Organisms (Plants with Once-Through Cooling Systems or Cooling Ponds)</u> -- This issue should be designated as Category 1 rather than Category 2 because the provisions of Section 316(a) and the NPDES permitting process of the Clean Water Act, which is implemented at all nuclear plants by EPA and authorized State agencies, assure that thermal effects of cooling water discharges are mitigated sufficiently to protect the balance of indigenous populations of fish and shellfish at nuclear power plants, regardless of the technology used for condenser cooling. The NRC's responsibility under NEPA for independent assessment of environmental impacts should not require duplicate review of the EPA and State agency decisions in NPDES permitting actions.
V(ix)(39)	38124	Based on the draft updated GEIS (page 4-91, lines 16 - 21), the NRC considered the impacts of cold shock, interference with fish migration, distribution of aquatic organisms, and premature emergence of aquatic insects to be small for all plants (i.e., Category 1) and determined that no new information would alter those conclusions, which were also reported in the 1996 GEIS. Therefore, in the final rule, the NRC should clarify that the four Category 1 issues (cold shock, interference with fish migration, distribution of aquatic organisms, and premature emergence of aquatic insects) within the Thermal Impacts on Aquatic Organisms (Plants with Once-Through Cooling Systems or Cooling Ponds) issue need not be assessed in license renewal environmental reports absent

Section	Page	Comment
		new and significant information.
51.53(c)(3)(ii)(O)	38133	<p>Recommend the following revisions to 10CFR51.53(c)(3)(ii)(O) since: (1) the draft updated GEIS Category 1 Issue 25 (Plants with cooling ponds in salt marshes) has already generically determined that ponds located in salt marshes are not expected to degrade groundwater quality, and (2) there has to be current or planned remediation activities occurring in order to have an impact that can be assessed. In addition, the two sentences that are being proposed for deletion should be moved to the "Information and Analysis Content" section of Regulatory Guide DG-4015 since they are more content descriptive of what is to be included in the assessment.</p> <p><i>If the applicant's plant conducts industrial practices involving the use of solvents, hydrocarbons, heavy metals, or other chemicals and has unlined wastewater lagoons at an inland site, the applicant shall assess the potential for contamination of site groundwater, soil, and subsoil if there are current remediation activities occurring or if remediation activities are planned. <del>The applicant shall provide an assessment of dissolved chemical and suspended sediment discharge to the plant's wastewater lagoons in addition to National Pollutant Discharge Elimination System (NPDES) compliance data collected for submittal to the U.S. Environmental Protection Agency (EPA) or designated State agency. A summary of existing reports describing site groundwater and soil contamination should also be included.</del></i></p>
51.53(c)(3)(ii)(Q)	38133	<p>Recommend that 10CFR51.53(c)(3)(ii)(Q) be revised as indicated below since plants already have active operational monitoring programs with NRC oversight (refer to NRC Inspection Manual – Temporary Instruction 2515/173) that require assessment of releases to groundwater, appropriate mitigation measures, and reviews by the NRC via Annual Radioactive Effluent Release and Annual Radiological Environmental Operating Reports submitted by the plant.</p> <p><del>An applicant shall assess the impact of any inadvertent releases of radionuclides into groundwater. The applicant shall include in its assessment a description of the any groundwater protection program for the site, including a description of any monitoring wells, leak detection equipment, or procedures for the surveillance of accessible piping and components containing radioactive materials. The applicant should also include a summary of groundwater contamination events that are currently being monitored and mitigated. The assessment shall also include a description of any past inadvertent releases, including information on the source of the release, the location of the release within the plant site, the types of radionuclides involved, including the quantities, forms, and concentrations of such radionuclides, and the projected impact to the environment during the license renewal term, including the projected transport pathways, concentrations of the radionuclides, and potential receptors (e.g., aquifers, rivers, lakes, ponds, ocean).</del></p>
51.71(d)	38133	Recommend the following revision since it would not be efficient for NRC to duplicate the thorough, site-specific

