NUCLEAR REGULATORY COMMISSION

10 CFR Part 51

[NRC–2020–0101]

RIN 3150–AK55

Generic Environmental Impact Statement for Licensing of New Nuclear Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations that govern the NRC's environmental reviews of new nuclear reactor applications under the National Environmental Policy Act. The rulemaking codifies the generic findings of the NRC's Generic Environmental Impact Statement for Licensing of New Nuclear Reactors. The Generic Environmental Impact Statement for Licensing of New Nuclear Reactors uses a technology-neutral framework and a set of plant and site parameters to determine which potential environmental impacts would be common to the construction, operation, and decommissioning of many new nuclear reactors, and thus appropriate for a generic analysis, and which potential environmental impacts would be unique, and thus require a project-specific analysis. The NRC is also issuing revision 4 to regulatory guide 4.2, ''Preparation of Environmental Reports for Nuclear Power Stations,'' and COL–ISG–030, ''Environmental Considerations Associated with New Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG–2249).'' This rulemaking is separate from NRC's comprehensive review and reform of its regulations, including those governing environmental review, in accordance with Executive Order (E.O.) 14300, ''Ordering the Reform of the Nuclear Regulatory Commission.''

DATES: This final rule is effective May 26, 2026.

ADDRESSES: Please refer to Docket ID NRC–2020–0101 when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- *Federal Rulemaking Website:* Go to *https://www.regulations.gov* and search for Docket ID NRC–2020–0101. Address questions about NRC dockets to Helen Chang; telephone: 301–415–3228; email: *Helen.Chang@nrc.gov*. For technical questions, contact the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.
- *NRC's Agencywide Documents Access and Management System (ADAMS):* You may obtain publicly available documents online in the ADAMS Public Documents collection at *https://www.nrc.gov/reading-rm/adams.html.* To begin the search, select ''ADAMS Public Search.'' For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1–800–397–4209, at 301–415–4737, or by email to *PDR.Resource@nrc.gov.* For the convenience of the reader, the ADAMS accession numbers are provided in the ''Availability of Documents'' section of this document.
- *NRC's PDR*: The PDR, where you may examine and order copies of publicly available documents, is open by appointment. To make an appointment to visit the PDR, please send an email to *PDR.Resource@nrc.gov* or call 1–800–397–4209 or 301–415–4737, between 8 a.m. and 4 p.m. eastern time, Monday through Friday, except Federal holidays.
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SUPPLEMENTARY INFORMATION:

Executive Summary

A. Purpose of the Regulatory Action

The U.S. Nuclear Regulatory Commission (NRC) has revised its regulations to codify the findings of NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors'' (NR GEIS). The NR GEIS analyzes the potential environmental impacts of the construction, operation, and decommissioning of a new nuclear reactor. The NR GEIS is intended to improve the efficiency of the NRC environmental review of a new nuclear reactor application by identifying those potential environmental issues that are expected to be common, or generic, to the construction, operation, and decommissioning of many new nuclear reactors. The NRC may rely on the NR GEIS' generic findings when conducting a subsequent, project-specific environmental review for a new nuclear reactor if specific conditions are met. This final rule codifies these generic findings into the NRC's regulations in part 51 of title 10 of the *Code of Federal Regulations* (10 CFR), ''Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions,'' thus making the NRC's licensing process for new nuclear reactors more efficient. Specifically, these findings are codified into subpart A of 10 CFR part 51, which sets forth the NRC's regulations to implement its obligations under the National Environmental Policy Act (NEPA).[1]

This final rule is separate from NRC's ongoing review and reform of its regulations in accordance with Executive Order (E.O.) 14300, ''Ordering the Reform of the Nuclear Regulatory Commission'' (90 FR 22587; May 29, 2025). The rulemakings associated with that effort will comprehensively reexamine NRC's NEPA implementing regulations in 10 CFR part 51 for conformance with E.O. 14300, the Fiscal Responsibility Act (Pub. L. 118–5, 137 Stat. 10) (FRA), and the United States Supreme Court's decision in *Seven County Infrastructure Coalition* v. *Eagle County,* 145 S. Ct. 1497 (2025). While there could be additional revisions to the NR GEIS as a result of these future rulemakings, the NRC is moving forward with publication at this time because it is a deregulatory action of high interest for new reactor applicants that was in progress before the issuance of E.O. 14300. This final rule will simplify the environmental compliance process for qualifying applicants and save the NRC and applicants significant resources, while subsequent revisions to 10 CFR part 51 are being considered.

B. Major Provisions

Major provisions of this rule and guidance include:

1. Addition of a new appendix C, ''Environmental Effect of Issuing a Permit or License for a New Nuclear Reactor,'' to subpart A of 10 CFR part 51 to codify the findings in the NR GEIS and state that, on a 10-year cycle, the Commission intends to review the

[1] 42 U.S.C. 4321 *et seq.* (1969).

material in this appendix and update if necessary.

2. Changes to the regulations for the preparation of environmental reports for new reactors (§ 51.49, ''Environmental report—limited work authorization,'' and § 51.50, ''Environmental report—construction permit, early site permit, or combined license stage'') to provide the applicant with the option to reference the NR GEIS.

3. Changes to the regulations for the preparation of draft environmental impact statements (EISs) for new reactors (§ 51.75, ''Draft environmental impact statement— construction permit, early site permit, or combined license'', and § 51.76, ''Draft environmental impact statement—limited work authorization'') to require the NRC staff to use the NR GEIS in preparing its draft EIS if an applicant for a new nuclear reactor referenced the NR GEIS in its application.

4. Addition of new section (§ 51.96, ''Final supplemental environmental impact statement relying on a generic environmental impact statement for licensing new nuclear reactors'') to provide the NRC staff with directions on the preparation of final EISs that reference the NR GEIS.

5. Revisions to regulatory guide (RG) 4.2, ''Preparation of Environmental Reports for Nuclear Power Stations,'' to provide guidance to applicants regarding the use of the NR GEIS. In addition, preparation of an interim staff guidance document, COL–ISG–030, ''Environmental Considerations Associated with New Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement for Licensing of New Nuclear Reactors (NUREG–2249),'' to provide guidance to the NRC staff regarding the use of the NR GEIS.

C. Costs and Benefits

The NRC prepared a regulatory analysis to determine the expected quantitative costs and benefits of this final rule and associated guidance. Assuming 45 applications over the next decade, the regulatory analysis concluded that, compared to the no-action alternative, the final rule alternative and associated guidance would result in total net averted costs for the NRC and applicants up to $37.7 million, using a 7 percent discount rate if the NR GEIS is fully utilized. The regulatory analysis also considered qualitative factors to be considered in the NRC's rulemaking decision. Qualitative aspects include greater regulatory stability, predictability, and clarity to the licensing process. The final rule would reduce the cost to industry of preparing environmental reports for new nuclear reactor applications by focusing resources on project-specific analyses. The NRC also would recognize similar reductions in cost and be better able to focus its resources on the project-specific issues during new nuclear reactor licensing environmental reviews. As described in the regulatory flexibility analysis in section V of this document, the NRC is currently aware of no known small entities as defined in § 2.810, ''NRC size standards,'' that are planning to apply for a limited work authorization, a new nuclear reactor construction permit or operating license under 10 CFR part 50, ''Domestic Licensing of Production and Utilization Facilities,'' or an early site permit or combined license under 10 CFR part 52, ''Licenses, Certifications, and Approvals for Nuclear Power Plants,'' which would be impacted by this final rule. For more information, please see the regulatory analysis (available as indicated in section XVI, ''Availability of Documents,'' of this document).

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I. Background

The Generic Environmental Impact Statement for Licensing of New Nuclear Reactors (NR GEIS) is intended to streamline the NRC's environmental review for new nuclear reactor applications received as part of the reactor licensing process.[2] This Background section provides an overview of the two existing reactor licensing processes, 10 CFR part 50, ''Domestic Licensing of Production and Utilization Facilities,'' and 10 CFR part 52, ''Licenses, Certifications, and Approvals for Nuclear Power Plants,'' under which an applicant may apply for a license for a new nuclear reactor. This section also describes the environmental review process and the Commission's policy and past practice with respect to the use of rulemakings to adopt improvements to the licensing process.

A. New Reactor Licensing Processes—10 CFR Part 50 and 10 CFR Part 52

The NRC licenses and regulates the construction and operation of nuclear reactor facilities in the United States. The NRC's evaluation and ultimate decision on a reactor application will involve a safety review, governed by the NRC's regulations in either 10 CFR part 50 or 10 CFR part 52, and an environmental review, governed by the NRC's regulations in 10 CFR part 51, ''Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions.'' All nuclear reactors that were operating prior to 2021 were licensed under a two-step licensing process governed by 10 CFR part 50. The first step is an application for and issuance of a construction permit. The second step, upon substantial completion of facility construction, is issuance of an operating license.

In an effort to improve regulatory efficiency and add greater predictability to the reactor licensing process, the NRC issued 10 CFR part 52 on April 18, 1989 (54 FR 15372). The rule added licensing processes for issuance of early site permits, standard design certifications, and combined licenses. Early site permits allow an applicant to obtain approval for a reactor site for future use, while certified standard plant designs can be used as pre-approved designs. Early site permits and certified designs can then be referenced in an application for a combined license. Combined licenses combine a construction permit and an operating license in a single authorization.

A nuclear reactor applicant could apply for a license under 10 CFR part 50 or 10 CFR part 52. The final rule to adopt the generic environmental conclusions of the NR GEIS in 10 CFR part 51 will be available for use in

[2] In staff requirements memorandum, SRM–SECY–20–0020, ''Results of Exploratory Process for Developing a Generic Environmental Impact Statement for the Construction and Operation of Advanced Nuclear Reactors,'' dated September 21, 2020, the Commission approved the development of a GEIS for the construction and operation of advanced nuclear reactors and directed staff to codify the generic findings in the *Code of Federal Regulations.* In SRM–SECY–21–0098, ''Proposed Rule: Advanced Nuclear Reactor Generic Environmental Impact Statement,'' dated April 17, 2024, the Commission directed the staff to proceed with publication of the NR GEIS after modifying it to be applicable to any new nuclear reactor application.

conjunction with either of these two licensing processes. Additionally, the NRC has issued a rulemaking that provides a new framework for licensing reactors in 10 CFR part 53.[3] The NR GEIS would be available for use with this new 10 CFR part 53 licensing process for new nuclear reactors; however, this final rule does not address part 53.

B. Environmental Review—Current 10 CFR Part 51 Regulations

As a Federal agency, the NRC must comply with the National Environmental Policy Act (NEPA) by assessing the potential environmental effects of a proposed agency action prior to making a decision to approve or disapprove of that proposed action. The regulations implementing the NRC's NEPA obligations are found in 10 CFR part 51.

Under NEPA, the environmental review of a proposed action can involve one of three different levels of analysis depending on the significance of a proposed action's potential effects on the environment: (1) a categorical exclusion,[4] (2) an environmental assessment,[5] or (3) an environmental impact statement (EIS). An EIS, the most complex, resource-intensive, and thorough of the three levels of NEPA analysis, is a document that describes the potential environmental impacts of the proposed action as well as a reasonable range of alternatives to the proposed agency action. Under NEPA, Federal agencies prepare an EIS for any proposed agency action that may result in a significant impact to an environmental resource. In addition, the Commission has identified, by its § 51.20, ''Criteria for and identification of licensing and regulatory actions requiring environmental impact statements,'' regulation, certain categories of NRC proposed actions that require the preparation of an EIS. In this regard, § 51.20(b)(1) identifies the issuance of a construction permit (under the 10 CFR part 50 licensing process) or an early site permit (under the 10 CFR part 52 licensing process) for a nuclear power reactor or testing facility, as proposed actions requiring the preparation of an EIS.[6] Similarly, § 51.20(b)(2) identifies the issuance or renewal of an operating license (under 10 CFR part 50) or a combined license (under 10 CFR part 52) for a nuclear power reactor or testing facility, as proposed actions requiring the preparation of an EIS.

The NRC's regulation at § 51.45, ''Environmental report,'' requires a reactor applicant to submit an environmental report that discusses: (1) the impact of the proposed action on the environment, (2) any adverse environmental impacts that cannot be avoided, (3) alternatives to the proposed action, (4) the relationship between local short-term uses of the environment and maintenance and enhancement of long-term productivity, and (5) any irreversible or irretrievable commitments of resources. In addition, the applicant is required to include in its environmental report an analysis that considers and balances the environmental effects of the proposed action and the alternatives available for reducing or avoiding adverse environmental effects, as well as the benefits of the action. The NRC will independently evaluate the applicant's environmental report as part of the NRC's preparation of the draft EIS.

Before issuing a limited work authorization (LWA), a construction permit or an operating license for a nuclear plant under 10 CFR part 50, or an early site permit or combined license (that does not reference an early site permit for the proposed nuclear reactor) under 10 CFR part 52, the NRC is currently required to prepare a draft EIS that assesses the potential environmental impacts that may result from the construction, operation, and decommissioning of the proposed nuclear reactor. In preparing the draft EIS, the NRC staff will analyze the potential environmental impacts regarding different aspects or resources of the human environment (*e.g.,* air quality). For each environmental aspect or resource area, the NRC staff will identify and analyze issues that correspond to specific, potential environmental impacts (*e.g.,* for the air quality resource area, the criteria pollutant emissions likely to result during construction). In the draft EIS, the NRC staff also evaluates alternatives to the proposed agency action.

After analyzing the potential environmental impacts for each issue,[7] the NRC assigns one of the following three significance levels to describe its evaluation of those impacts on that issue:

SMALL—The environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. For the purposes of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small as the term is used in this definition.

MODERATE—The environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.

LARGE—The environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

For issues where probability is a key consideration (*i.e.,* accident consequences), probability is a factor in determining significance.

In assessing the significance of environmental impacts for some environmental resources (*e.g.,* federally protected ecological resources and historic properties that require interagency consultation with Federal agencies or Indian Tribes,[8]) the NRC assigns the appropriate impact level (other than SMALL, MODERATE, or LARGE) in accordance with the terminology used in the relevant statutes and their implementing regulations. The NRC conducts consultations under specific statutes, as appropriate.[9]

The NRC will document its environmental review and analysis

[3] Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors (Docket ID NRC–2019–0062; RIN 3150–AK31).

[4] The NRC defines a ''categorical exclusion'' as a category of actions which do not individually or cumulatively have a significant effect on the human environment and which the Commission has found to have no such effect in accordance with procedures set out in § 51.22, ''Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review,'' and for which, therefore, neither an environmental assessment nor an environmental impact statement is required. 10 CFR 51.14(a). The NRC's list of categorical exclusions is set forth in § 51.22.

[5] The NRC defines an ''environmental assessment'' as a concise public document . . . that serves to: (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. (2) Aid the Commission's compliance with NEPA when no environmental impact statement is necessary. (3) Facilitate preparation of an environmental impact statement when one is necessary. 10 CFR 51.14(a).

[6] The terms ''nuclear reactor'' and ''testing facility'' are defined in § 50.2, ''Definitions.''

[7] Each issue corresponds to a specific type of environmental impact potentially resulting from building, operating, or decommissioning of a new nuclear reactor.

[8] Per 36 CFR 800.2(c)(2)(ii), the agency official will consult with any Indian Tribe or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by an undertaking. The term ''Indian Tribes'' refers to Federally recognized Tribes as acknowledged by the Secretary of the Interior pursuant to the Federally Recognized Indian Tribe List Act of 1994 (25 U.S.C. 479a).

[9] See Endangered Species Act (16 U.S.C. 1531 *et seq.*), Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*), National Marine Sanctuaries Act (16 U.S.C. 1431 *et seq.*), and National Historic Preservation Act (54 U.S.C. 300101 *et seq.*). See *also* NRC Tribal Policy Statement (82 FR 2402).

through the preparation of a draft EIS that will be published for public comment in the **Federal Register**, with a minimum 45-day comment period, in accordance with § 51.73, ''Request for comments on draft environmental impact statement.'' Further, as provided in § 51.74, ''Distribution of draft environmental impact statement and supplement to draft environmental impact statement; news releases,'' the NRC will distribute the draft EIS to the Environmental Protection Agency, Federal agencies that have a special expertise or jurisdiction with respect to any potential environmental impact that may be relevant to the proposed action, the applicant, and appropriate State, Tribal, and local agencies and clearinghouses.

Following the public comment period, the NRC will analyze any comments received, revise its environmental analyses as appropriate, and then prepare the final EIS in accordance with the requirements of § 51.91, ''Final environmental impact statement—contents.'' [10] Pursuant to § 51.93, ''Distribution of final environmental impact statement and supplement to final environmental impact statement; news releases,'' the NRC will distribute the final EIS to many of the same entities as the draft EIS and to each commenter. The NRC also will publish a notice of availability for the final EIS in the **Federal Register**. As set forth in § 51.102, ''Requirement to provide a record of decision; preparation,'' and following the preparation and distribution of the final EIS, the Commission will prepare and issue the record of decision, which is a concise, publicly-available statement that documents the NRC's decision, as informed by the final EIS. The requirements for a record of decision are described in § 51.103, ''Record of decision—general,'' and include stating the Commission's decision (*e.g.,* the approval or disapproval of the nuclear reactor application), identifying the alternatives (including the proposed agency action) considered by the Commission, and a statement as to whether the Commission has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted (*e.g.,* lack of jurisdiction or authority). In cases of an adjudicatory proceeding before the NRC's Atomic Safety and Licensing Board (ASLB), the initial decision of the presiding officer, or if appealed, the final decision of the Commission, will constitute the record of decision. To meet the § 51.102 requirement that the record of decision be a concise document, the NRC staff will also prepare a ''Summary Record of Decision,'' signed by the NRC's Director, Office of Nuclear Reactor Regulation, that summarizes the presiding officer's initial, or the Commission's final, decision.[11]

C. Use of Rulemaking and Generic Environmental Impact Statements

The use of rulemaking to adopt improvements to the licensing process for classes of applicants, such as reactor applicants, has several advantages, including the following, which were identified in a 1978 NRC interim policy statement: [12] (1) enhance stability and predictability of the licensing process by providing regulatory criteria and requirements in discrete generic areas on matters which are significant in the review and approval of license applications; (2) enhance public understanding and confidence in the integrity of the licensing process by inviting public participation in important generic issues which are of concern to the agency and the public; (3) enhance administrative efficiency in licensing by removing, in whole or in part, generic issues from NRC review and adjudicatory resolution in individual licensing proceedings and/or by establishing the importance (or lack of importance) of various safety and environmental issues to the decision process; (4) assist the Commission in resolving complex methodological and policy issues involved in recurring issues in the review and approval of individual licensing applications; and (5) yield an overall savings in the utilization of resources in the licensing process by the utility industry, those of the public whose interest may be affected by the rulemaking, the NRC, and other Federal, State, and local governments with an expected improvement in the quality of the decision process.

The NR GEIS provides generic findings with respect to many environmental issues. The NRC is codifying these generic findings in 10 CFR part 51 to streamline and make more efficient the preparation of environmental reports by new nuclear reactor applicants and the NRC's environmental reviews. This rule is consistent with past NRC part 51 rulemakings that adopted generic findings with respect to certain environmental issues related to the reactor licensing process. For example, table S–3, ''Table of Uranium Fuel Cycle Environmental Data,'' in § 51.51 identifies the generic findings related to various environmental impacts of the nuclear fuel cycle.[13] As such, these applicants are not required to conduct their own analysis of these impacts in their environmental reports and the NRC can likewise rely upon these findings when preparing its EISs.

Based upon past experience, the NRC has determined that the use of a generic environmental impact statement (GEIS) and the codification of the generic findings into an NRC regulation is an efficient and thorough method of NEPA compliance when applied to a particular class of facilities or licensing and regulatory actions. Specifically, the NRC has relied upon the ''Generic Environmental Impact Statement for License Renewal of Nuclear Plants'' (NUREG–1437), which was issued in 1996 and recently updated in 2024, for operating power reactor license renewal actions, and the ''Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel'' (NUREG–2157), which was issued in 2014, for the continued storage of spent fuel beyond the licensed life for operation of a reactor. In this regard, the NRC added appendix B to subpart A of 10 CFR part 51, ''Environmental Effect of Renewing the Operating License of a Nuclear Power Plant,'' which codifies the generic findings of the NUREG–1437, and amended § 51.23, ''Environmental impacts of continued storage of spent nuclear fuel beyond the licensed life for operation of a reactor,'' which codifies the findings of NUREG–2157.

The NUREG–1437, which identifies the environmental issues that may apply to the renewal of an operating power

[10] For a 10 CFR part 52 combined license that references an early site permit, the NRC will prepare a supplement to the final EIS for the early site permit in accordance with § 51.92(e) and will provide an opportunity for public comment on the supplement pursuant to § 51.92(f)(1). Similarly, for a 10 CFR part 50 operating license, the NRC will prepare a supplement to the final EIS for the construction permit in accordance with § 51.95(b) and will provide an opportunity for public comment on the supplement pursuant to § 51.95(a).

[11] For the issuance of a 10 CFR part 50 operating license supported by a supplement prepared pursuant to § 51.95(b) that is uncontested (*i.e.,* no hearing before the NRC's ASLB), the Director, Office of Nuclear Reactor Regulation, will prepare the record of decision in accordance with § 51.103.

[12] Generic Rulemaking to Improve Nuclear Power Plant Licensing, Interim Policy Statement (43 FR 58377; December 14, 1978).

[13] As described in § 51.51(a), the nuclear fuel cycle includes uranium mining and milling, the production of uranium hexafluoride, isotopic enrichment, fuel fabrication, reprocessing of irradiated fuel, transportation of radioactive materials and management of low-level wastes and high-level wastes related to these activities.

reactor license, served as a model for the preparation of the NR GEIS. For each operating power reactor license renewal action, the NRC prepares a project-specific supplemental EIS (SEIS) that is issued as a supplement to NUREG–1437. To date, the NRC has issued SEISs to NUREG–1437 associated with initial license renewal and subsequent license renewal for 63 plants. In NUREG–1437, the NRC determined that those issues that were common, or generic, to all nuclear reactors were identified as Category 1. Further, the NRC determined that the vast majority of the Category 1 issues were of a SMALL significance level.[14] Provided that neither the license renewal applicant nor the NRC identifies any new and significant information, no further analysis is needed for that issue by the applicant in its environmental report or by the NRC in its preparation of the draft SEIS. Those issues that cannot be resolved generically and are identified as Category 2 issues must be analyzed by both the applicant in its environmental report and by the NRC in the draft SEIS. The applicant in its environmental report and the NRC in its draft SEIS must also address any new and significant information.

The NRC has codified the findings for the NUREG–1437 Category 1 issues into its regulations; the findings are listed in table B–1, ''Summary of Findings on NEPA Issues for License Renewal of Nuclear Power Plants,'' of appendix B to subpart A of 10 CFR part 51. The regulation authorizing use of the findings in appendix B is set forth in § 51.53(c) for applicant environmental reports, in § 51.71(d) for the NRC staff's preparation of the draft SEIS, and in § 51.95(c) for the NRC staff's preparation of the final SEIS. In accordance with § 2.335(a), the codification of the generic findings and the authority to use appendix B and NUREG–1437 for operating power reactor license renewal actions bars any challenge to a generic finding or the NRC's reliance upon NUREG–1437 in a site-specific licensing proceeding before the NRC's ASLB.[15] A person seeking to challenge a codified generic finding must either file a petition for rulemaking pursuant to § 2.802, ''Petition for rulemaking—requirements for filing,'' or, if a party to an ASLB proceeding, file a request to waive the application of the regulation pursuant to § 2.335(b), such waiver being subject to Commission approval.

The use of a GEIS for meeting the NRC's NEPA obligations and the concomitant codification of generic findings into an NRC regulation has been upheld by Federal courts. In its 1983 decision, *Baltimore Gas and Electric Co.* v. *NRDC,* the Supreme Court adjudicated a challenge to table S–3, codified at § 51.51.[16] The Court described table S–3 as ''a numerical compilation of the estimated resources used and effluents released by fuel cycle activities supporting a year's operation of a typical light-water reactor.'' [17] Section 51.51 requires that an environmental report, prepared by an applicant for a construction permit, an early site permit, or a combined license for a light-water-cooled nuclear power reactor, use the data in table S–3 ''as the basis for evaluating the contribution of the environmental effects'' of all aspects of the uranium fuel cycle, such as uranium mining and milling, ''to the environmental costs of licensing the nuclear power reactor.'' [18] The Court held that ''the generic method chosen by the [NRC] is clearly an appropriate method of conducting the hard look required by NEPA.'' [19] The Court further stated that ''administrative efficiency and consistency of decision are both furthered by a generic determination of these effects without needless repetition of the litigation in individual proceedings, which are subject to review by the Commission in any event.'' [20] Lower Federal courts have applied the *Baltimore Gas* holding to the NRC's reliance on NUREG–1437 for operating power license renewal licensing actions.[21] Similarly, the NRC's codification of the generic findings of NUREG–2157 into § 51.23 have been upheld.[22]

D. Advanced Nuclear Reactors

The NRC initially developed NUREG–2249 as a document that would be applicable only to ''advanced nuclear reactors'' that met the values and assumptions of the plant parameter envelopes and the site parameter envelopes used to develop the GEIS. See SECY–21–0098, ''Proposed Rule: Advanced Nuclear Reactor Generic Environmental Impact Statement (RIN 3150–AK55; NRC–2020–0101),'' dated November 29, 2021. In staff requirements memorandum (SRM)–SECY–21–0098, ''Proposed Rule: Advanced Nuclear Reactor Generic Environmental Impact Statement (RIN 3150–AK55; NRC 2020–0101),'' dated April 17, 2024, the Commission directed the NRC staff to change the applicability of the GEIS and rule from ''advanced nuclear reactors'' to any new nuclear reactor application that meets the values and assumptions of the plant parameter envelopes and the site parameter envelopes used to develop the GEIS. Following the direction from the Commission, the GEIS and rule were revised to be applicable to any new nuclear reactor, as defined in 10 CFR 50.2, ''Definitions,'' that meets the values and assumptions of the plant parameter envelopes and the site parameter envelopes used to develop the GEIS. The NRC also retitled this rulemaking from ''Advanced Nuclear Reactor Generic Environmental Impact Statement'' (ANR GEIS) to ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors'' (NR GEIS), to reflect the change in the applicability of the GEIS and rule.

II. Discussion

A. Amendments

The amendments to 10 CFR part 51 establish new requirements for environmental reviews of applications for an early site or construction permit, a limited work authorization, or an operating or a combined license for new nuclear reactors.

Specifically, the amendments codify the generic conclusions of the NR GEIS for those issues for which a generic conclusion regarding the potential

[14] Certain issues such as the offsite radiological impacts of spent nuclear fuel storage and high-level waste disposal were not given a significance level because of uncertainty; however, the Commission concluded that the impacts would not be sufficiently large to require the NEPA conclusion, for any plant, that the option of extended operation under 10 CFR part 54 should be eliminated. Accordingly, while the Commission has not assigned a single level of significance for the offsite radiological impacts of spent fuel and high-level waste disposal, these issues were considered to be Category 1 issues by the Commission.

[15] 10 CFR 2.335(a) (''[N]o rule or regulation of the Commission, or any provision thereof, concerning the licensing of production and utilization facilities, source material, special nuclear material, or byproduct material, is subject to attack by way of discovery, proof, argument, or other means in any adjudicatory proceeding subject to this part.'').

[16] *Baltimore Gas and Electric Co.* v. *NRDC,* 462 U.S. 87 (1983).

[17] *Id.*

[18] 10 CFR 51.51(a).

[19] *Baltimore Gas,* 462 U.S. at 101. The NEPA requires that a Federal agency ''take a 'hard look' at the environmental consequences before taking a major action. *Id.* at 97 *citing Kleppe* v. *Sierra Club,* 427 U.S. 390, 410, n. 21.

[20] *Id.* at 101.

[21] *Massachusetts* v. *U.S. Nuclear Regulatory Commission,* 708 F.3d 63, 68 (1st Cir. 2013) (upholding the NRC's reliance upon NUREG–1437 and its codified findings in appendix B to subpart A of 10 CFR part 51).

[22] *New York* v. *U.S. Nuclear Regulatory Commission,* 824 F.3d 1012, 1019 (D.C. Cir. 2016) (citing *New York* v. *U.S. Nuclear Regulatory Commission,* 681 F.3d 471, 480 (D.C. Cir. 2012) (stating ''the cornerstone of our holding was that the NRC may generically analyze risks that are 'essentially common' to all plants so long as that analysis is 'thorough and comprehensive.' In this case, we are convinced that the NRC has met that standard.'')).

environmental impacts of issuing a permit or license for a new nuclear reactor can be reached. These issues are identified as Category 1 issues in the NR GEIS. Similar to the NUREG–1437, the Category 1 issues identified and described in the NR GEIS have been determined to be beneficial or have a SMALL impact or significance level. Appendix C, ''Environmental Effect of Issuing a Permit or License for a New Nuclear Reactor,'' to subpart A of 10 CFR part 51 summarizes the Commission's findings for all Category 1 issues. In addition, the amendments provide an applicant for a new nuclear reactor with the option to use the NR GEIS, including the reliance upon its generic analyses and the Category 1 findings, if it can demonstrate that the design of its proposed nuclear reactor and the parameters of the proposed site meet or are bounded by the values and assumptions of the NR GEIS analysis supporting that Category 1 finding. For each Category 1 issue, each supporting value and assumption is further classified as being part of the plant parameter envelope (PPE) or the site parameter envelope (SPE). The PPE consists of those values and assumptions relating to the design and operation of the nuclear reactor, such as building height, water use, air emissions, employment levels, and noise generation levels. The SPE consists of those values and assumptions relating to the siting of the plant, such as the site size, size of water bodies supplying water to the reactor, and demographics of the region surrounding the site. The NR GEIS provides the analysis evaluating the environmental impacts of a proposed nuclear reactor that fits within the bounds of the PPE on a site that fits within the bounds of the SPE. By using this approach, impact analyses for the environmental issues common to many new reactors can be addressed generically, thereby eliminating the need to repeatedly reproduce the same analyses each time a licensing application is submitted and allowing applicants and the NRC to focus future environmental review efforts on issues that only can be resolved once a site and facility are identified.

If an applicant cannot demonstrate that the proposed nuclear reactor or the proposed site meets or is bounded by these values and assumptions, or if the applicant determines that there is new and significant information regarding that Category 1 issue,[23] then the applicant cannot adopt the conclusions of that Category 1 finding and the applicant would then have to prepare a project-specific analysis for that issue in its environmental report. Likewise, in preparing its draft SEIS, the NRC staff would rely upon those Category 1 findings for which the applicant has demonstrated meeting or being bounded by the underlying values and assumptions and would likewise not be required to include a project-specific analysis within the draft SEIS, unless the NRC became aware of new and significant information regarding that Category 1 issue. The Category 1 findings in table C–1 to appendix C, ''Summary of Findings on Environmental Issues for Issuing a Permit or License for a New Nuclear Reactor,'' to subpart A of 10 CFR part 51, can only be challenged in an individual ASLB licensing proceeding if a waiver is granted by the Commission in accordance with § 2.335(b).

The NR GEIS also identifies and describes environmental issues for which a generic finding regarding the respective environmental impacts cannot be reached because the issue requires the consideration of project-specific information that can only be evaluated once the proposed site and facility are identified. The NRC classifies these issues as Category 2 issues in the NR GEIS and within the rule amendments. The NRC staff will prepare a project-specific analysis in the draft SEIS for each Category 2 issue, and for each Category 1 issue that the applicant cannot demonstrate that its project has met the underlying values and assumptions or for which there is new and significant information. The draft SEIS will also include the NRC staff's preliminary conclusions regarding the potential environmental impacts for each of these issues.

Two additional issues are designated as not applicable (N/A) (*i.e.,* impacts are uncertain) in the NR GEIS, in that a classification of the issue as either Category 1 or 2 is not possible. These issues relate to human health effects from exposure to electromagnetic fields (EMFs) during both construction and operation. Because the state of the science is currently uncertain, no generic conclusion on human health impacts is possible for these issues. If, in the future, the Commission finds scientific information sufficient to draw conclusions about potential human health impacts, the Commission may require applicants to submit plant-specific reviews of these health effects as part of their application. The amendments do not require applicants to submit information on these issues in the environmental report nor will the NRC staff prepare a plant-specific analysis for these issues in the draft SEIS.

After the final rule is effective, challenging the NRC's reliance upon a Category 1 issue in an individual new nuclear reactor permitting or licensing action will be prohibited except through an approved waiver in accordance with § 2.335(b). On a 10-year cycle, the Commission intends to review the material in this GEIS and the associated rule and update it if necessary.

B. The Fiscal Responsibility Act of 2023 and the ADVANCE Act of 2024

The NRC acknowledges recent amendments to NEPA in the FRA and the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024 (ADVANCE Act) (Pub. L. 118–67, 138 Stat. 1448). The NR GEIS and this rule are consistent with the requirements of the ADVANCE Act, which is intended to facilitate efficient, timely, and predictable environmental reviews of nuclear reactor license applications. Similarly, the NR GEIS and this rule is intended to streamline and expedite the NEPA review process, as required by the FRA.

The FRA added to NEPA a new section 107(e), which establishes page limits for environmental impact statements, including a 300-page limit for environmental impact statements for agency actions of ''extraordinary complexity'' (not including appendices, citations, figures, tables, and other graphics). The NRC finds that, to the extent that section 107(e) of the NEPA applies to the NR GEIS, a 300-page limit is appropriate because the NR GEIS addresses a proposed action of ''extraordinary complexity'' in light of the complicated systems, structures, and components deployed in operating nuclear power plants; the number of resource areas addressed; and the variety of environments in which nuclear power plants operate. The NR GEIS is less than 300 pages and therefore complies with the NEPA page limits.

Separate from this effort, in accordance with E.O. 14300, the NRC is undertaking a review of its regulations and guidance, which will include revisions to the NRC's NEPA implementing regulations and guidance to align with recent amendments to

[23] The amendments would require the applicant, for each Category 1 finding that it relies upon in preparing its environmental report, to describe the process it used to determine whether there is any new and significant information that may change that Category 1 issue's generic analysis or finding. This requirement is modeled after the requirement in § 51.50(c)(1)(iv) that has been used for new reactor combined license applications that referenced an early site permit.

NEPA, and direction in the FRA and the ADVANCE Act.

C. Environmental Impacts Review

In the NR GEIS, the NRC has made generic findings that many of the potentially adverse environmental impacts of constructing, operating, and decommissioning a new nuclear reactor will be SMALL provided that the applicant's proposed nuclear reactor and the proposed site meets or is bounded by the respective values and assumptions supporting the Category 1 finding under consideration.

The NRC divided its conclusions about environmental impacts in the NR GEIS into the following three categories:

- *Category 1.* Environmental issues for which the NRC has been able to make a generic finding of SMALL adverse environmental impacts, or beneficial impacts, provided that the applicant's proposed reactor facility and site meet or are bounded by the relevant values and assumptions in the PPE and SPE that support the generic finding for that Category 1 issue.[24]
- *Category 2.* Environmental issues for which a generic finding regarding the environmental impacts cannot be reached because the issue requires the consideration of project-specific information that can only be evaluated once the proposed site is identified. The impact significance (*i.e.,* SMALL, MODERATE, or LARGE)[25] for these issues will be determined in a project-specific evaluation.
- *Not Applicable (N/A).* Environmental issues for which the state of the science is currently uncertain, and no generic conclusion on human health impacts is possible.

In the NR GEIS, the NRC identifies a total of 119 environmental issues that may be associated with constructing, operating, and decommissioning a new nuclear reactor; of these issues, the NRC identified 100 environmental issues as Category 1 issues. Chapter 3, ''Affected Environment and Environmental Consequences,'' of the NR GEIS provides the analyses supporting the generic finding of a SMALL significance level impact for each Category 1 issue and indicates the relevant values and assumptions in the PPE and SPE underlying the analyses. Applicants and the NRC may rely on the generic finding for each Category 1 issue, as codified in proposed table C–1 to subpart A of 10 CFR part 51, provided that the applicant's proposed reactor facility and the proposed site meet or are bounded by the relevant values and assumptions for that Category 1 issue and that there is no new and significant information that changes the issue's generic analysis or finding, as determined by the NRC.

The NR GEIS identifies 17 environmental issues as Category 2 issues. These issues cannot be evaluated generically and must be evaluated by the applicant, in its environmental report, and the NRC, in the SEIS, using project-specific information. For example, the Endangered Species Act of 1973 (ESA) requires every Federal agency to consult with the ''Service'' [26] and document its consideration of the impacts of its actions on threatened and endangered species and critical habitats. The NRC typically conducts this ESA analysis in parallel with its NEPA process.