Section	Page	Comment
		<p>analyses performed by other regulatory agencies, equivalent to that performed by the NRC, as documented in permits and authorizations issued by those agencies.</p> <p><i>For consistency with NRC's Environmental Protection Plan template for new plants, permits and regulations and associated compliance, will be utilized when determining the <del>with the environmental quality standards and requirements of the Federal Water Pollution Control Act (imposed by EPA or designated permitting states)</del> is not a substitute for, and does not negate the requirement for NRC to weigh all environmental effects of the proposed action, including the degradation, if any, of water quality, and to consider alternatives to the proposed action that are available for reducing adverse effects. Where an environmental assessment of aquatic impact from plant discharges...</i></p>
Table B-1	38134	<ol style="list-style-type: none"> <li>1. Recommend changing Table B-1 to identify "Air quality (non-attainment and maintenance areas)" as a Category 1 issue instead of Category 2.</li> <li>2. Since (1) the impact from continued plant operations and the impact from refurbishment activities would both be small for most nuclear power plants and (2) if needed, state and/or local permits would impose conditions to further mitigate the impact from emissions of concern during the short duration of refurbishment activities at particular plants, the NRC should modify the finding for the issue labeled "Air quality (non-attainment and maintenance areas)" in Table B-1 of 10 CFR Part 51, Appendix B to read as follows (<del>strikethrough font = deletion; italics font = addition</del>): <ul style="list-style-type: none"> <li><del>SMALL, moderate, or large impact. Air quality impacts of refurbishment activities associated with the license renewal term would be short-lived and cease after refurbishment projects have been completed. Such impacts are expected to be small. However, emissions during these activities could be a cause for concern at</del> <i>At locations in or near air quality nonattainment or maintenance areas, the implementation of best management practices and the issuance of new or modified conditions in state and local emissions permits that would further mitigate impacts from refurbishment emissions would assure conformance to the applicable State Implementation Plans. The significance of the impact cannot be determined without considering the compliance status of each site and the activities that could occur. These impacts would be short lived and cease after projects were completed.</i></li> <li>Emissions from testing emergency diesel generators and fire pumps and from routine operations of boilers used for space heating would not be a concern, even for those plants located in or adjacent to nonattainment areas. Although particulate emissions from cooling towers may be a concern for a very limited number of plants located in States that regulate such emissions, the impacts in even these worst-case situations have been SMALL.</li> </ul> </li> </ol>

Section	Page	Comment
Table B-1	38134	<u>Offsite Land Use in Transmission Line Rights-of-Way (ROWs)</u> – Modify Table B-1 to reflect that the draft updated GEIS indicates that the only transmission lines to be considered in license renewal NEPA reviews are those transmission lines that would not remain operable if the NRC did not renew a nuclear plant's operating license, and such transmission lines run from the plant's turbine generator building to a switching station or substation, typically located on the power plant site, from which electricity is transferred into the regional electrical grid. .
Table B-1	38135	Recommend changing "Groundwater use conflicts (plants that withdraw more than 100 gpm including those using Ranney wells)" to "Groundwater use conflicts (plants that withdraw more than 100 gpm)" since (1) the issue relates to <u>any</u> plants (including those with Ranney Wells) that withdraw >100 gpm of groundwater, (2) for the one plant (Grand Gulf) that does utilize Ranney Wells, Regulatory Guide DG-4015 (page 28) states that there has been little or no impact on surrounding groundwater users and should not be considered further in ERs for other sites, (3) it would be consistent with the draft updated GEIS issue concerning <u>groundwater</u> quality degradation associated with Ranney Wells, and (4) the Grand Gulf Ranney Wells are regulated under the State's <u>groundwater</u> permitting program.
Table B-1	38135	Recommend the following revision to the finding for the issue labeled "Groundwater and soil contamination" since the draft updated GEIS Category 1 issue labeled "Groundwater quality degradation (Plants with cooling ponds in salt marshes)" has already generically determined that ponds located in salt marshes are not expected to degrade groundwater quality.  <i>SMALL or MODERATE. Industrial practices involving the use of solvents, hydrocarbons, heavy metals, or other chemicals and unlined wastewater lagoons at inland sites have the potential to contaminate site groundwater, soil, and subsoil. Contamination is subject to State and Environmental Protection Agency regulated cleanup and monitoring programs.</i>
Table B-1	38136	<u>Transmission Line ROW Management Impacts on Terrestrial Resources</u> – Modify Table B-1 to reflect that the draft updated GEIS indicates that the only transmission lines to be considered in license renewal NEPA reviews are those transmission lines that would not remain operable if the NRC did not renew a nuclear plant's operating license, and such transmission lines run from the plant's turbine generator building to a switching station or substation, typically located on the power plant site, from which electricity is transferred into the regional electrical grid. Hence, impacts on terrestrial resources are unlikely because the onsite environments through which in-scope ROWs pass would not typically include terrestrial resources.
Table B-1	38136	<u>Electromagnetic Fields on Flora and Fauna (Plants, Agricultural Crops, Honeybees, Wildlife, Livestock)</u> – Modify Table B-1 to reflect that the draft updated GEIS indicates that the only transmission lines to be considered in license renewal NEPA reviews are those transmission lines that would not remain operable if the NRC did not renew a nuclear plant's operating license, and such transmission lines run from the plant's turbine generator