Finally, for two environmental issues, the NR GEIS identifies the category as N/A. The two issues concern the potential exposure to EMFs from construction and operation. Studies of 60 hertz (Hz) EMFs have not uncovered consistent evidence linking harmful effects with field exposures. Because the state of the science is currently uncertain, no generic conclusion on human health impacts is possible. If, in the future, the Commission finds scientific information sufficient to draw conclusions about potential human health impacts, the Commission may require applicants to submit plant-specific reviews of these health effects in their environmental report. Until such time, applicants are not required to submit information on these issues.

D. Generic Environmental Impact Statement

The NR GEIS presents impact analyses for the environmental issues common to many new nuclear reactors that can be addressed generically. The NR GEIS is intended to improve the efficiency of licensing new nuclear reactors by: (1) identifying the types of potential environmental impacts of constructing, operating, and decommissioning a new nuclear reactor, (2) assessing impacts that are expected to be generic (the same or similar) for many new nuclear reactors (Category 1 issues), and (3) defining the environmental issues that will need to be addressed in project-specific SEISs (Category 2 issues). The NRC has concluded in the NR GEIS that the potential environmental impacts will be beneficial or of a SMALL adverse significance level for Category 1 issues.

In the NR GEIS, the NRC evaluated the impacts of constructing, operating, and decommissioning a new nuclear reactor sited within the United States that meets or is bounded by the values and assumptions in the PPE and SPE for each Category 1 issue. The term ''building,'' as used in the NR GEIS, includes the full range of preconstruction activities (*e.g.,* site grading) and NRC-authorized ''construction'' activities.[27] Further, for purposes of the NR GEIS, the NRC assumed that the U.S. Army Corps of Engineers would be a cooperating agency, in accordance with the memorandum of understanding (MOU) between the two agencies dated September 12, 2008.[28] In this regard, the U.S. Army Corps of Engineers has been a cooperating agency since the MOU was signed in 2008. In addition, the NR GEIS considered fuel cycle impacts and the impacts from continued storage of spent fuel, including incorporating by reference the NRC's NUREG–2157.

Because there may be multiple new nuclear reactor designs and a new nuclear reactor could be sited anywhere in the United States that meets the NRC siting requirements in 10 CFR part 100, ''Reactor Site Criteria,'' the NRC applied a technology-neutral, performance-based approach using a PPE. The PPE consists of parameters for specific reactor design features regardless of the site. Examples of parameters include the permanent footprint of disturbance, building height, water use, air emissions, employment levels, and noise generation levels. For each PPE parameter, the NRC developed a set of bounding values and assumptions that if met, and absent any new and significant information, would demonstrate that the potential environmental impacts for that PPE parameter would be SMALL.

In addition, the NRC developed a set of site-related parameters termed the

[24] Beneficial impacts may include increased tax revenues associated with the increased assessed value of new reactor projects, and other economic activity such as increases in local employment, labor income, and economic output.

[25] See section II.B, ''The Fiscal Responsibility Act of 2023 and the ADVANCE Act of 2024,'' of this document for a description of the SMALL, MODERATE, and LARGE significance levels used by the NRC in its EISs.

[26] Depending on the species impacted, the agency will consult with either the U.S. Fish & Wildlife Service (U.S. Department of the Interior) or the National Marine Fisheries Service (U.S. Department of Commerce), as provided in the Services' joint regulations at 50 CFR part 402, ''Interagency Cooperation—Endangered Species Act of 1973, as Amended.''

[27] The NRC has regulatory authority over those construction activities that are related to radiological health and safety, physical security, or otherwise pertain to radiological controls. The NRC defines these activities as ''construction'' in § 51.4, ''Definitions.'' As stated in § 51.45(c) preconstruction is defined as those activities listed in § 51.4(1)(ii).

[28] The MOU between the NRC and the U.S. Army Corps of Engineers, dated September 12, 2008, is available in ADAMS under the accession number ML082540354.

SPE. Examples of parameters include site size, size of water bodies supplying water to the reactor, and demographics of the region surrounding the site. For each SPE parameter, the NRC developed a set of bounding values and assumptions related to the condition of the affected environment, such as the extent and occurrence of nearby bodies of water, wetlands and floodplains, and proximity to sensitive noise receptors. Similar to a PPE parameter, if an applicant can demonstrate that the proposed reactor site meets the SPE parameter's bounding values and assumptions, and absent any new and significant information, then the potential environmental impacts for that SPE parameter would be SMALL.

The PPE and SPE values and assumptions in the NR GEIS were developed by an interdisciplinary team of subject matter experts (SMEs) assigned to prepare the NR GEIS. The SMEs developed the values and assumptions based on one or more criteria, as described in the NR GEIS.

The NR GEIS identifies specific types of potential environmental impacts for 15 environmental resource areas: land use, visual resources, meteorology and air quality, water resources (surface and groundwater), terrestrial ecology, aquatic ecology, historic and cultural resources, environmental hazards (radiological and nonradiological), noise, waste management (radiological and nonradiological), postulated accidents, socioeconomics, fuel cycle, transportation of fuel and waste, and decommissioning. Each resource area includes one or more types of potential impacts, and each type of potential impact is termed an issue. In addition to the 15 environmental resource areas, the NRC considered climate change, cumulative impacts, purpose and need, need for power, site alternatives, energy alternatives, and system design alternatives. Each of the 119 issues that were identified corresponds to a specific type of environmental impact determined by the interdisciplinary team of SMEs that could potentially result from construction, operation, or decommissioning of a new nuclear reactor. For each issue, the SMEs then determined whether it would be possible to identify values and assumptions in the PPE and SPE that could effectively bound a meaningful generic analysis and provided the basis for each value and assumption. The SMEs then performed and described their generic analyses for each issue, for a hypothetical reactor/site that meets the PPE and SPE values and assumptions in the NR GEIS.

In its environmental report, the applicant would have to supply the requisite information necessary for the NRC to perform a project-specific analysis for (1) Category 1 issues for which the relevant values and assumptions are not met, or for which new and significant information was identified, and (2) all Category 2 issues. Guidance for applicants providing information to the NRC in an environmental report is available in RG 4.2, ''Preparation of Environmental Reports for Nuclear Power Stations.'' If a project-specific analysis is required for a Category 1 issue, the applicant may be able to incorporate by reference all or part of the generic analysis provided in the NR GEIS as a part of its analysis and focus on providing any additional project-specific information needed to support its conclusion.

After the applicant submits its environmental report, the NRC staff will prepare the draft SEIS, and following the public comment period, the final SEIS. When considering a Category 1 issue in a SEIS, the NRC staff will likewise refer to the generic analysis in the NR GEIS for that issue without further analysis, provided that the relevant values and assumptions in the PPE and SPE are met and there is no new and significant information that changes the generic finding for that Category 1 issue. The NRC staff also will document whether the applicant has demonstrated that the values and assumptions are met for that issue. The NRC staff will complete a project-specific analysis in accordance with the latest version of the Environmental Standard Review Plan or related guidance (such as any relevant interim staff guidance). If a project-specific analysis is required for a Category 1 issue, the NRC staff may be able to incorporate by reference all or part of the generic analysis provided in the NR GEIS as a part of its analysis and focus on providing any additional project-specific information needed to support its conclusion.

E. Summary of Issues Analyzed in the NR GEIS

The following describes those environmental issues that were examined for the NR GEIS and summarizes the conclusions by resource area.

1. Land Use

The NRC evaluated the potential impacts to onsite and offsite land use for both construction and operation. In addition, the NRC considered the impacts of the project in accordance with the Coastal Zone Management Act and the Farmland Protection Policy Act, if applicable. The NRC concluded that all identified issues can be classified as Category 1 issues.

2. Visual Resources

The NRC evaluated the potential visual impacts in the site and vicinity and along the transmission lines for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues.

3. Meteorology and Air Quality

The NRC evaluated the potential air quality impacts from the emissions of criteria pollutants, dust and hazardous pollutants, and greenhouse gas emissions for both construction and operation. In addition, the NRC considered the potential operations-related air quality impacts from cooling-system emissions and the emission of ozone and nitrogen oxides during transmission line operations. The NRC concluded that all identified issues can be classified as Category 1 issues.

4. Water Resources

The NRC evaluated the potential impacts to water use and water quality for both surface water and groundwater for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues, with one exception. The NRC determined that surface water quality degradation due to chemical and thermal discharges could not be resolved generically because there was no practical way to develop a comprehensive bounding set of water quality criteria, including both thermal and chemical criteria, for the PPE and SPE. Therefore, this issue is a Category 2 issue, and thus requires a project-specific evaluation.

5. Terrestrial Ecology

The NRC evaluated the potential impacts to terrestrial wildlife, habitats, and wetlands for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues, with two exceptions. The NRC determined that the potential impacts to wildlife, including designated ''critical habitat,'' regulated under the ESA could not be generically resolved for either construction or operations because the NRC would need to consult individually with the U.S. Fish and Wildlife Service under ESA section 7 regarding the potential effects of each specific licensing action. Therefore, these issues are Category 2 issues and thus require a project-specific evaluation.

6. Aquatic Ecology

The NRC evaluated the potential impacts to aquatic wildlife and habitats for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues, with four exceptions. The NRC determined that the potential impacts to resources regulated under the ESA and the Magnuson-Stevens Fishery Conservation and Management Act could not be generically resolved for either construction or operations because the NRC would need to consult individually with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under ESA section 7 and the Magnuson-Stevens Act regarding the potential effects of each specific licensing action. In addition, the NRC determined that potential thermal impacts on aquatic biota and other potential effects of cooling-water discharges on aquatic biota could not be resolved generically. For both of these issues, the NRC would have to first review the discharge plume analysis and the aquatic biota potentially present before being able to reach a conclusion regarding the possible significance of impacts on the biota. Therefore, these four issues are Category 2 issues, and thus require project-specific evaluations.

7. Historic and Cultural Resources

Both construction and operation of a new nuclear reactor have the potential to affect historic and cultural resources. The NRC would need to complete a project-specific consultation in accordance with section 106 of the National Historic Preservation Act as part of its environmental review. Therefore, these two issues are Category 2 issues, and thus require project-specific evaluations.

8. Environmental Hazards

This resource area encompasses both radiological impacts and nonradiological impacts. The NRC evaluated the potential impacts of environmental hazards for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues, with two exceptions. These two issues are the human health impacts of EMFs for both construction and operation. The NRC determined that because the state of the science regarding the human health impacts of EMFs is currently uncertain, no generic conclusion on those impacts is possible, and thus these issues are classified as N/A. If, in the future, the Commission finds scientific information sufficient to draw conclusions about potential human health impacts, the Commission may require applicants to submit plant-specific reviews of these health effects as part of their application. Until such time, applicants are not required to submit information on this issue.

9. Noise

The NRC evaluated the potential impacts of noise for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues.

10. Waste Management

This resource area encompasses the potential impacts of both radiological waste management and nonradiological waste management. The NRC evaluated the potential operational impacts of radiological waste management. In addition, the NRC evaluated the potential impacts of nonradiological waste management for both construction and operation. The NRC concluded that all identified issues can be classified as Category 1 issues.

11. Postulated Accidents

The NRC evaluated the potential operational impacts of postulated accidents (because these impacts occur only during operations). In the proposed rule, the NRC concluded that all identified issues can be classified as Category 1 issues, with one exception. In the proposed rule and draft GEIS, the NRC identified severe accidents as a Category 2 issue. Subsequently, based on public comments received on the proposed rule and draft GEIS, the NRC has updated severe accidents to be a Category 1 issue, and has developed associated PPE/SPE values. The NRC agreed with public comments received on the rule that the Severe Accident Mitigation Design Alternatives category should be merged with the Severe Accident issue because, if the Severe Accident PPE/SPE values and assumptions are met, then mitigation is addressed and does not need to be separately assessed.

12. Socioeconomics

The NRC evaluated the potential impacts of socioeconomics for both construction and operation. The NRC concluded that these two issues can be classified as Category 1 issues.

13. Fuel Cycle

The NRC evaluated the potential operational impacts of the fuel cycle (because these impacts do not occur during construction). The NRC concluded that all identified issues can be classified as Category 1 issues. However, because the values and assumptions do not encompass the potential fuel fabrication impacts for metal fuel and liquid-fueled molten salt, such fuels would require a project-specific analysis.

The NR GEIS incorporates by reference NUREG–2157, in which the NRC evaluated the environmental impacts of the continued storage of spent nuclear fuel beyond the licensed life for the operation of light-water reactors (LWRs). In § 51.23, the NRC specifies that NUREG–2157 is deemed to be incorporated into the EIS for a new reactor. However, NUREG–2157 did not evaluate the storage of spent nuclear fuel from non-LWRs. The NRC expects that many new nuclear reactors will not be LWRs. The NR GEIS therefore evaluates the applicability of NUREG–2157 and determines that the findings in NUREG–2157 are applicable to non-LWR fuel, provided that the non-LWR fuel is stored in a manner that meets the regulatory requirements for spent fuel storage cask approval and fabrication in accordance with subpart L, ''Approval of Spent Fuel Storage Casks,'' to 10 CFR part 72, ''Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste.''

14. Transportation

The NRC evaluated the potential operational impacts of the transportation of fuel and waste to and from new nuclear reactors (because these impacts occur only during operations). The NRC concluded that all identified issues can be classified as Category 1 issues.

15. Decommissioning

The NRC has previously evaluated the environmental impacts of the decommissioning of nuclear power reactors. This evaluation was documented in the ''Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities'' (Decommissioning GEIS, NUREG–0586, Supplement 1). The NRC evaluated NUREG–0586, Supplement 1, and determined that its conclusions and analysis are applicable to new reactors in the NR GEIS. Therefore, for the purposes of the NR GEIS, the environmental impacts of decommissioning for certain resource areas that were generically addressed in NUREG–0586, would be limited to operational areas, would not be detectable or destabilizing, and are expected to have a negligible effect on the impacts of terminating operations and decommissioning.

The issues for which these generic findings were made in the Decommissioning GEIS are designated as a Category 1 issue in the NR GEIS. However, certain issues in NUREG–0586, Supplement 1 (see table C–1, Decommissioning) were determined to require project-specific analysis and certain others to require project-specific analysis under certain conditions. These issues are therefore designated as Category 2 issues in the NR GEIS. NUREG–0586, Supplement 1, is incorporated into the NR GEIS. The Category 1 and Category 2 issues associated with decommissioning are presented in table C–1, below.

16. Issues Applying Across Resources

The NRC determined that the impacts related to climate change impacts on environmental resources and the consideration of cumulative impacts could not be evaluated generically. As such, both of these issues have been classified as Category 2 issues and thus require a project-specific evaluation.

17. Non-Resource Related Category 2 Issues

The NR GEIS addresses the environmental impact issues associated with constructing, operating, and decommissioning a new nuclear reactor. However, the environmental report and the NRC staff's SEIS must also include other information, as required by the regulations and discussed in regulatory guidance. These are not resource-specific issues. Rather, they are project-specific issues, not tied to any specific environmental resource, that are necessary to support the NRC's completion of its environmental review in accordance with NEPA. These issues cannot be evaluated generically and must be addressed in the environmental report and SEIS using project-specific information. In the NR GEIS, the NRC identified the following issues: purpose and need, need for power, site alternatives, energy alternatives, and system design alternatives. This list is not all-inclusive. NRC regulations at 10 CFR part 51 and guidance such as RG 4.2 describe information not included in this list that must be included as part of an application.

F. Public Comments on Notice of Exploratory Process and Notice of Intent To Prepare a Generic Environmental Impact Statement

On November 15, 2019 (84 FR 62559), the NRC published in the **Federal Register** ''Agency Action Regarding the Exploratory Process for the Development of an Advanced Nuclear Reactor Generic Environmental Impact Statement,'' announcing an exploratory process and soliciting comments to determine the possibility of developing a GEIS for licensing advanced nuclear reactors. The exploratory process included two public meetings, a public workshop attended by multiple stakeholders, and a site visit to the Idaho National Laboratory, a location that is being contemplated for construction and operation of advanced nuclear reactors.

Advice and recommendations on the possibility of preparing an advanced nuclear reactor GEIS were invited from all interested persons. Comments were specifically requested on the whether the scope of the GEIS should include reactors regardless of technology or be limited to specific reactor technologies, what reactor sizes (footprint) and power levels should be included in the scope of the GEIS, whether the geographical site of a reactor should be considered in developing the scope of the GEIS, and whether a set of bounding plant parameters should be consider in developing the scope of the GEIS, and if so, what parameters should be considered.

The NRC received comments that both supported and opposed the development of an advanced nuclear reactor GEIS. Commenters who supported development of an advanced nuclear reactor GEIS stated that it would improve the efficiency of the environmental review process, would avoid duplication of effort, and would focus future reviews on important environmental issues. Commenters who did not support development of an advanced nuclear reactor GEIS stated that the GEIS would be premature at this time and that the NRC did not have sufficient information available to resolve issues generically. Based on the results of the exploratory process, the NRC concluded that there was sufficient information to complete an advanced nuclear reactor GEIS which would generically resolve many environmental issues, save resources for individual reviews, and provide predictability for potential applicants in developing their applications. The results of the exploratory process were summarized in SECY–20–0020, ''Results of Exploratory Process for Developing a Generic Environmental Impact Statement for the Construction and Operation of Advanced Nuclear Reactors,'' issued on February 28, 2020.

On April 30, 2020 (85 FR 24040), the NRC published in the **Federal Register** ''Notice To Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement.'' Advice and recommendations on the scope of the GEIS were invited from all interested persons.

Comments were requested regarding the parameters that the NRC should use to bound the advanced nuclear reactors in the PPE (including power level and size of the site) and the parameters that should be used to bound the affected environment in the SPE. In addition, comments were requested on resources or issues that could be resolved generically and ones that could not.

The NRC received comments concerning the NEPA process, the PPE and SPE, hydrology, socioeconomics, environmental justice, historic and cultural resources, climate change, radiological health, uranium fuel cycle, accidents, transportation of spent fuel, and need for power. The NRC also received general comments in support of and opposition to the advanced nuclear reactor GEIS, and comments concerning issues outside the scope of the GEIS. A summary of comments and the NRC response are available in the scoping summary report issued on September 25, 2020, which is available as indicated in the ''Availability of Documents'' section of this document.

G. Clarifying Amendment for Postoperating Licenses

The NRC has added in § 51.53(d) a cross-reference to the license termination provisions under § 52.110, ''Termination of license.'' This change clarifies in § 51.53(d) that NRC's requirements at 10 CFR part 52 also include license termination provisions.

H. Revisions to the Rule Due to Policy Changes

Based on policy changes issued after the publication of the Draft GEIS and proposed rule, the NRC has made the following revisions to the Final GEIS and rule:

Executive Order 14154 and Rescinding of CEQ NEPA Regulations. Executive Order (E.O.) 14154, ''Unleashing American Energy,'' ordered the Council on Environmental Quality (CEQ) to propose rescinding regulations for the implementation of the procedural provisions of NEPA. The CEQ published an interim final rule removing the CEQ NEPA regulations on February 25, 2025 (90 FR 10610), with an effective date of this removal on April 11, 2025. Accordingly, the NRC has removed references to the CEQ NEPA regulations in the rule, GEIS, and supporting documents.

Environmental Justice. Effective April 30, 2025, the Commission withdrew its policy statement on the Treatment of Environmental Justice Matters in NRC

Regulatory and Licensing Actions (Environmental Justice Policy Statement) and its Environmental Justice Strategy (90 FR 17887). This action was taken in response to E.O. 14173, ''Ending Illegal Discrimination and Restoring Merit-Based Opportunity,'' which rescinded E.O. 12898, ''Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations.'' In staff requirements memorandum COMSECY–25–0007, ''Withdrawing the Environmental Justice Policy Statement and Environmental Justice Strategy,'' signed April 10, 2025, the Commission directed the staff to ''take a comprehensive review of the NRC's environmental regulations, guidance, and training materials to remove references to environmental justice (EJ)'' and ''to refrain from explicitly addressing EJ in its [NEPA] reviews. . . .'' Therefore, EJ will no longer be addressed in new reactor environmental reviews, and the NRC removed the two EJ Category 2 issues identified in the proposed rule and draft GEIS.

III. Opportunities for Public Participation

The proposed rule was published in the **Federal Register** on October 4, 2024, for a 75-day comment period (89 FR 80797). An editorial correction to the notice was issued on October 17, 2024 (89 FR 83632). The public comment period closed on December 18, 2024. During the comment period, the NRC conducted three public meetings on the proposed rule for the purpose of explaining the changes and answering questions from the attendees to facilitate the development of public comments. An in-person public meeting was held on November 7, 2024, at NRC headquarters in Rockville. Two virtual public meetings were held as online webinars on November 13, 2024, and November 14, 2024. The meeting summaries and official transcripts are available as indicated in the ''Availability of Documents'' section of this document. The public comments informed the development of this final rule.

IV. Public Comment Analysis

A. Overview

Appendix E of the NR GEIS (NUREG–2249) is the NRC's analysis of and response to public comments received on the proposed rule (see section XVI ''Availability of Documents,'' of this document). The NRC received 39 comment submissions during the public comment period that ended on December 18, 2024. A comment submission is a communication or document submitted to the NRC by an individual or entity, with one or more individual comments addressing a subject or issue. A total of 208 unique comments were received during the comment period and three public meetings.

The public comment submittals are available on the Federal rulemaking website under Docket ID NRC–2020–0101. NRC's response to the public comments, including a summary of how NRC revised the proposed rule in response to public input, can be found in appendix E of the NR GEIS. The following sections summarize the major issues that resulted in substantive changes to this final rule and other issues raised for which no changes were made to this final rule.

B. Specific Requests for Comment

In the proposed rule, the NRC requested specific comments and supporting rationale from the public on the following issues. In this final rule, these issues are identified along with how they were resolved.

1. Plant parameter envelope and site parameter envelope values and assumptions: The proposed rule requested comment on whether the NRC staff is using an inappropriate value to result in a SMALL impact (either too restrictive, or not restrictive enough), and asked commenters to explain the basis for that position and provide an alternative proposed parameter value. Many comments generally supported the NRC's PPE/SPE approach and stated that appropriate values to reach SMALL impacts had been identified. One comment requested that the NRC clarify the process for how these bounding values were developed.

NRC Response: Based on these comments, no reason was found to make changes to the PPE/SPE values or further clarify the process to develop the values. The process used to develop the PPE/SPE values is explained in section 1.3.1 of the NR GEIS, with the details for a given value or assumption discussed for each resource area in chapter 3 of the NR GEIS. The NRC did not make any changes in the NR GEIS, final rule, or guidance documents, finding that the use of the PPE/SPE assumptions and values presented in the GEIS establish an appropriate approach to support the generic findings of Category 1 impacts.

2. Environmental issues evaluated: The proposed rule requested comment on whether there are any environmental issues that the NRC staff did not include in the scope of the NR GEIS and the proposed rule that should be included. One comment stated that no additional issues had been identified that should have been included, while another comment stated that the NR GEIS should accurately address the no-action alternative and replacement energy alternatives as issues so that the NR GEIS fully evaluates the environmental and societal impacts of forgoing nuclear power for other energy alternatives.

NRC Response: Both the impacts associated with the no-action alternative, including the implications of forgoing nuclear energy, and replacement energy alternatives were identified as Category 2 issues in the NR GEIS, which must be addressed during project-specific reviews. Based on these comments, the NRC did not make any changes in the NR GEIS, final rule, or guidance documents, finding that the NR GEIS addressed appropriate issues.

3. Categorization of issues: The proposed rule requested comment on whether the environmental issues are categorized appropriately. In other words, were there Category 1 issues that should be Category 2, or Category 2 issues that should be Category 1? Some comments requested that the NRC recategorize certain Category 1 issues to Category 2. For example, one comment requested that socioeconomics be changed to a Category 2 issue because of the specific conditions of reactors relating to their surrounding environment. Other comments requested that certain Category 2 issues be recategorized as Category 1. For example, a number of comments requested that Severe Accidents be changed to a Category 1 issue due to the existence of relevant generic analyses. A number of comments requested that the Category 2 non-resource related issues such as Purpose and Need, Need for Power, and Alternatives should be either eliminated as issues or changed to Category 1. One comment suggested clearer criteria should be published for classifying an issue as Category 1 or Category 2. One comment stated that staff should consider whether all issues could be treated as Category 1 issues for certain situations.

NRC Response: The NRC's justification for and determination of SMALL impacts for each Category 1 issue is contingent on an individual proposed reactor project meeting the PPE and SPE values identified for the issue; if the project cannot meet these values for a Category 1 issue or if new and significant information exists, then a project-specific analysis for that issue must be developed, similar to the process for Category 2 issues. Criteria for defining an issue as Category 1 is discussed in chapter 3 of the NR GEIS,

which discusses how the PPE and SPE values and assumptions for each Category 1 issue were developed. NRC disagrees that Category 2 issues could be treated as Category 1 issues for certain reactor designs or certain types of sites because impacts of Category 2 issues are, by their nature, project and site specific. Based on these comments, the NRC considered whether certain issues could be treated generically and recategorized severe accidents as a Category 1 issue and combined the existing Category 1 SAMDA issue into the new Category 1 severe accidents issue (see section IV.C, ''Summary of Comments Resulting in Substantive Changes to the Proposed Rule,'' of this document for more detail). The NRC did not change the categorization of the non-resource related issues, as many of these requested changes relate to the Fiscal Responsibility Act of 2023 and the ADVANCE Act of 2024. Because the NRC is developing proposed changes to its NEPA procedures related to these acts, including consideration of new approaches to address non-resource related issues as part of the implementation of E.O. 14300, the suggested changes are outside the scope of the NR GEIS and rule. The suggested changes may be made in the future through other NRC actions.

4. Scope of proposed rule changes and GEIS: The proposed rule requested comment on whether the applicability of the GEIS to new reactors (which includes advanced nuclear reactors) is clearly articulated. Do the proposed revisions adequately address all licensing scenarios associated with evaluating the environmental impacts of permitting and licensing new nuclear reactor construction and operation? Certain comments requested that NRC apply the findings from the NR GEIS to environmental assessments or categorical exclusions. Other comments requested that the NRC better articulate the applicability of the NR GEIS to all new nuclear reactors, including advanced reactors and research and test reactors. One comment suggested that NRC staff rely on the NR GEIS findings for all new reactor applications, even if the application does not reference the NR GEIS.

NRC Response: Existing NRC regulations at 10 CFR 51.20(b)(1) require the preparation of an EIS for the types of new reactor licensing actions covered by the rule (*i.e.,* issuance of a limited work authorization, construction permit, operating license, early site permit, or combined license). If and until these regulations are amended, the NRC cannot assume that the NR GEIS could be used to support development of either an environmental assessment or categorical exclusion. The NR GEIS and associated rule were written to support licensing actions for any new reactors, including advanced research and test reactors, that require an environmental impact statement. NRC disagrees with using the NR GEIS for applications that do not reference the NR GEIS, as applicants may prefer to provide a project-specific analysis of all issues rather than relying on the NR GEIS. The rule allows for voluntary use of the NR GEIS by applicants. Based on these comments, the NRC did not make any changes in the NR GEIS, final rule, or guidance documents.

5. Guidance for applicants: The proposed rule requested comment on whether the methods described in the draft revision to RG 4.2 for demonstrating values and assumptions are appropriate. Some comments stated that the methods described in RG 4.2 were appropriate. Certain comments requested that NRC align this guidance with the ADVANCE Act's legislative intent, while other comments stated that RG 4.2 did not provide clear and practical methods for demonstrating PPE and SPE values.

NRC Response: NRC reviewed RG 4.2 in response to these comments, and generally determined that the methods described were appropriate for providing guidance on demonstrating PPE and SPE values and assumptions for Category 1 issues. Based on these comments, the NRC did not make any changes in the NR GEIS, final rule, or guidance documents.

6. Limited Work Authorizations: The proposed rule requested comment on whether the NRC should expand the NR GEIS and the rule to include NRC approval of LWAs for new nuclear reactor applications. All comments received on this question requested that the NRC specifically allow for use of the NR GEIS with LWAs.

NRC Response: As described in section IV.C of this document, and consistent with the comments, the NRC has expanded the scope of the final NR GEIS and rule to clarify that the NR GEIS can be used for LWAs, to the extent applicable.

C. Summary of Comments Resulting in Substantive Changes to the Proposed Rule

Several issues were raised during the public comment period that resulted in substantive changes to the proposed rule; these comments and NRC's changes are briefly discussed in the following paragraphs.

Limited Work Authorizations. As discussed in section IV.B, ''Specific Requests for Comment,'' of this document, the NRC asked the public, ''Should the NRC expand the NR GEIS and the rule to include NRC approval of limited work authorizations (LWAs) for new nuclear reactor applications?'' Several commenters suggested that LWAs should be included as a logical extension within the GEIS framework, because the LWA would by definition be part of the larger project impact.

NRC Response: The NRC agrees with the comments, determining that expansion of the GEIS and rule to include NRC approval of LWAs is a logical extension of the GEIS, particularly because activities conducted under an LWA are a subset of the activities associated with construction of a new nuclear reactor. Based on input received during the public comment period, the NRC is adding rule language allowing for use of the NR GEIS with LWAs. The NRC is amending 10 CFR 51.49, ''Environmental report—limited work authorization'' and 10 CFR 51.76, ''Draft environmental impact statement—limited work authorization.'' The NRC made conforming changes to section 1.4 of the NR GEIS as well as RG 4.2, appendix C to subpart A of 10 CFR part 51 and ISG–030 that are part of the rulemaking package.

Postulated Accidents. The NRC received several comments on the proposed NR GEIS regarding Postulated Accidents. Several comments suggested that there is sufficient technical basis for finding Severe Accidents to be a Category 1 issue in the NR GEIS, and that mitigation for new reactors should be driven by the Severe Accident issue finding and should not be a separate issue to be evaluated. These comments suggested that the 1996 LR GEIS analysis of severe accidents, as augmented and updated by the 2013 and 2024 LR GEISs, would bound the frequency-weighted consequences of postulated severe accidents for new reactors, thereby providing the meaningful generic analysis needed to support a Category 1 finding. One comment suggested that the NR GEIS failed to present sufficient bases or technical analysis information for Design Basis Accidents Involving Radiological Releases to be a Category 1 issue and suggested that it should be a Category 2 issue due to the range of new reactor technology and designs.

NRC Response: The NRC agrees in part with the comments regarding Severe Accidents and mitigation. Based on these comments, the NRC has updated Severe Accidents to be a Category 1 issue and has developed associated PPE/SPE values based on

new information (*e.g.,* the 2024 LR GEIS) made available since the NR GEIS proposed rule package was originally sent to the Commission (SECY–21–0098). However, the NRC disagrees that the 2024 LR GEIS analysis of severe accidents may be generically applied to all new reactor designs (*e.g.,* non-light-water reactors) and sites without adaptation. The NRC also agrees the Severe Accident Mitigation Design Alternatives category should be merged with the severe accident issue because, if the Severe Accident PPE/SPE values and assumptions are met, then mitigation is addressed and does not need to be separately assessed. To support these changes from the proposed rule to the final rule, the NR GEIS has been updated to provide a more thorough meaningful generic analysis as a technical basis for designating the Severe Accident issue as Category 1. The NRC disagrees that Design Basis Accidents Involving Radiological Releases should be a Category 2 issue. Design basis accidents involving the release of radioactive material must meet safety regulatory requirements in either 10 CFR part 50 or 10 CFR part 52, and the PPE/SPE are based on these regulatory requirements. An applicant must demonstrate that the design of its proposed nuclear reactor and the parameters of the proposed site meet or are bounded by the values and assumptions of the NR GEIS analysis supporting that Category 1 finding. If the applicant cannot demonstrate that it meets the PPE/SPE, a project-specific analysis is needed.

The proposed rule included a total of 122 environmental issues. That total number of issues changed in the final rule as a result of public comments and changes in NRC policy. Based on the changes previously described to EJ and Postulated Accidents, the final rule has been updated to address 119 total issues. Of the 119 issues, 100 are Category 1 issues, 17 are Category 2 issues, and two issues are undetermined.

Tribal/Historic Resources Consultation. The NRC received certain comments from a Federal agency and an organization representing Tribal interests requesting that additional information on National Historic Preservation Act (NHPA) consultations be included in the NR GEIS.

NRC Response: The NRC agrees with the comments. The NRC added a discussion (section 1.4.7, Consultations) to chapter 1 of the NR GEIS and a new section (Tribal Policy Statement) to section 1 of COL–ISG–30, ''Environmental Considerations for New Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG–2249),'' as a result of the comments. Additionally, section I.B, ''Environmental Review—Current 10 CFR part 51 Regulations,'' of this final rule has been revised to reference consultations conducted under the ESA and NHPA which require interagency consultation with Federal agencies or Indian Tribes and to reference the NRC's Tribal Policy Statement.

Climate Change Impacts on Environmental Resources. Comments on this issue generally conflated two issues that were considered separately in the NR GEIS, specifically (1) the impacts of greenhouse gas emissions of a new reactor (a Category 1 issue), and (2) how the project's environmental impacts would increase, decrease, or remain the same based upon climate change.

NRC Response: Based on this comment, the NRC revised the name of the Category 2 issue 'Climate Change' to 'Climate Change Impacts on Environmental Resources' to clarify that this issue addresses changes to the affected environment independent of a new nuclear reactor project and how the project's environmental impacts would increase, decrease, or remain the same under a baseline that is altered by climate change. The revised name also distinguishes this issue from the two Category 1 issues of greenhouse gas emissions, which discuss the potential climate impacts of construction and operation of the new nuclear reactor project on the environment.

D. Summary of Other Public Comments

The NRC received comments on a variety of topics, including resource-related comments on meteorology and air quality, surface water and groundwater hydrology, terrestrial and aquatic ecology, historic and cultural resources, radiological health, radiological waste, postulated accidents, environmental justice, uranium fuel cycle, climate change, and cumulative impacts. Additional comments related to the GEIS's purpose and need, non-resource related issues, general environmental concerns, the rulemaking and NEPA processes, the specific requests for comment discussed in section IV.B of this document, public participation, the relationship to other plans, regulations, and processes, and monitoring and adaptive management. Comments were received on supporting documents such as the regulatory analysis and the greenhouse gas and energy and system design alternative white papers. Other comments provided general support or opposition, were editorial in nature, or were determined to be outside the scope of this rulemaking. Some of the more frequently mentioned issues and concerns in public comments, as well as the NRC's responses to those comments and any changes made in the final NR GEIS, are summarized in the following paragraphs. These summaries and responses are not intended to be comprehensive of the detailed comments and responses contained in appendix E of the NR GEIS.

Non-Resource Related Issues: A number of comments were received on non-resource related issues, mostly requesting that these either be recategorized as Category 1 issues or removed as issues altogether. Many of these comments stated that the NRC is not legally mandated to analyze need for power under either NEPA or the Atomic Energy Act, and determinations as to whether the power is needed would have already been analyzed by the applicant prior to submitting their application. Other comments stated that the NRC does not need to analyze site and energy alternatives because the NRC does not have the authority to implement such alternatives. Because many of the suggested changes relate to the Fiscal Responsibility Act of 2023 and the ADVANCE Act of 2024, which the NRC is addressing as a separate activity from the NR GEIS, the suggested changes are outside the scope of the NR GEIS and rule. The suggested changes may be considered through other NRC actions. For example, in accordance with E.O. 14300, the NRC is undertaking a review of its regulations and guidance. Pursuant to E.O. 14300 Section 5(c), this will include proposed revisions to the NRC's NEPA implementing regulations and alignment with the FRA amendments to NEPA, which could include further revisions to this rule and GEIS.

Relationship to Other Plans/Regulations/Processes: Many comments were received on the relationship of this rulemaking and NR GEIS to relevant laws such as the FRA and ADVANCE Act, requesting in some cases that the NRC include a fuller analysis of how the requirements and expectations for these acts have been addressed in the GEIS and in the rule. The NRC added language in the rule to reflect consistency with these acts, and updated appendix F of the NR GEIS as appropriate.

Rulemaking—Process and Authority: One comment stated that the proposed rule was overly restrictive in its approach to challenges to the generic findings and therefore exceeded the NRC's authority. The NRC disagrees and has determined that codifying the

findings of the NR GEIS in 10 CFR part 51 is consistent with the approach used for license renewal of nuclear power plants—a long-established approach that balances regulatory stability with the ability to raise new information. If the findings from the NR GEIS are codified, then it is true that a direct challenge to any of the findings during the review of a specific project application would require a waiver of the rule through 10 CFR 2.335. However, built into the process for the review of each new reactor application is a requirement for the applicant and the staff to identify any new and significant information that would change a finding for a Category 1 issue in the NR GEIS. Likewise, members of the public can identify such information, for example through petition for rulemaking under 10 CFR 2.802. If new and significant information is identified for an issue, then an analysis of that issue is required (see 10 CFR 51.75(d)).