Section	Page	Comment
		building to a switching station or substation, typically located on the power plant site, from which electricity is transferred into the regional electrical grid. Hence, impacts of electromagnetic fields on flora and fauna (plants, agricultural crops, honeybees, wildlife and livestock) are unlikely because the onsite environments through which in-scope ROWs pass would not typically contain significant flora and fauna.
Table B-1	38136	<u>Impingement and Entrainment of Aquatic Organisms (Plants with Once-through Cooling Systems or Cooling Ponds)</u> – This issue should be designated as Category 1 rather than Category 2 because the provisions of Section 316(b) of the Clean Water Act, which is implemented at all nuclear plants by EPA and authorized State agencies, assure that the effects of impingement and entrainment are mitigated sufficiently to protect the balance of indigenous populations of fish and shellfish at nuclear power plants, regardless of the technology used for condenser cooling. The NRC’s responsibility under NEPA for independent assessment of environmental impacts should not require duplicate review of the EPA and State agency decisions in NPDES permitting actions.
Table B-1	38137	<u>Impacts of Transmission Line ROW Management on Aquatic Resources</u> - Modify Table B-1 to reflect that the draft updated GEIS indicates that the only transmission lines to be considered in license renewal NEPA reviews are those lines that would not remain operable if the NRC did not renew a nuclear plant’s operating license, and such transmission lines run from the plant’s turbine generator building to a switching station or substation, typically located on the power plant site, from which electricity is transferred into the regional electrical grid. Hence, impacts on aquatic resources are unlikely because the onsite environments through which in-scope ROWs pass would not typically include aquatic resources.
Table B-1	38137	<u>Historic and Cultural Resources</u> – Delete the words “and in the transmission line ROW” from this entry in Table B-1 because the draft updated GEIS indicates that the only transmission lines to be considered in NEPA reviews are those transmission lines that would not remain operable if the NRC did not renew a nuclear plant’s operating license, and such transmission lines run from the plant’s turbine generator building to a switching station or substation, typically located on the power plant site, from which electricity is transferred into the regional electrical grid. Hence, impacts on historical and cultural resources as a result of ROW operations and maintenance during the extended term of the plant’s operation are unlikely because the onsite environments through which in-scope ROWs pass would have typically already been disturbed.
Table B-1	38138	Environmental Impact due to Electric Shock Hazards should be limited to those transmission lines that are considered in-scope under the revised regulations  The NRC should modify the text in Table B-1 of 10 CFR 51, Appendix B in for the issue labeled “Electric shock hazards” to read as follows ( <del>strikethrough</del> font = deletion; <i>italics</i> font = addition): SMALL, MODERATE, or LARGE impact. Electrical shock potential is of small significance for transmission

Section	Page	Comment
		<p>lines that are operated in adherence with the National Electrical Safety Code (NESC). Without a review of each nuclear plant transmission line conformance with NESC criteria for each transmission line that connects a particular nuclear power plant to the switching station required to transfer power from the plant to the offsite network of power lines, it is not possible to determine the significance of the electrical shock potential for those transmission lines.</p> <p>Conforming changes should be made to the Generic Environmental Impact Statement, Regulatory Guide, and SRP.</p>