Resource Analyses: Many comments were received on the resource analyses in chapter 3 of the NR GEIS. The NRC agreed with many of these comments and disagreed with others. In many cases, the comment response cited specific sections of the NR GEIS adequately addressing the issue, and therefore no changes were required in the NR GEIS, final rule, or guidance documents as a result of the comment. In response to certain other comments, the NRC made a number of non-substantive updates to the NR GEIS and supporting documents to clarify and/or better address these issues and the rationale for their Category 1 or Category 2 finding. For example, a new citation was added to the NR GEIS to better address regulatory requirements for new facilities with cooling-water intakes (section 3.4.1). New language was added to the NR GEIS to address the Prohibiting Russian Uranium Imports Act and its effect on the uranium fuel cycle, as were references regarding impacts associated with HALEU (3.14.2). Standards defining *de minimis* levels for air emissions were added to the NR GEIS and clarified (section 3.3.1).

V. Regulatory Flexibility Certification

The Regulatory Flexibility Act (RFA) of 1980, as amended at 5 U.S.C. 601 *et seq.*, requires that agencies consider the impact of their rulemakings on small entities and, consistent with applicable statutes, consider alternatives to minimize these impacts on the businesses, organizations, and government jurisdictions to which they apply.

In accordance with the Small Business Administration's (SBA's) regulation at 13 CFR 121.903(c), the NRC has developed its own size standards for performing an RFA analysis and has verified with the SBA Office of Advocacy that its size standards are appropriate for NRC analyses. The NRC size standards at 10 CFR 2.810, ''NRC size standards,'' are used to determine whether an applicant or licensee qualifies as a small entity in the NRC's regulatory programs. Section 2.810 of 10 CFR defines the following types of small entities:

Small business is a for-profit concern and is a—(1) Concern that provides a service or a concern not engaged in manufacturing with average gross receipts of $8.0 million or less over its last five completed fiscal years; or (2) Manufacturing concern with an average number of 500 or fewer employees based upon employment during each pay period for the preceding 12 calendar months.

Small organization is a not-for-profit organization which is independently owned and operated and has annual gross receipts of $8.0 million or less.

Small governmental jurisdiction is a government of a city, county, town, township, village, school district, or special district with a population of less than 50,000.

Small educational institution is one that is—(1) Supported by a qualifying small governmental jurisdiction; or (2) Not State or publicly supported and has 500 or fewer employees.

Number of Small Entities Affected

The NRC is currently not aware of any known small entities as defined in § 2.810 that are planning to apply for a limited work authorization, a new nuclear reactor construction permit or operating license under 10 CFR part 50, or an early site permit or combined license under 10 CFR part 52, which would be impacted by this final rule. Based on this finding, the NRC has preliminarily determined that the final rule would not have a significant economic impact on a substantial number of small entities.

Economic Impact on Small Entities

Depending on how the ownership and/or operating responsibilities for such an enterprise were structured, applicants for a commercial nuclear plant rated 8 megawatts electric (MWe) or less could conceivably qualify as small entities as defined by 10 CFR 2.810. Owners that operate power reactors rated greater than 8 MWe could generate sufficient electricity revenue that exceeds the gross annual receipts limit of $8.0 million, assuming a 90 percent capacity factor and the June 2021 Department of Energy's (DOE's) Energy Information Administration U.S. average price of electricity to the ultimate customer for all sectors of 11.3 cents per kilowatt-hour.

Although the NRC is not aware of any small entities that would be affected by the final rule, there is a possibility that future applications for a commercial nuclear plant permit or license could be submitted by small entities who plan to own and operate a commercial nuclear plant rated 8 MWe or less. Commercial nuclear plants that are rated 8 MWe or less would most likely be used to support electrical demand for military bases or small remote towns and would provide process heat, so they would not directly compete with a larger commercial nuclear plant that would typically produce electricity for the grid. As a result of these differing purposes, the NRC would expect that small and large entities would not be in direct competition with each other.

Therefore, the NRC concludes that this final rule would not have a significant economic impact on a substantial number of small entities.

VI. Regulatory Analysis

The NRC has prepared a final regulatory analysis on this regulation. The analysis examines the costs and benefits of the alternatives considered by the NRC. The regulatory analysis is available as indicated in the ''Availability of Documents'' section of this document.

VII. Backfitting and Issue Finality

The final rule codifies in 10 CFR part 51 certain environmental issues identified in the NR GEIS. The final rule also revises 10 CFR part 51 to allow an applicant for a new nuclear reactor construction permit or operating license under 10 CFR part 50, or a new nuclear reactor early site permit or combined license under 10 CFR part 52, to use the NR GEIS in preparing its environmental report. The final rule requires the NRC staff to prepare a project-specific draft SEIS and final SEIS for each application that references the NR GEIS. The NRC has determined that the backfitting rule in § 50.109, ''Backfitting,'' and the issue finality provisions in 10 CFR part 52 do not apply to this final rule because this amendment does not involve any provision that would either constitute backfitting as that term is defined in 10 CFR chapter I or affect the issue finality of any approval issued under 10 CFR part 52.

The final rule will not constitute backfitting for applicants for

construction permits or operating licenses under 10 CFR part 50 and will not affect the issue finality of applicants for early site permits or combined licenses under 10 CFR part 52. These applicants are not, with certain exceptions not applicable here, within the scope of the backfitting or issue finality provisions. The backfitting and issue finality regulations include language delineating when the backfitting and issue finality provisions begin; in general, they begin after the issuance of a license, permit, or other approval (*e.g.,* §§ 50.109(a)(1)(iii) and 52.98(a)). Furthermore, neither the backfitting provisions nor the issue finality provisions, with certain exceptions not applicable here, are intended to apply to NRC actions that substantially change the expectations of current and future applicants. Applicants cannot reasonably expect that future requirements will not change.

The exceptions to the general principle are applicable when an applicant references a 10 CFR part 52 approval (*e.g.,* an early site permit or design certification rule) with specified issue finality provisions or a construction permit under 10 CFR part 50. However, this final rule will have no effect on a construction permit held by an applicant for a 10 CFR part 50 operating license or an early site permit referenced by an applicant for a 10 CFR part 52 combined license. Therefore, for purposes of this final rule, the exceptions to the general principle do not apply.

VIII. Cumulative Effects of Regulation

The NRC is following its cumulative effects of regulation (CER) process by engaging with external stakeholders throughout the rulemaking and related regulatory activities. Public involvement has included (1) the publication of a notice announcing an exploratory process and opportunity for comment to determine the possible utility of developing an advanced nuclear reactor GEIS on November 15, 2019 (84 FR 62559); (2) public meetings on November 15 and November 20, 2019, and a workshop on January 8, 2020, to gather information for the exploratory process; (3) the publication of a notice of intent to conduct scoping and prepare an advanced nuclear reactor GEIS on April 30, 2020 (85 FR 24040); (4) a public meeting on May 28, 2020, to receive comments on the scope of the GEIS; (5) public meetings on October 1, 2020 and April 15, 2021, to share information about the NRC's progress on the development of the GEIS; (6) publication of the proposed rule on October 4, 2024 (89 FR 80797; 89 FR 83632) for comments; and (7) three public meetings conducted on November 7, 2024, November 13, 2024, and November 14, 2024, to receive comments on the proposed rule and associated guidance.

IX. Plain Writing

The Plain Writing Act of 2010 (Pub. L. 111–274) requires Federal agencies to write documents in a clear, concise, and well-organized manner. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, ''Plain Language in Government Writing,'' published June 10, 1998 (63 FR 31885).

X. National Environmental Policy Act

The NRC has determined that this final rule is the type of action described in § 51.22(c)(3), an NRC categorical exclusion for amendments to parts of NRC regulations that relate to procedures for filing and reviewing applications for licenses or construction permits or early site permits. The NRC did not identify any special circumstances that would have required an environmental assessment or environmental impact statement. Therefore, neither an environmental impact statement nor environmental assessment has been prepared for this final rule. This action is procedural in nature in that it pertains to the type of environmental information to be reviewed.

XI. Paperwork Reduction Act

This final rule contains a new or amended collection of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). The collection of information was approved by the Office of Management and Budget, approval number 3150–0279.

The burden to the public for the information collection is estimated on average to be a reduction of 8.028 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection.

The information collection is being conducted to fulfill the requirements of a future applicant that submits a new reactors license application. The NRC's regulations in § 51.45, ''Environmental report,'' require each applicant to prepare and submit an environmental report which includes, among other things, a description of the proposed action, a statement of its purposes, a description of the environment affected, and a discussion of the environmental impacts of the proposed action and alternatives. The information will be used by the NRC to fulfill its responsibilities in the licensing review of new reactors applications. Responses to this collection of information are mandatory under the NRC's environmental protection regulations in 10 CFR part 51, ''Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions.'' As a Federal agency, the NRC is subject to the National Environmental Policy Act (NEPA) of 1969, as amended. The regulations in 10 CFR part 51 identify the issuance of a nuclear power plant limited work authorization, construction permit, operating license, early site permit, or combined license as major Federal actions significantly affecting the quality of the human environment. As such, an environmental impact statement is required for these actions in accordance with NEPA. Confidential and proprietary information submitted to the NRC is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b).

You may submit comments on any aspect of the information collection, including suggestions for reducing the burden, by the following methods:

- *Federal rulemaking website:* Go to *https://www.regulations.gov* and search for Docket ID NRC–2020–0101.
- *Mail comments to:* FOIA, Library, and Information Collections Branch, Office of the Chief Information Officer, Mail Stop: T–6 A10M, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001 or to the OMB reviewer at OMB Office of Information and Regulatory Affairs (3150–0279), Attention: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

XII. Regulatory Planning and Review

Executive Order (E.O.) 12866

The Office of Information and Regulatory Affairs (OIRA) has determined that this final rule is a significant regulatory action. Accordingly, NRC submitted this final rule to OIRA for review. NRC is required to conduct an economic analysis in accordance with section 6(a)(3)(B) of E.O. 12866. More can be found in

section VI, ''Regulatory Analysis,'' of this document.

Review Under E.O.s 14154, 14192, 14215, and 14300

NRC has examined this final rule and has determined that it is consistent with the policies and directives outlined in E.O. 14154, ''Unleashing American Energy,'' E.O. 14192, ''Unleashing Prosperity Through Deregulation,'' E.O. 14215 ''Ensuring Accountability for All Agencies,'' and E.O. 14300, ''Ordering the Reform of the Nuclear Regulatory Commission.'' This final rule is considered an E.O. 14192 deregulatory action. Details on the estimated costs of this final rule can be found in section VI, ''Regulatory Analysis,'' of this document.

XIII. Congressional Review Act

This final rule is a rule as defined in the Congressional Review Act (5 U.S.C. 801–808). However, the Office of Management and Budget has found that it does not meet the criteria at 5 U.S.C. 804(2).

XIV. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Public Law 104–113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this final rule, the NRC will amend various provisions of 10 CFR part 51. This action does not constitute the establishment of a standard that contains generally applicable requirements.

XV. Availability of Guidance

The NRC is issuing both new and revised guidance, revision 4 to RG 4.2, ''Preparation of Environmental Reports for Nuclear Power Stations,'' and interim staff guidance (ISG) document COL–ISG–030, ''Environmental Considerations Associated with New Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG–2249)—Interim Staff Guidance,'' for the implementation of the requirements in this rulemaking. The guidance is available in ADAMS under Accession Nos. ML25043A345 and ML25043A341, respectively.

Revision 4 to RG 4.2 updates and re-titles appendix C to the regulatory guide, which previously provided guidance specifically for small modular reactors and non-LWRs and makes conforming changes to the body of the regulatory guide. The revisions provide supplemental guidance for applicants to establish a uniform format and content acceptable to the NRC staff for structuring and presenting the environmental information to be compiled and submitted by an applicant for a new nuclear reactor permit or license that will rely on any of the findings in the NR GEIS. More specifically, the regulatory guide describes the content of environmental information to be included in an application for a permit or license for a new nuclear reactor, including the process for confirming the applicability of Category 1 issues, and criteria to address appropriate Category 1 and Category 2 issues, as specified in the proposed amendments to 10 CFR part 51.

In addition, the NRC has issued two documents referenced in revision 4 to RG 4.2, the ''Energy and System Design Mitigation Alternatives White Paper'' (''White Paper'') and ''Recommendations for an Applicant to Calculate Activity Data for Greenhouse Gases Estimates'' (''GHG Estimates''). The White Paper describes the potential environmental impacts of various energy alternatives to the construction and operation of a new nuclear reactor, including energy alternatives both requiring and not requiring new generation capacity. The GHG Estimates document provides guidance to nuclear reactor applicants on estimating greenhouse gas emissions. The applicant can rely upon the information provided in both the White Paper and the GHG Estimates documents, as appropriate, in preparing its environmental report that is submitted with its application. The White Paper and the GHG Estimates document can be accessed in ADAMS at Accession Nos. ML25044A472 and ML21225A768, respectively.

The COL–ISG–030 supplements NUREG–1555, ''Environmental Standard Review Plans,'' and will be incorporated into a future update to the NUREG. The ISG provides guidance for the NRC staff when performing a 10 CFR part 51 environmental review of an application for a permit or license for a new nuclear reactor that relies on any of the findings in the NR GEIS. The plan parallels the revisions to RG 4.2. The primary purpose of the ISG is to ensure that these reviews are focused on the significant environmental concerns associated with new nuclear reactor permitting or licensing as described in 10 CFR part 51. Specifically, it provides guidance to the NRC staff about environmental issues that should be reviewed and provides acceptance criteria to help the reviewer evaluate the information submitted as part of the permit or license application. It is also the intent of this review plan to make information about the regulatory process available and to improve communication between the NRC, interested members of the public, and the nuclear industry, thereby increasing understanding of the review process.

XVI. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

Document	ADAMS accession No./ **Federal Register** citation
Final Rule Documents	
Final NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors,'' dated April 2026.	ML25324A130.
Regulatory Analysis for the 10 CFR Part 51, Generic Environmental Impact Statement for Licensing of New Nuclear Reactors Final Rule, dated April 2026.	ML25323A459.
Supporting Statement for Information Collections Contained in the Final Rule	ML25044A477.
Guidance Documents	
Final Regulatory Guide 4.2, ''Preparation of Environmental Reports for Nuclear Power Stations,'' Revision 4, dated April 2026.	ML25043A345.
Final Interim Staff Guidance, COL–ISG–030, ''Environmental Considerations for New Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG–2249),'' dated April 2026.	ML25043A341.
Energy and System Design Mitigation Alternatives White Paper Report, April 2026	ML25044A472.

Document	ADAMS accession No./ **Federal Register** citation
Recommendations for an Applicant to Calculate Activity Data for Greenhouse Gases Estimates White Paper, dated September 2024.	ML21225A768.
Proposed Rule Documents	
Draft NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors,'' dated September 2024.	ML24176A220.
Federal Register Notice—Proposed Rule, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors,'' dated October 4, 2024.	89 FR 80797.
Federal Register Notice—Proposed Rule, Correction, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors,'' dated October 17, 2024.	89 FR 83632.
Draft Regulatory Guide DG–4032, ''Preparation of Environmental Reports for Nuclear Power Stations,'' dated September 2024.	ML24176A228.
Draft Regulatory Guide DG–4032, ''Preparation of Environmental Reports for Nuclear Power Stations,'' Redline/Strikeout Version to Support Public Comment, dated September 2024.	ML24176A229.
Energy and System Design Mitigation Alternatives White Paper Report, dated September 2024	ML21225A754.
Recommendations for an Applicant to Calculate Activity Data for Greenhouse Gases Estimates White Paper, dated September 2024.	ML21225A768.
Draft Interim Staff Guidance, COL–ISG–030, ''Environmental Considerations for New Nuclear Reactor Applications that Reference the Generic Environmental Impact Statement (NUREG–2249),'' dated September 2024.	ML24176A231.
Draft Regulatory Analysis for the 10 CFR Part 51, Generic Environmental Impact Statement for Licensing of New Nuclear Reactors Proposed Rule, dated September 2024.	ML24176A218.
OMB Supporting Statement for the Advanced Nuclear Reactor Generic Environment Impact Statement, Proposed Rule, dated September 12, 2024.	ML21222A060.
Public Meetings	
Summary of November 15 and 20, 2019, Public Meetings to Discuss Exploratory Process for Developing an Advanced Nuclear Reactor Generic Environmental Impact Statement, dated December 10, 2019.	ML19337C862.
Workshop to Discuss the Environmental Information Needed to Develop a Generic Environmental Impact Statement for Advanced Nuclear Reactors, dated December 13, 2019.	ML19347A733.
Summary of May 28, 2020, Advanced Reactor Generic Environmental Scoping Meeting, dated June 2, 2020	ML20161A339 (package).
Summary of October 1, 2020, Advanced Reactor Stakeholder Public Meeting, dated December 22, 2020	ML20350B457.
Summary of April 15, 2021, Advanced Reactor Stakeholder Public Meeting, dated August 24, 2021	ML21232A429.
Official Transcript of November 7, 2024: Rockville, MD—Public Meeting on Draft New Reactor Generic Environmental Impact Statement and Proposed Rule.	ML24284A344.
Official Transcript of November 13, 2024: Online—Public Meeting on Draft New Reactor Generic Environmental Impact Statement and Proposed Rule.	ML24284A349.
Official Transcript of November 14, 2024: Online—Public Meeting on Draft New Reactor Generic Environmental Impact Statement and Proposed Rule.	ML24284A354.
Related Documents	
Advanced Nuclear Reactor Generic Environmental Impact Statement Scoping Process—Summary Report, dated September 16, 2020.	ML20260H180 (package).
Notice of Availability of Memorandum of Understanding Between U.S. Army Corps of Engineers and U.S. Nuclear Regulatory Commission on Environmental Reviews Related to the Issuance of Authorizations to Construct and Operate Nuclear Power Plants, dated September 25, 2008.	73 FR 55546.
NUREG–0586, ''Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities,'' Supplement 1, Vol. 1, ''Regarding the Decommissioning of Nuclear Power Reactors,'' dated November 30, 2002.	ML023470327 (package).
NUREG–1437, ''Generic Environmental Impact Statement for License Renewal of Nuclear Power Plants,'' Revision 2, dated August 2024.	ML24087A133 (package).
NUREG–2157, ''Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel,'' dated September 30, 2014.	ML14198A440 (package).
Agency Action Regarding the Exploratory Process for the Development of an Advanced Nuclear Reactor Generic Environmental Impact Statement, dated November 15, 2019.	84 FR 62559.
Notice to Conduct Scoping and Prepare an Advanced Nuclear Reactor Generic Environmental Impact Statement, dated April 30, 2020.	85 FR 24040.
SECY–20–0020, ''Results of Exploratory Process for Developing a Generic Environmental Impact Statement for the Construction and Operation of Advanced Nuclear Reactors,'' dated February 28, 2020.	ML20052D175.
SRM–SECY–20–0020, ''Results of Exploratory Process for Developing a Generic Environmental Impact Statement for the Construction and Operation of Advanced Nuclear Reactors,'' dated September 21, 2020.	ML20265A112.
SECY–21–0098, ''Proposed Rule: Advanced Nuclear Reactor Generic Environmental Impact Statement (RIN 3150–AK55; NRC–2020–0101),'' dated November 29, 2021.	ML21222A044.
Staff Requirements Memorandum (SRM)-SECY–21–0098, ''Proposed Rule: Advanced Nuclear Reactor Generic Environmental Impact Statement (RIN 3150–AK55; NRC–2020–0101),'' dated April 17, 2024.	ML24108A199.
Interim Final Rule, ''Removal of National Environmental Policy Act Implementing Regulations,'' dated February 25, 2025.	90 FR 10610.

The NRC may post materials related to this document, including public comments, on the Federal rulemaking website at *https://www.regulations.gov* under Docket ID NRC–2020–0101. In addition, the Federal rulemaking

website allows members of the public to receive alerts when changes or additions occur in a docket folder. To subscribe: (1) navigate to the docket folder (NRC–2020–0101); (2) click the ''Subscribe'' link; and (3) enter an email address and click on the ''Subscribe'' link.

List of Subjects in 10 CFR Part 51

Administrative practice and procedure, Environmental impact statements, Hazardous waste, Nuclear energy, Nuclear materials, Nuclear power plants and reactors, Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553, the NRC amends 10 CFR part 51 as follows:

PART 51—ENVIRONMENTAL PROTECTION REGULATIONS FOR DOMESTIC LICENSING AND RELATED REGULATORY FUNCTIONS

■ 1. The authority citation for part 51 continues to read as follows:

Authority: Atomic Energy Act of 1954, secs. 161, 193 (42 U.S.C. 2201, 2243); Energy Reorganization Act of 1974, secs. 201, 202 (42 U.S.C. 5841, 5842); National Environmental Policy Act of 1969 (42 U.S.C. 4332, 4334, 4335); Nuclear Waste Policy Act of 1982, secs. 144(f), 121, 135, 141, 148 (42 U.S.C. 10134(f), 10141, 10155, 10161, 10168); 44 U.S.C. 3504 note. Sections 51.20, 51.30, 51.60, 51.80. and 51.97 also issued under Nuclear Waste Policy Act secs. 135, 141, 148 (42 U.S.C. 10155, 10161, 10168). Section 51.22 also issued under Atomic Energy Act sec. 274 (42 U.S.C. 2021) and under Nuclear Waste Policy Act sec. 121 (42 U.S.C. 10141). Sections 51.43, 51.67, and 51.109 also issued under Nuclear Waste Policy Act sec. 114(f) (42 U.S.C. 10134(f)).

■ 2. Amend § 51.49 by:
■ a. Adding paragraph (a)(4).
■ b. Revising paragraph (b).
■ c. Adding paragraphs (c)(4), (d)(6), and (e)(3).

The additions and revisions read as follows:

§ 51.49 Environmental report—limited work authorization.

(a) * * *

(4) If the application for the construction permit or combined license will rely on any of the findings in appendix C to subpart A of this part in its environmental report, then the environmental report for the limited work authorization may implement the process in § 51.50(d) to determine whether it can rely on any of the findings in appendix C to subpart A of this part.

(b) *Phased application for limited work authorization and construction permit or combined license.* If the construction permit or combined license application is filed in accordance with § 2.101(a)(9) of this chapter, then the environmental report for part one of the application may be limited to a discussion of the activities proposed to be conducted under the limited work authorization. If the scope of the environmental report for part one is so limited, then:

(1) Part two of the application must include the information required by § 51.50, as applicable; and

(2) If part two of the application will rely on any of the findings in appendix C to subpart A of this part in its environmental report, then the environmental report for part one may implement the process in § 51.50(d) to determine whether it can rely on any of the findings in appendix C to subpart A of this part.

(c) * * *

(4) If the application for the early site permit will rely on any of the findings in appendix C to subpart A of this part in its environmental report, then the environmental report for the limited work authorization may implement the process in § 51.50(d) to determine whether it can rely on any of the findings in appendix C to subpart A of this part.

(d) * * *

(6) If the environmental impact statement for the early site permit relied on any of the findings in appendix C to subpart A of this part in its environmental report, then the environmental report for the limited work authorization may implement the process in § 51.50(d) to determine whether it can rely on any of the findings in appendix C to subpart A of this part for issues that were not resolved in the environmental impact statement for the early site permit.

(e) * * *

(3) If the environmental impact statement for the construction permit relied on any of the findings in appendix C to subpart A of this part in its environmental report, then the environmental report for the limited work authorization may implement the process in § 51.50(d) to determine whether it can rely on any of the findings in appendix C to subpart A of this part.

* * * * *

■ 3. In § 51.50, amend paragraph (a) by adding a new second sentence, and adding paragraph (d) to read as follows:

§ 51.50 Environmental report—construction permit, early site permit, or combined license stage.

(a) * * * For non-light-water reactors as defined in § 50.2 of this chapter, the environmental report shall contain the basis for evaluating the contribution of the environmental effects of fuel cycle activities for the nuclear reactor. * * *

* * * * *

(d) *Application for a construction permit, early site permit, or combined license for a nuclear reactor.* If an application is for a construction permit, an early site permit, or a combined license that does not reference an early site permit for a nuclear reactor, as defined in § 50.2 of this chapter, and further, if the applicant chooses to rely upon the findings of one or more of the issues identified as Category 1 issues in appendix C to subpart A of this part, then, in addition to the information and analyses required in paragraph (a), (b), or (c) of this section, as appropriate, the applicant's environmental report will be subject to the following conditions and considerations:

(1) The environmental report must contain information to demonstrate that the values and assumptions in appendix C to subpart A of this part are met, and no new and significant information is identified in accordance with paragraph (d)(5) of this section, for each Category 1 issue for which the applicant relies on the finding for that issue.

(2) The environmental report is not required to contain analyses of the environmental impacts of any issue identified as a Category 1 issue in appendix C to subpart A of this part, provided that the environmental report contains the information specified in paragraph (d)(1) of this section.

(3) The environmental report must contain analyses of the environmental impacts of the proposed action, including the construction, operation, and decommissioning of the proposed nuclear reactor, for:

(i) Any Category 1 issue for which the values and assumptions are not met or for which new and significant information is identified in accordance with paragraph (d)(5) of this section; and

(ii) Each issue identified as a Category 2 issue in appendix C to subpart A of this part.

(4) The environmental report must contain a consideration of alternatives for reducing adverse environmental impacts, as required by § 51.45(c), for all issues identified as Category 1 issues in appendix C to subpart A of this part for which the environmental report does not contain the information specified in paragraph (d)(1) of this section, and for

all issues identified as Category 2 issues in appendix C to subpart A of this part. No such consideration is required for Category 1 issues in appendix C to subpart A of this part that meet the applicable values and assumptions as specified in paragraph (d)(1) of this section.

(5) The environmental report must contain any new and significant information of which the applicant is aware regarding the environmental impacts for all issues identified as Category 1 issues in appendix C to subpart A of this part for which the applicant relies on the findings for those issues.

(6) The environmental report must contain a description of the process used to identify new and significant information regarding the issues identified as Category 1 issues in appendix C to subpart A of this part for which the applicant relies on the findings for those issues.

§ 51.53 [Amended]

■ 4. In § 51.53, amend paragraph (d) by removing the reference ''§ 50.82 or § 53.1080 of this chapter'' and adding in its place the references ''§ 50.82, § 52.110, or § 53.1080 of this chapter''.

■ 5. In § 51.75, add paragraph (d) to read as follows:

§ 51.75 Draft environmental impact statement—construction permit, early site permit, or combined license.

* * * * *

(d) *Construction permit, early site permit, or combined license for a nuclear reactor.* If a draft environmental impact statement is being prepared in accordance with paragraph (a), (b), or (c) of this section, and if applicant's environmental report relied upon the findings of one or more of the issues identified as Category 1 issues in appendix C to subpart A of this part, the draft environmental impact statement must be prepared as a supplement to NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors.'' In addition, the NRC staff will conduct scoping in accordance with § 51.26(a) and (b). The draft supplemental environmental impact statement will incorporate the conclusions in NUREG–2249 for issues identified as Category 1 for which the applicant has demonstrated that the applicable values and assumptions have been met and for which neither the applicant nor the NRC identified any new and significant information. The draft supplemental environmental impact statement must contain an analysis for those issues identified as Category 1 for which the applicant could not demonstrate that the applicable values and assumptions were met or for which any new and significant information was identified by the applicant or the NRC, and for those issues identified as Category 2.

■ 6. In § 51.76, revise paragraph (f) to read as follows:

§ 51.76 Draft environmental impact statement—limited work authorization.

* * * * *

(f) *Draft environmental impact statement.* A draft environmental impact statement prepared under this section must separately evaluate the environmental impacts and proposed alternatives attributable to the activities proposed to be conducted under the limited work authorization. However, if the ''Applicant's Environmental Report—Limited Work Authorization Stage,'' also contains the information required to be submitted in the environmental report required under § 51.50, then the environmental impact statement must address the impacts of construction and operation for the proposed facility (including the environmental impacts attributable to the limited work authorization), and discuss the overall costs and benefits balancing for the underlying proposed action, in accordance with § 51.71, and § 51.75(a) or (c), as applicable. For any draft environmental impact statement prepared under this section, if the applicant's environmental report relied upon the findings of one or more of the issues identified as Category 1 issues in appendix C to subpart A of this part, the draft environmental impact statement must be prepared as a supplement to NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors.'' In addition, the NRC staff will conduct scoping in accordance with § 51.26(a) and (b). The draft supplemental environmental impact statement will incorporate the conclusions in NUREG–2249 for issues identified as Category 1 for which the applicant has demonstrated that the applicable values and assumptions have been met and for which neither the applicant nor the NRC identified any new and significant information. The draft supplemental environmental impact statement must contain an analysis for those issues identified as Category 1 for which the applicant could not demonstrate that the applicable values and assumptions were met or for which any new and significant information was identified by the applicant or the NRC, and for those issues identified as Category 2.

■ 7. Add § 51.96 under the undesignated center heading ''Final Environmental Impact Statements—Production and Utilization Facilities'' to read as follows:

§ 51.96 Final supplemental environmental impact statement relying on a generic environmental impact statement for licensing new nuclear reactors.

(a) In connection with a construction permit, an early site permit, or a combined license that does not reference an early site permit for a nuclear reactor, as defined in 10 CFR 50.2, and for which the NRC staff relied on any of the findings in appendix C to subpart A of this part in preparing a draft supplemental environmental impact statement in accordance with § 51.75(d), the NRC shall prepare a final supplemental environmental impact statement, which is a supplement to the Commission's NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors.''

(b) The final supplemental environmental impact statement required by paragraph (a) of this section must contain the NRC staff's recommendation regarding the environmental acceptability of approving the construction permit, the early site permit, or the combined license. In order to make recommendations and reach a final decision on the proposed action, the NRC staff, adjudicatory officers, and Commission shall integrate:

(1) The conclusions in NUREG–2249 for issues designated as Category 1 for which the applicant has demonstrated that the applicable values and assumptions have been met and for which neither the applicant nor the NRC staff identified any new and significant information.

(2) Information developed for those Category 1 issues for which the applicant could not demonstrate that the applicable values and assumptions were met and those Category 2 issues applicable to the plant under § 51.50(d) and any new and significant information.

(c) The final supplemental environmental impact statement required by paragraph (a) of this section shall address those issues as required by § 51.91 and shall be distributed in accordance with § 51.93.

(d) In connection with a combined license that references an early site permit for which the NRC staff relied on any of the findings in appendix C to subpart A of this part in preparing the supplemental environmental impact statement for that early site permit, the NRC shall prepare a supplement to that final supplemental environmental impact statement. The supplement must

meet the requirements of § 51.92(e) and shall be considered a supplement to NUREG–2249.

(e) In connection with a combined license that references an early site permit for which the NRC staff relied on any of the findings in appendix C to subpart A of this part in preparing the draft supplemental environmental impact statement, the NRC staff shall prepare a supplement to the early site permit environmental impact statement. The supplement must be prepared in accordance with § 51.92(e) and shall be considered a supplement to NUREG–2249.

(f) In connection with the issuance of an operating license for which the NRC staff relied on any of the findings in appendix C to subpart A of this part in preparing the supplemental environmental impact statement for the construction permit for that nuclear reactor, the NRC shall prepare a supplement to the final supplemental environmental impact statement. The supplement must meet the requirements of § 51.95(b) and shall be considered a supplement to NUREG–2249.

■ 8. Add appendix C to subpart A of part 51 to read as follows:

Appendix C to Subpart A of Part 51—Environmental Effect of Issuing a Permit or License for a New Nuclear Reactor

The Commission has assessed the environmental impacts associated with authorizing the construction, operation, and decommissioning of a nuclear reactor. Table C–1 summarizes the Commission's generic findings on the scope and magnitude of environmental impacts of such an authorization as required by section 102(2) of the National Environmental Policy Act of 1969, as amended. Table C–1 presents the results of the generic analysis of those environmental impacts associated with building,[1] operating, and decommissioning a nuclear reactor that the NRC has designated as Category 1, as well as listing the issues that could not be resolved generically, designated as Category 2. The use of this table by applicants will be in accordance with § 51.50(d), and the use by the staff will be in accordance with §§ 51.75(d) and 51.96. On a 10-year cycle, the Commission intends to review the material in this appendix and update it if necessary. A scoping notice must be published in the **Federal Register** indicating the results of the NRC's review and inviting public comments and proposals for other areas that should be updated.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Land Use			
Construction:			
Onsite Land Use	1	SMALL	The proposed project, including any associated land uses, complies with NRC siting regulations in 10 CFR part 100. The site size is 100 acres [ac] (40.5 hectares [ha]) or less. The permanent footprint of disturbance includes 30 ac (12 ha) or less of vegetated lands, and the temporary footprint of disturbance includes no more than an additional 20 ac (8.1 ha) or less of vegetated lands. The proposed project complies with the site's zoning and is consistent with any relevant land use plans or comprehensive plans. The site would not be situated closer than 0.5 miles [mi] (0.8 kilometers [km]) to existing residential areas or 1.0 mi (1.6 km) to sensitive land uses such as Federal, State, or local parks; wildlife refuges; conservation lands; Wild and Scenic Rivers; or Natural Heritage Rivers. The site does not have a history of past industrial use capable of leaving a legacy of contamination requiring cleanup to protect human health and the environment. The total wetland loss from use of the site, including use of any offsite rights-of-way (ROWs), would be no more than 0.5 ac (0.2 ha). Best management practices (BMPs) for erosion, sediment control, and stormwater management would be used. Compliance with any mitigation measures established through zoning ordinances, local building permits, site use permits, or other land use authorizations.
Offsite Land Use	1	SMALL	New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 feet [ft] (30.5 meters [m]) in width and total no more than 1 mi (1.6 km) in length. No new offsite ROW would be situated closer than 0.5 mi (0.8 km) to existing residential areas or sensitive land uses such as Federal, State, or local parks; wildlife refuges; conservation lands; Wild and Scenic Rivers; or Natural Heritage Rivers. No existing ROWs in residential areas would be used or widened to accommodate project features. No ROW has a history of past industrial use capable of leaving a legacy of contamination requiring cleanup to protect human health and the environment. The total wetland loss from use of the entire project, including use of the site and any offsite ROWs, would be no more than 0.5 ac (0.2 ha). BMPs for erosion, sediment control, and stormwater management would be used. Compliance with any mitigation measures established through zoning ordinances, local building permits, site use permits, or other land use authorizations.
Impacts to Prime and Unique Farmland.	1	SMALL	The site size is (40.5 ha) or less. The site does not contain any prime or unique farmland or other farmland of statewide or local importance; or the site does not abut any agricultural land and is not situated in a predominantly agricultural landscape.
Coastal Zone and Compliance with the Coastal Zone Management Act (16 U.S.C. 1451 *et seq.*).	1	SMALL	The site is not situated in any designated coastal zone, or the applicant can demonstrate that the affected State(s) have or will issue a consistency determination or other indication that the project complies with the Coastal Zone Management Act.
Operation:			
Onsite Land Use	1	SMALL	The proposed project, including any associated land uses, complies with NRC siting regulations in 10 CFR part 100. The site size is 100 ac (40.5 ha) or less. If needed, cooling towers would be mechanical draft, not natural draft; less than 100 ft (30.5 m) in height; and equipped with drift eliminators. Any makeup water for the cooling towers would be fresh water (less than 1 part per trillion [ppt] salinity). BMPs for erosion, sediment control, and stormwater management would be used.

[1] The term ''building,'' as used in the NR GEIS, includes the full range of preconstruction (building activities not within the NRC's regulatory authority), and construction and installation activities (building activities within the NRC's regulatory authority).