## Rulemaking Comments

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**From:** HAYES, Richiey [slh@nei.org] on behalf of ANDERSEN, Ralph [rla@nei.org]  
**Sent:** Tuesday, January 12, 2010 3:34 PM  
**Subject:** Comments on Environmental Review for LR of NPP Operating Licenses  
**Attachments:** 01-12-10\_NRC\_Comments on Environmental Review for LR of NPP Operating Licenses.pdf; 01-12-10\_NRC\_Comments on Environmental Review for LR of NPP Operating Licenses - Cat 1-2\_Attachment 1.pdf; 01-12-10\_NRC\_Comments on Environmental Review for LR of NPP Operating Licenses - 10CFR51\_Attachment 2.pdf; 01-12-10\_NRC\_Comments on Environmental Review for LR of NPP Operating Licenses - DG-4015\_Attachment 3.pdf; 01-12-10\_NRC\_Comments on Environmental Review for LR of NPP Operating Licenses - NUREG-1437\_Attachment 4.pdf

January 12, 2010

Ms. Annette L. Vietti-Cook  
Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
ATTN: Rulemakings and Adjudications Staff

**Subject:** Nuclear Energy Institute Comments on the U.S. Nuclear Regulatory Commission (NRC) Proposed Revisions to Environmental Review for License Renewal of Nuclear Power Plant Operating Licenses (*Federal Register* of July 31, 2009, FR 38117, 38238, and 38239)

**Project Number: 689**

Dear Ms. Vietti-Cook:

This letter provides comments of the Nuclear Energy Institute (NEI) on behalf of the nuclear energy industry on the proposed rulemaking to Title 10 Code of Federal Regulations (CFR) Part 51, the draft regulatory guide DG-4015 (proposed Revision 1 to NRC Regulatory Guide 4.2), and the draft update to the Nuclear Regulatory Commission (NRC) Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants (proposed Revision 1 to NUREG-1437), in response to the subject Federal Register notices.

These comments were developed by a nuclear energy industry task force made up of subject matter experts from 15 companies involved in nuclear power plant license renewals. The task force comments reflect a substantial body of industry licensing and technical expertise, experience, and lessons-learned gained from successful completion of 59 nuclear power plant license renewal applications, along with 18 submitted applications currently under review by the NRC, and 9 applications under development that are expected to be submitted in the 2010-2011 timeframe.

NEI is also submitting comments in a separate letter that are focused on legal and regulatory issues raised by the proposed changes to the NRC framework for license renewal. The two NEI comment letters are intended to be complementary and should be considered together by the NRC as representing the nuclear energy industry's comprehensive view of the proposed changes. NEI and industry staff participated in and provided comments at several public meetings conducted by the NRC on the proposed changes to the license renewal framework. The comments contained in the two NEI letters, in part, supplement and expand upon the comments provided by NEI and industry staff at the NRC public meetings.

This letter includes four attachments that contain detailed comments on the proposed changes to the proposed rule, revised regulatory guide, and draft updated GEIS.

Attachment 1 recommends the reclassification from Category 2 to Category 1 of four environmental issues identified by the NRC in the proposed rule and the removal of two Category 1 issues from the scope of the proposed rule. A detailed justification for each recommendation is included in Attachment 1.

Attachment 2 provides comments on the proposed rule. In addition to addressing specific environmental issues contained in the proposed rule, the attachment also reflects a general comment that was made by NEI staff at the NRC public meetings regarding the restructuring and aggregation of issues in the proposed rule. The format used by the NRC in presenting the environmental issues in Table B-1 of the proposed rule appears to imply that some issues previously classified as Category 1 are being reclassified as Category 2 due solely to their aggregation with other Category 2 issues. It is our understanding that this was not the intent in the proposed rule and therefore we recommend that NRC expand the level of detail provided in the table to make clear that issues previously classified as Category 1 will retain that classification in the new final rule and need not be assessed in an applicant's environmental report, absent new and significant information.