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Offsite Land Use	1	SMALL	New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 ft (30.5 m) in width and total no more than 1 mi (1.6 km) in length. BMPs for erosion, sediment control, and stormwater management would be used (wherever land is disturbed during the course of ROW management).
Visual Resources			
Construction:			
Visual Impacts in Site and Vicinity	1	SMALL	The site size is 100 ac (40.5 ha) or less. The site would not be situated closer than 0.5 mi (0.8 km) to existing residential areas or 1 mi (1.6 km) to sensitive land uses such as Federal, State, or local parks; wildlife refuges; conservation lands; Wild and Scenic Rivers; or Natural Heritage Rivers. The maximum proposed building and structure height is no more than 50 ft (15.2 m), except that the maximum height is 200 ft (61 m) for proposed meteorological towers and 100 ft (30.5 m) for transmission line poles/towers and mechanical draft cooling towers. The proposed project structures would not be visible from Federal or State parks or wilderness areas designated as Class 1 under section 162 of the Clean Air Act (42 U.S.C. 7472); or as a Wild and Scenic River, a Natural Heritage River, or a river of similar State designation.
Visual Impacts from Transmission Lines.	1	SMALL	New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 ft (30.5 m) in width and total no more than 1 mi (1.6 km) in length. No transmission line structures (poles or towers) would be over 100 ft (30.5 m) in height. The new offsite ROWs would not be situated closer than 1 mi (1.6 km) to existing residential areas or sensitive land uses such as Federal, State, or local parks; wildlife refuges; conservation lands; Wild and Scenic Rivers; or Natural Heritage Rivers. Any proposed new structures on offsite ROWs would not be visible from Federal or State parks or wilderness areas designated as Class 1 under section 162 of the Clean Air Act (42 U.S.C. 7472); or as a Wild and Scenic River, a Natural Heritage River, or a river of similar State designation.
Operation:			
Visual Impacts During Operations	1	SMALL	The site would not be situated closer than 1 mi (1.6 km) to existing residential areas or sensitive land uses such as Federal, State, or local parks; wildlife refuges; conservation lands; Wild and Scenic Rivers; or Natural Heritage Rivers. The maximum proposed building and structure height would be no more than 50 ft (15.2 m), except that the maximum height would be 200 ft (61 m) for proposed meteorological towers and 100 ft (30.5 m) for proposed transmission line poles/towers and proposed mechanical draft cooling towers. The proposed project structures would not be visible from Federal or State parks or wilderness areas designated as Class 1 under section 162 of the Clean Air Act (42 U.S.C. 7472); or as a Wild and Scenic River, a Natural Heritage River, or a river of similar State designation. If needed, cooling towers would be mechanical draft, not natural draft; less than 100 ft (30.5 m) in height; and equipped with drift eliminators. Any makeup water for the cooling towers would be fresh water (less than 1 ppt salinity).
Meteorology and Air Quality			
Construction:			
Emissions of Criteria Pollutants and Dust During Construction.	1	SMALL	The site size is 100 ac (40.5 ha) or less. The permanent footprint of disturbance is 30 ac (12.1 ha) or less of vegetated lands and the temporary footprint of disturbance is an additional 20 ac (8.1 ha) or less of vegetated land. New offsite ROWs for transmission lines, pipelines, or access roads would be no longer than 1 mi (1.6 km) and have a maximum ROW width of 100 ft (30.5 m). Criteria pollutants emitted from vehicles and standby power equipment during construction are less than Clean Air Act de minimis levels set by the U.S. Environmental Protection Agency (EPA) if the site is located in a nonattainment or maintenance area, or the site is located in an attainment area. The site is not located within 1 mi (1.6 km) of a mandatory Class I Federal area where visibility is an important value. The level of service (LOS) determination for affected roadways does not change. Mitigation necessary to rely on the generic analysis includes implementation of BMPs for dust control. Compliance with air permits under State and Federal laws that address the impact of air emissions during construction.
Greenhouse Gas Emissions During Construction.	1	SMALL	Greenhouse gases emitted by equipment and vehicles during the 97-year greenhouse gas life-cycle period would be equal to or less than 2,534,000 metric tons [MT] of carbon dioxide equivalent [CO_2(e)]. Appendix H of NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors'' contains the NRC's methodology for developing this value, which includes emissions from construction, operation, and decommissioning. As long as this total value is met, the impacts for the life cycle of the project and the individual phases of the project are determined to be SMALL.
Operation:			
Emissions of Criteria and Hazardous Air Pollutants during Operation.	1	SMALL	Criteria pollutants emitted from vehicles and standby power equipment during operations are less than Clean Air Act de minimis levels set by the EPA if located in a nonattainment or maintenance area. The site is not located within 1 mi (1.6 km) of a mandatory Class I Federal area where visibility is an important value. The LOS determination for affected roadways does not change. Compliance with air permits under State and Federal laws that address the impact of air emissions. Hazardous air pollutant (HAP) emissions will be within regulatory limits.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Greenhouse Gas Emissions During Operation.	1	SMALL	Greenhouse gases emitted by equipment and vehicles during the 97-year greenhouse gas life-cycle period would be equal to or less than 2,534,000 MT of CO_2(e). Appendix H of NUREG–2249 contains the NRC's methodology for developing this value, which includes emissions from construction, operation, and decommissioning. As long as this total value is met, the impacts for the life cycle of the project and the individual phases of the project are determined to be SMALL.
Cooling-System Emissions	1	SMALL	If needed, cooling towers would be mechanical draft, not natural draft. Cooling towers would be equipped with drift eliminators. The site is not located within 1 mi (1.6 km) of a mandatory Class I Federal area where visibility is an important value. Mechanical draft cooling towers would be less than 100 ft (30.5 m) tall. Makeup water would be fresh (with a salinity less than 1 ppt). Operation of cooling towers is assumed to be subject to State permitting requirements. HAP emissions would be within regulatory limits. No existing residential areas within 0.5 mi (0.8 km) of the site.
Emissions of Ozone and Nitrogen Oxides during Transmission Line Operation.	1	SMALL	The transmission line voltage would be no higher than 1,200 kilovolts [kV].
Water Resources			
Construction:			
Surface Water Use Conflicts during Construction.	1	SMALL	Total Plant Water Demand Less than or equal to a daily average of 6,000 gallons per minute [gpm] (0.379 cubic meters per second [m^3/s]). If water is obtained from a flowing water body, then the following plant parameter envelope/site parameter envelope (PPE/SPE) parameter and associated assumptions also apply: Average plant water withdrawals do not reduce discharge from the flowing water body by more than 3 percent of the 95 percent exceedance daily flow and do not prevent the maintenance of applicable instream flow requirements. The 95 percent exceedance flow accounts for existing and planned future withdrawals. Water availability is demonstrated by the ability to obtain a withdrawal permit issued by State, regional, or Tribal governing authorities. Water rights for the withdrawal amount are obtainable, if needed. If water is obtained from a non-flowing water body, then the following PPE/SPE parameter and associated value and assumptions also apply: Water availability of the Great Lakes, the Gulf of America, oceans, estuaries, and intertidal zones exceeds the amount of water required by the plant. Water availability is demonstrated by the ability to obtain a withdrawal permit issued by State, regional, or Tribal governing authorities. Water rights for the withdrawal amount are obtainable, if needed. The Coastal Zone Management Act consistency determination is obtainable, if applicable, for the non-flowing water body.
Groundwater Use Conflicts due to Excavation Dewatering.	1	SMALL	The long-term dewatering withdrawal rate is less than or equal to 50 gpm (0.003 m^3/s) (the initial rate may be larger). Dewatering results in negligible groundwater level drawdown at the site boundary.
Groundwater Use Conflicts due to Construction-Related Groundwater Withdrawals.	1	SMALL	Groundwater withdrawal for all plant uses (excluding dewatering) is less than or equal to 50 gpm (0.003 m^3/s). Withdrawal results in no more than 1 ft (0.3 m) of groundwater level drawdown at the site boundary. Withdrawals are not derived from an EPA-designated Sole Source Aquifer (SSA), or from any aquifer designated by a State, Tribe, or regional authority to have special protections to limit drawdown. Withdrawals meet any applicable State or local permit requirements.
Water Quality Degradation due to Construction-Related Discharges.	1	SMALL	The permanent footprint of disturbance includes 30 ac (12.1 ha) or less of vegetated lands, and the temporary footprint of disturbance includes no more than an additional 20 ac (8.1 ha) or less of vegetated lands. Adherence to requirements in National Pollutant Discharge Elimination System (NPDES) permits issued by the EPA or State permitting program, and any other applicable permits. The long-term groundwater dewatering withdrawal rate is less than or equal to 50 gpm (0.003 m^3/s). Dewatering discharge has minimal effects on the quality of the receiving water body (*e.g.,* as demonstrated by conformance with NPDES permit requirements). There are no planned discharges to the subsurface (by infiltration or injection), including stormwater discharge.
Water Quality Degradation due to Inadvertent Spills during Construction.	1	SMALL	The site size is 100 ac (40.5 ha) or less. The permanent footprint of disturbance includes 30 ac (12.1 ha) or less of vegetated lands, and the temporary footprint of disturbance includes no more than an additional 20 ac (8.1 ha) or less of vegetated lands. Applicable requirements and guidance on spill prevention and control are followed, including relevant BMPs and Integrated Pollution Prevention Plans (IPPPs).
Water Quality Degradation due to Groundwater Withdrawal.	1	SMALL	Groundwater Withdrawal for Excavation or Foundation Dewatering. The long-term dewatering withdrawal rate is less than or equal to 50 gpm (0.003 m^3/s) (the initial rate may be larger). Dewatering results in negligible groundwater level drawdown at the site boundary. Groundwater Withdrawal for Plant Uses Groundwater withdrawal for all plant uses (excluding dewatering) is less than or equal to 50 gpm (0.003 m^3/s). Withdrawal results in no more than 1 ft (0.3 m) of groundwater level drawdown at the site boundary. Withdrawals are not derived from an EPA-designated SSA, or from any aquifer designated by a State, Tribe, or regional authority to have special protections to limit drawdown. Withdrawals meet any applicable State or local permit requirements.
Water Quality Degradation due to Offshore or In-Water Construction Activities.	1	SMALL	In-water structures (including intake and discharge structures) are constructed in compliance with provisions of the Clean Water Act (CWA) section 404 (33 U.S.C. 1344) and section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. 401 *et seq.*). Adverse effects of building activities controlled and localized using BMPs such as installation of turbidity curtains or installation of cofferdams. Construction duration would be less than 7 years.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Water Use Conflict Due to Plant Municipal Water Demand.	1	SMALL	The amount available from municipal water systems exceeds the amount of municipal water required by the plant (gpm). Municipal Water Availability accounts for all existing and planned future uses. An agreement or permit for the usage amount can be obtained from the municipality.
Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems.	1	SMALL	Municipal Systems' Available Capacity to Receive and Treat Plant Effluent accounts for all existing and reasonably foreseeable future discharges. Agreement to discharge to a municipal treatment system is obtainable.
Operation:			
Surface Water Use Conflicts during Operation due to Water Withdrawal from Flowing Waterbodies.	1	SMALL	Total plant water demand is less than or equal to a daily average of 6,000 gpm (0.379 m^3/s). Average plant water withdrawals do not reduce discharge from the flowing water body by more than 3 percent of the 95 percent exceedance daily flow and do not prevent the maintenance of applicable instream flow requirements. The 95 percent exceedance flow accounts for existing and planned future withdrawals. Water availability is demonstrated by the ability to obtain a withdrawal permit issued by State, regional, or Tribal governing authorities. Water rights for the withdrawal amount are obtainable, if needed.
Surface Water Use Conflicts during Operation due to Water Withdrawal from Non-flowing Waterbodies.	1	SMALL	Total plant water demand is less than or equal to a daily average of 6,000 gpm (0.379 m^3/s). Water availability of the Great Lakes, the Gulf of America, oceans, estuaries, and intertidal zones exceeds the amount of water required by the plant. Water availability is demonstrated by the ability to obtain a withdrawal permit issued by State, regional, or Tribal governing authorities. Water rights for the withdrawal amount are obtainable, if needed. Coastal Zone Management Act of 1972 (16 U.S.C. 1451 *et seq.*) consistency determination is obtainable, if applicable.
Groundwater Use Conflicts Due to Building Foundation Dewatering.	1	SMALL	The long-term dewatering withdrawal rate is less than or equal to 50 gpm (0.003 m^3/s) (the initial rate may be larger). Dewatering results in negligible groundwater level drawdown at the site boundary.
Groundwater Use Conflicts Due to Groundwater Withdrawals for Plant Uses.	1	SMALL	Groundwater withdrawal for all plant uses (excluding dewatering) is less than or equal to 50 gpm (0.003 m^3/s). Withdrawal results in no more than 1 ft (0.3 m) of groundwater level drawdown at the site boundary. Withdrawals are not derived from an EPA-designated SSA, or from any aquifer designated by a State, Tribe, or regional authority to have special protections to limit drawdown. Withdrawals meet any applicable State or local permit requirements.
Surface Water Quality Degradation Due to Physical Effects from Operation of Intake and Discharge Structures.	1	SMALL	Total plant water demand is less than or equal to a daily average of 6,000 gpm (0.379 m^3/s). Adhere to best available technology requirements of CWA 316(b) (33 U.S.C. 1326). Operated in compliance with CWA section 316(b) and 40 CFR 125.83, including compliance with monitoring and recordkeeping requirements in 40 CFR 125.87 and 40 CFR 125.88, respectively (40 CFR part 125). Best available technologies are employed in the design and operation of intake and discharge structures to minimize alterations due to scouring, sediment transport, increased turbidity, and erosion. Adherence to requirements in NPDES permits issued by the EPA or a given State. If water is obtained from a flowing water body, then the following PPE/SPE parameter and associated value also apply: The average rate of plant withdrawal does not exceed 3 percent of the 95 percent exceedance daily flow for the water body. If water is obtained from a non-flowing water body, then the following PPE/SPE parameters and associated values and assumptions also apply: Water availability of the Great Lakes, the Gulf of America, oceans, estuaries, and intertidal zones exceeds the amount of water required by the plant.
Surface Water Quality Degradation Due to Changes in Salinity Gradients Resulting from Withdrawals.	1	SMALL	Total plant water demand is less than or equal to a daily average of 6,000 gpm (0.379 m^3/s). If water is obtained from a flowing water body, then the following PPE/SPE parameter and associated assumptions also apply: Average plant water withdrawals do not reduce discharge from the flowing water body by more than 3 percent of the 95 percent exceedance daily flow and do not prevent the maintenance of applicable instream flow requirements. The 95 percent exceedance flow accounts for existing and planned future withdrawals. Water availability is demonstrated by the ability to obtain a withdrawal permit issued by State, regional, or Tribal governing authorities. Water rights for the withdrawal amount are obtainable, if needed. If withdrawals are from an estuary or intertidal zone, then changes to salinity gradients are within the normal tidal or seasonal movements that characterize the water body. If water is obtained from a non-flowing water body, then the following PPE/SPE parameter and associated values and assumptions also apply: Water availability of the Great Lakes, the Gulf of America, oceans, estuaries, and intertidal zones exceeds the amount of water required by the plant. Water availability is demonstrated by the ability to obtain a withdrawal permit issued by State, regional, or Tribal governing authorities. Water rights for the withdrawal amount are obtainable, if needed. If withdrawals are from an estuary or intertidal zone, then changes to salinity gradients are within the normal tidal or seasonal movements that characterize the water body.
Surface Water Quality Degradation Due to Chemical and Thermal Discharges.	2	Undetermined	The NRC determined that a generic analysis to determine operational impacts on surface water quality due to chemical and thermal discharges was not possible because (1) some States may impose effluent constituent limitations more stringent that those required by the EPA, (2) limitations imposed on effluent constituents may vary among States, and (3) the establishment of a mixing zone may be required. Because all of these issues related to degradation of surface water quality from chemical and thermal discharges require consideration of project-specific information, a project-specific assessment should be performed in the supplemental environmental impact statement.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Groundwater Quality Degradation Due to Plant Discharges.	1	SMALL	The plant is outside the recharge area for any EPA-designated SSA, or any aquifer designated to have special protections by a State, Tribal, or regional authority. The plant is outside the wellhead protection area or designated contributing area for any public water supply well. There are no planned discharges to the subsurface (by infiltration or injection).
Water Quality Degradation due to Inadvertent Spills and Leaks during Operation.	1	SMALL	Applicable requirements and guidance on spill prevention and control are followed, including relevant BMPs and IPPPs. There are no planned discharges to the subsurface (by infiltration or injection), including stormwater discharge. A groundwater protection program conforming to currently applicable industry guidance is established and followed. The site size is 100 ac (40.5 ha) or less. Use of BMPs for soil erosion, sediment control, and stormwater management. Adherence to requirements in NPDES permits issued by the EPA or a given State, and any other applicable permits.
Water Quality Degradation due to Groundwater Withdrawals.	1	SMALL	The long-term dewatering withdrawal rate is less than or equal to 50 gpm (0.003 m^3/s) (the initial rate may be larger). Dewatering results in negligible groundwater level drawdown at the site boundary. Groundwater withdrawal for all plant uses (excluding dewatering) is less than or equal to 50 gpm (0.003 m^3/s). Withdrawal results in no more than 1 ft (0.3 m) of groundwater level drawdown at the site boundary. Withdrawals are not derived from an EPA-designated SSA, or from any aquifer designated by a State, Tribe, or regional authority to have special protections to limit drawdown. Withdrawals meet any applicable State or local permit requirements.
Water Use Conflict from Plant Municipal Water Demand.	1	SMALL	Usage amount is within the existing capacity of the system(s), accounting for all existing and planned future uses. An agreement or permit for the usage amount can be obtained from the municipality.
Degradation of Water Quality from Plant Effluent Discharges to Municipal Systems.	1	SMALL	Municipal Systems' Available Capacity to Receive and Treat Plant Effluent accounts for all existing and reasonably foreseeable future discharges. Agreement to discharge to a municipal treatment system is obtainable.
Terrestrial Ecology			
Construction:			
Permanent and Temporary Loss, Conversion, Fragmentation, and Degradation of Habitats.	1	SMALL	The permanent footprint of disturbance would include 30 ac (12.1 ha) or less of vegetated lands, and the temporary footprint of disturbance would include no more than an additional 20 ac (8.1 ha) or less of vegetated lands. Temporarily disturbed lands would be revegetated using regionally indigenous vegetation once the lands are no longer needed to support building activities. New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 ft (30.5 m) in width and total no more than 1 mi (1.6 km) in length. The footprint of disturbance (permanent and temporary) would contain no ecologically sensitive features such as floodplains, shorelines, riparian vegetation, late-successional vegetation, land specifically designated for conservation, or habitat known to be potentially suitable for one or more Federal or State threatened or endangered species. Total wetland impacts from use of the site and any offsite ROWs would be no more than 0.5 ac (0.2 ha). Applicants would demonstrate an effort to minimize fragmentation of terrestrial habitats by using existing ROWs, or widening existing ROWs, to the extent practicable. BMPs would be used for erosion, sediment control, and stormwater management.
Permanent and Temporary Loss and Degradation of Wetlands.	1	SMALL	Applicant would provide a delineation of potentially impacted wetlands, including wetlands not under CWA jurisdiction. Total wetland impacts from use of the site and any offsite ROWs would be no more than 0.5 ac (0.2 ha). If activities regulated under the CWA are performed, those activities would receive approval under one or more nationwide permits (NWPs) (33 CFR part 330) or other general permits recognized by the U.S. Army Corps of Engineers. Temporary groundwater withdrawals for excavation or foundation dewatering would not exceed a long-term rate of 50 gpm (0.003 m^3/s). Applicants would be able to demonstrate that the temporary groundwater withdrawals would not substantially alter the hydrology of wetlands connected to the same groundwater resource. Any required State or local permits for wetland impacts would be obtained. Any mitigation measures indicated in the NWPs or other permits would be implemented. BMPs would be used for erosion, sediment control, and stormwater management.
Effects of Building Noise on Wildlife	1	SMALL	Noise generation would not exceed 85 A-weighted decibels [dBA] 50 ft (15.2 m) from the source.
Effects of Vehicular Collisions on Wildlife.	1	SMALL	The site size would be 100 ac (40.5 ha) or less. The permanent footprint of disturbance would include 30 ac (12.1 ha) or less of vegetated lands, and the temporary footprint of disturbance would include no more than an additional 20 ac (8.1 ha) or less of vegetated lands. There would be no decreases in the LOS designation for affected roadways. The licensee would communicate with Federal and State wildlife agencies and implement mitigation actions recommended by those agencies to reduce potential for vehicular injury to wildlife.
Bird Collisions and Injury from Structures and Transmission Lines.	1	SMALL	The site size would be 100 ac (40.5 ha) or less. New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 ft (30.5 m) in width and total no more than 1 mi (1.6 km) in length. No transmission line structures (poles or towers) would be more than 100 ft (30.5 m) in height. Licensees would implement common mitigation measures such as those provided by the American Bird Conservancy for buildings, by the U.S. Fish and Wildlife Service (FWS) for towers, and by the Avian Power Line Interaction Committee (APLIC) for transmission lines.
Important Species and Habitats—Resources Regulated under the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*).	2	Undetermined	The NRC is unable to determine the significance of potential impacts without consideration of project-specific factors, including the specific species and habitats affected and the types of ecological changes potentially resulting from each specific licensing action.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Important Species and Habitats—Other Important Species and Habitats.	1	SMALL	Applicants would communicate with State natural resource or conservation agencies regarding wildlife and plants and implement mitigation recommendations of those agencies.
Operation:			
Permanent and Temporary Loss or Disturbance of Habitats.	1	SMALL	Temporarily disturbed lands would be revegetated using regionally indigenous vegetation once the lands are no longer needed to support building activities. The total wetland loss from site disturbance over the operational life of the plant would be no more than 0.5 ac (0.2 ha). Any State or local permits for wetland impacts would be obtained. Any mitigation measures indicated in the NWPs or other wetland permits would be implemented. BMPs would be used for erosion, sediment control, and stormwater management.
Effects of Operational Noise on Wildlife	1	SMALL	Noise generation would not exceed 85 dBA 50 ft (15.2 m) from the source. There would be no decreases in the LOS designation for affected roadways. The licensee would communicate with Federal and State wildlife agencies and implement mitigation actions recommended by those agencies to reduce potential for vehicular injury to wildlife.
Effects of Vehicular Collisions on Wildlife.	1	SMALL	Noise generation would not exceed 85 dBA 50 ft (15.2 m) from the source. There would be no decreases in the LOS designation for affected roadways. The licensee would communicate with Federal and State wildlife agencies and implement mitigation actions recommended by those agencies to reduce potential for vehicular injury to wildlife.
Exposure of Terrestrial Organisms to Radionuclides.	1	SMALL	Applicants would demonstrate in their application that any radiological nonhuman biota doses would be below International Atomic Energy Agency (IAEA) and National Council on Radiation Protection and Measurements (NCRP) guidelines.
Cooling-Tower Operational Impacts on Vegetation.	1	SMALL	If needed, cooling towers would be mechanical draft, not natural draft; less than 100 ft (30.5 m) in height; and equipped with drift eliminators. Any makeup water for the cooling towers would be fresh water (less than 1 ppt salinity).
Bird Collisions and Injury from Structures and Transmission Lines.	1	SMALL	The site size would be 100 ac (40.5 ha) or less. New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 ft (30.5 m) in width and total no more than 1 mi (1.6 km) in length. No transmission line structures (poles or towers) would be more than 100 ft (30.5 m) in height. Licensees would implement common mitigation measures such as those provided by the American Bird Conservancy for buildings, by the FWS for towers, and by the APLIC for transmission lines.
Bird Electrocutions from Transmission Lines.	1	SMALL	New offsite ROWs for transmission lines, pipelines, or access roads would be no more than 100 ft (30.5 m) in width and total no more than 1 mi (1.6 km) in length. Common mitigation measures, such as those recommended by APLIC, would be implemented.
Water Use Conflicts with Terrestrial Resources.	1	SMALL	Total plant water demand would be less than or equal to a daily average of 6,000 gpm (0.379 m^3/s). If water is withdrawn from flowing water bodies, average plant water withdrawals would not reduce flow by more than 3 percent of the 95 percent exceedance daily flow and would not prevent maintenance of applicable instream flow requirements. Any water withdrawals would be in compliance with any EPA or State permitting requirements. Applicants would be able to demonstrate that hydroperiod changes are within historical or seasonal fluctuations.
Effects of Transmission Line ROW Management on Terrestrial Resources.	1	SMALL	Vegetation in transmission line ROWs would be managed following a plan consisting of integrated vegetation management practices. All ROW maintenance work would be performed in compliance with all applicable laws and regulations. Herbicides would be applied by licensed applicators, and only if in compliance with applicable manufacturer label instructions.
Effects of Electromagnetic Fields on Flora and Fauna.	1	SMALL	Based on the literature review in the License Renewal Generic Environmental Impact Statement (LR GEIS), the NRC determined that this is a Category 1 issue and impacts would be SMALL regardless of the length, location, or size of the transmission lines. The NRC did not recommend any mitigation in the LR GEIS; hence, none is needed here. The NRC did not rely on any PPE and SPE values or assumptions in reaching this conclusion.
Important Species and Habitats—Resources Regulated under the ESA of 1973.	2	Undetermined	The NRC is unable to determine the significance of potential impacts without consideration of project-specific factors, including the specific species and habitats affected and the types of ecological changes potentially resulting from each specific licensing action.
Important Species and Habitats—Other Important Species and Habitats.	1	SMALL	Applicants would communicate with State natural resource or conservation agencies regarding wildlife and plants and implement mitigation recommendations of those agencies.
Aquatic Ecology			
Construction:			
Runoff and sedimentation from construction areas.	1	SMALL	BMPs would be used for erosion and sediment control. Temporarily disturbed lands would be revegetated using regionally indigenous vegetation once the lands are no longer needed to support building activities.
Dredging and filling aquatic habitats to build intake and discharge structures.	1	SMALL	Applicant would obtain approval, if required, under NWP 7 in 33 CFR part 330. Applicant would implement any mitigation required under NWP 7 in 33 CFR part 330. Applicant would minimize any temporarily disturbed shoreline and riparian lands needed to build the intake and discharge structures and restore those areas with regionally indigenous vegetation suited to those landscape settings once the disturbances are no longer needed. BMPs would be used for erosion and sediment control.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Building transmission lines, pipelines, and access roads across surface waterbodies.	1	SMALL	If activities regulated under the CWA are performed, they would receive approval under one or more NWPs (33 CFR part 330) or other general permits recognized by the U.S. Army Corps of Engineers. Pipelines would be extended under (or over) surface through directional drilling without physically disturbing shorelines or bottom substrate. Access roads would span streams and other surface waterbodies with a bridge or ford, and any fords would include placement and maintenance of matting to minimize physical disturbance of shorelines and bottom substrates. No access roads would be extended across stream channels over 10 ft (3 m) in width (at ordinary high water). Any bridges or fords would be removed once no longer needed, and any exposed soils or substrate would be revegetated using regionally indigenous vegetation appropriate to the landscape setting. Any mitigation measures indicated in the NWPs or other permits would be implemented. BMPs would be used for erosion and sediment control.
Important Species and Habitats—Resources Regulated under the ESA and Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C.1801 *et seq.*).	2	Undetermined	The NRC is unable to determine the significance of potential impacts without consideration of project-specific factors, including the specific species and habitats affected and the types of ecological changes potentially resulting from each specific licensing action. Furthermore, the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*) require consultations for each licensing action that may affect regulated resources.
Important species and habitats—Other Important Species and Habitats.	1	SMALL	Applicants would communicate with State natural resource or conservation agencies regarding aquatic fish, wildlife, and plants and implement mitigation recommendation of those agencies.
Operation:			
Stormwater runoff	1	SMALL	Preparation, approval by applicable regulatory agencies, and implementation of a stormwater management plan. Obtaining and compliance with any required permits for the storage and use of hazardous materials issued by Federal and State agencies under Resource Conservation and Recovery Act (RCRA). BMPs would be used for stormwater management.
Exposure of aquatic organisms to radionuclides.	1	SMALL	Applicants would demonstrate in their application that any radiological nonhuman biota doses would be below IAEA and NCRP guidelines.
Effects of refurbishment on aquatic biota.	1	SMALL	BMPs would be used for erosion, sediment control, and stormwater management. Exposed soils would be restored as soon as possible with regionally indigenous vegetation.
Effects of maintenance dredging on aquatic biota.	1	SMALL	If activities regulated under the CWA are performed, those activities would receive approval under one or more NWPs (33 CFR part 330) or other general permits recognized by the U.S. Army Corps of Engineers. Any mitigation measures indicated in the NWPs or other permits would be implemented. BMPs would be used for erosion and sediment control.
Impacts of transmission line ROW management on aquatic resources.	1	SMALL	Vegetation in transmission line ROWs would be managed following a plan consisting of integrated vegetation management practices. All ROW maintenance work would be performed in compliance with all applicable laws and regulations. Herbicides would be applied by licensed applicators, and only if in compliance with applicable manufacturer label instructions. BMPs would be used for erosion and sediment control.
Impingement and entrainment of aquatic organisms.	1	SMALL	Intakes would comply with regulatory requirements established by EPA in 40 CFR 125.84 to be protective of fish and shellfish. Best available control technology would be employed in the design of intakes to minimize entrainment and impingement, such as use of screens and intake rates recognized to minimize effects.
Thermal impacts on aquatic biota	2	Undetermined	The NRC would have to first review the discharge plume analysis (as described in section 3.4) and the aquatic biota potentially present before being able to reach a conclusion regarding the possible significance of impacts to that biota.
Other effects of cooling-water discharges on aquatic biota.	2	Undetermined	The NRC would have to first review the discharge plume analysis (as described in section 3.4) and the aquatic biota potentially present before being able to reach a conclusion regarding the possible significance of impacts to that biota.
Water use conflicts with aquatic resources.	1	SMALL	If needed, cooling towers would be mechanical draft, not natural draft; less than 100 ft (30.5 m) in height; and equipped with drift eliminators. Any makeup water for the cooling towers would be fresh water (less than 1 ppt salinity). Total plant water demand would be less than or equal to a daily average of 6,000 gpm (0.379 m^3/s). If water is withdrawn from flowing waterbodies, average plant water withdrawals would not reduce flow by more than 3 percent of the 95 percent exceedance daily flow and would not prevent maintenance of applicable instream flow requirements. Any water withdrawals would be in compliance with any EPA or State permitting requirements. Applicants would be able to demonstrate that hydroperiod changes are within historical or seasonal fluctuations.
Important Species and Habitats—Resources Regulated under the ESA and Magnuson-Stevens Fishery Conservation and Management Act.	2	Undetermined	The NRC is unable to determine the significance of potential impacts without consideration of project-specific factors, including the specific species and habitats affected and the types of ecological changes potentially resulting from each specific licensing action. Furthermore, the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 *et seq.*) require consultations for each licensing action that may affect regulated resources.
Important species and habitats—Other Important Species and Habitats.	1	SMALL	Applicants would communicate with State natural resource or conservation agencies regarding aquatic fish, wildlife, and plants and implement mitigation recommendations of those agencies.
Historic and Cultural Resources			
Construction:			