Some of the comments in Attachment 2 recommend that NRC rely on decisions of federal and state agencies in considering the impacts of license renewal on the environment. Agency decisions relevant to regulatory requirements such as the Clean Water Act, the Clean Air Act, and other environmental regulations, and documented in permits and authorizations, are based on a thorough site-specific analysis of potential impacts to ensure maintenance of the chemical, physical and biological integrity of the environment. Nuclear plants are required to operate in compliance with all permits, which are renewed on a periodic basis and are subject to regulatory and public scrutiny. Although 10 CFR 51 implies that compliance with environmental quality standards and regulations is not a substitute for and does not negate the requirement to weigh all environmental effects, NEI believes it would not be efficient for NRC to duplicate the thorough, site-specific analyses performed by other regulatory agencies, equivalent to that performed by the NRC, as documented in permits and authorizations issued by those agencies.

Attachment 3 provides comments on draft regulatory guide DG-4015. The comments contain a number of suggestions for enhancing the clarity and internal consistency of the guide, as well as recommendations intended to improve the efficiency of the process for preparing, submitting and reviewing an applicant's environmental report.

Attachment 4 provides detailed comments on the draft updated GEIS, including recommended substantive changes, suggested clarifications and factual corrections, and editorial comments.

In total, the changes being proposed to the rule, regulatory guide, and GEIS (as well as concurrent changes being made to the standard review plan for license renewal) are extensive and significant in terms of how the proposed changes will affect the preparation, submittal, docketing, and review of future license renewal applications. Therefore, it is important for the industry that the effective date of the final rule, when issued, provide adequate time and flexibility such that licensees who have substantially completed the research, reviews, and analyses necessary to develop a license renewal application will not be unduly impacted by having to revisit and supplement completed work, thereby resulting in the applicant having to significantly revise and restructure the application.

Throughout the extensive regulatory process for review and completion of 59 license renewal applications for nuclear power plants to date, no impact on the environment has been found unreasonable as it relates to preserving the option of license renewal for energy planning decision-makers. Accordingly, we view the proposed changes (taking into account the comments in our two letters and provided at the NRC public meetings) as refinements and enhancements that should improve the transparency, efficiency and practicality of the license renewal regulatory process – not as changes that are necessary to correct deficiencies in the regulatory framework or to assure adequate protection of public health and the environment. With that understanding, we suggest that the NRC allow licensees that submit license renewal applications within 18 months following the effective date of

the new rule to not have to comply with the new rule – i.e., such licensees should have the option of having their application docketed, reviewed and completed under the current rule.

We appreciate the opportunity to provide our comments on the proposed rule, draft regulatory guide, and draft updated GEIS. Due to the extensive nature and unavoidable overlap in our comments (given that the proposed changes cover three layers of regulatory documents), we would like to meet with NRC staff to discuss the comments and help confirm understanding of their scope and intent. We suggest that such a meeting should occur after the NRC staff has been able to review all of the stakeholder comments on the proposed changes.

If you have any questions regarding our comments, please contact me at 202.739.8111; [rla@nei.org](mailto:rla@nei.org).

Ralph L. Andersen, CHP  
Senior Director  
Radiation Safety & Environmental Protection

Nuclear Energy Institute  
1776 I Street NW, Suite 400  
Washington, DC 20006  
[www.nei.org](http://www.nei.org)

P: 202-739-8111  
F: 202-533-0101  
M: 202-497-0141  
E: [rla@nei.org](mailto:rla@nei.org)

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Subject: Comments on Environmental Review for LR of NPP Operating Licenses

Date: Tue, 12 Jan 2010 15:33:41 -0500

Message-ID: <278A545F5DE1D648B2F5228F56BF791F04F64E58@neiexc01.nei.org>

X-MS-Has-Attach: yes

X-MS-TNEF-Correlator:

Thread-Topic: Comments on Environmental Review for LR of NPP Operating  
Licenses

Thread-Index: AcqTxvx6qpZs7yw3SJCBFVTKndweAQ==

From: "ANDERSEN, Ralph" <rla@nei.org>

Sender: "HAYES, Richie" <slh@nei.org>

X-Outbound-IP: 208.116.169.253

X-Env-From: slh@nei.org

X-PolicySMART: 609541, 425095

MIME-Version: 1.0

Content-Class: urn:content-classes:message

Content-Type: multipart/mixed;

boundary="----=\_NextPart\_001\_01CA93C6.FD419EC8"

To: Undisclosed recipients.;

Return-Path: slh@nei.org