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Construction impacts on historic and cultural resources.	2	Undetermined	Impacts on historic and cultural resources are analyzed on a project-specific basis. The NRC will perform a National Environmental Policy Act (NEPA) analysis and a National Historic Preservation Act (NHPA) Section 106 consultation as required, in accordance with 36 CFR part 800, including consultation with the State and Tribal Historic Preservation Officers, Indian Tribes, and other interested parties.
Operation:			
Operation impacts on historic and cultural resources.	2	Undetermined	Impacts on historic and cultural resources are analyzed on a project-specific basis. The NRC will perform a National Environmental Policy Act (NEPA) analysis and a National Historic Preservation Act (NHPA) Section 106 consultation as required, in accordance with 36 CFR part 800, including consultation with the State and Tribal Historic Preservation Officers, Indian Tribes, and other interested parties.
Environmental Hazards—Radiological Environment			
Construction:			
Radiological dose to construction workers.	1	SMALL	For protection against radiation, the applicant must meet the regulatory requirements of: —10 CFR 20.1101 Radiation Protection Programs if issued a license —10 CFR 20.1201 Occupational dose limits for adults 10 CFR 20.1301 Dose limits for individual members of the public —Appendix B to 10 CFR part 20 Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage —10 CFR 50.34a Design objectives for equipment to control releases of radioactive material in effluents—nuclear power reactors —10 CFR 50.36a. Technical specifications on effluents from nuclear power reactors Application contains sufficient technical information for the staff to complete the detailed technical safety review. Application will be found to be in compliance by the NRC with the above regulations through a radiation protection program and an effluent release monitoring program.
Operation:			
Occupational doses to workers	1	SMALL	For protection against radiation, the applicant must meet the regulatory requirements of: —10 CFR 20.1101 Radiation Protection Programs if issued a license —10 CFR 20.1201 Occupational dose limits for adults —Appendix B of 10 CFR part 20 Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage —10 CFR 50.34a Design objectives for equipment to control releases of radioactive material in effluents—nuclear power reactors —10 CFR 50.36a Technical specifications on effluents from nuclear power reactors. Application contains sufficient technical information for the staff to complete the detailed technical safety review. Application will be found to be in compliance by the NRC with the above regulations through a radiation protection program and an effluent release monitoring program.
Maximally exposed individual annual doses.	1	SMALL	For protection against radiation, the applicant must meet the regulatory requirements of: —10 CFR 20.1101 Radiation Protection Programs if issued a license —10 CFR 20.1301 Dose limits for individual members of the public —Appendix B of 10 CFR part 20 ALIs and DACs of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage —10 CFR 50.34a Design objectives for equipment to control releases of radioactive material in effluents—nuclear power reactors —10 CFR 50.36a Technical specifications on effluents from nuclear power reactors. Application contains sufficient technical information for the staff to complete the detailed technical safety review. Application will be found to be in compliance by the NRC with the above regulations through a radiation protection program and an effluent release monitoring program.
Total population annual doses	1	SMALL	For protection against radiation, the applicant must meet the regulatory requirements of: —10 CFR 20.1101 Radiation Protection Programs if issued a license —10 CFR 20.1301 Dose limits for individual members of the public —Appendix B of 10 CFR part 20 ALIs and DACs of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage —10 CFR 50.34a Design objectives for equipment to control releases of radioactive material in effluents—nuclear power reactors —10 CFR 50.36a Technical specifications on effluents from nuclear power reactors. Application contains sufficient technical information for the staff to complete the detailed technical safety review. Application will be found to be in compliance by the NRC with the above regulations through a radiation protection program and an effluent release monitoring program.
Nonhuman biota doses	1	SMALL	Applicants would demonstrate in their application that any radiological nonhuman biota doses would be below IAEA and NCRP guidelines.
Environmental Hazards—Nonradiological Environment			
Construction:			

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Building impacts of chemical, biological, and physical nonradiological hazards.	1	SMALL	The applicant must adhere to all applicable Federal, State, local or Tribal regulatory limits and permit conditions for chemical hazards, biological hazards, and physical hazards. The applicant will follow nonradiological public and occupational health BMPs and mitigation measures, as appropriate.
Building impacts of electromagnetic fields (EMFs).	N/A	Uncertain	Studies of 60 hertz [Hz] EMFs have not uncovered consistent evidence linking harmful effects with field exposures. Because the state of the science is currently uncertain, no generic conclusion on human health impacts is possible. If, in the future, the Commission finds scientific information sufficient to draw conclusions about potential human health impacts, the Commission may require applicants to submit plant-specific reviews of these health effects as part of their application. Until such time, applicants are not required to submit information about this issue.
Operation:			
Operation impacts of chemical, biological, and physical nonradiological hazards.	1	SMALL	The applicant must adhere to all applicable Federal, State, local or Tribal regulatory limits and permit conditions for chemical hazards, biological hazards, and physical hazards. The applicant will follow nonradiological public and occupational health BMPs and mitigation measures, as appropriate.
Operation impacts of EMFs	N/A	Uncertain	Studies of 60 Hz EMFs have not uncovered consistent evidence linking harmful effects with field exposures. Because the state of the science is currently uncertain, no generic conclusion on human health impacts is possible. If, in the future, the Commission finds scientific information sufficient to draw conclusions about potential human health impacts, the Commission may require applicants to submit plant-specific reviews of these health effects as part of their application. Until such time, applicants are not required to submit information about this issue.
Noise			
Construction:			
Construction-related noise	1	SMALL	The noise level would be no more than 65 dBA at site boundary, unless a relevant State or local noise abatement law or ordinance sets a different threshold, which would then be the presumptive threshold for PPE purposes. If an applicant cannot meet the 65 dBA threshold through mitigation, then the applicant must obtain a variance or exception with the relevant State or local regulator. The project would implement BMPs, such as modeling, foliage planting, construction of noise buffers, and the timing of construction and/or operation activities.
Operation:			
Operation-related noise	1	SMALL	The noise level would be no more than 65 dBA at site boundary, unless a relevant State or local noise abatement law or ordinance sets a different threshold, which would then be the presumptive threshold for PPE purposes. If an applicant cannot meet the 65 dBA threshold through mitigation, then the applicant must obtain a variance or exception with the relevant State or local regulator. The project would implement BMPs, such as modeling, foliage planting, construction of noise buffers, and the timing of construction and/or operation activities.
Waste Management—Radiological Waste Management			
Operation:			
Low-level radioactive waste (LLRW)	1	SMALL	Applicants must meet the regulatory requirements of 10 CFR part 20 (*e.g.,* 10 CFR 20.1406 and subpart K), 10 CFR part 61, 10 CFR part 71, and 10 CFR part 72. Quantities of LLRW generated at a new nuclear reactor would be less than the quantities of LLRW generated at existing nuclear power plants, which generate an average of 21,200 cubic feet [ft^3] (600 cubic meters [m^3]) and 2,000 curies [Ci] (7.4 $\times$ 1013 becquerels [Bq]) per year for boiling water reactors and half that amount for pressurized water reactors.
Onsite spent nuclear fuel management	1	SMALL	Compliance with 10 CFR part 72.
Mixed waste	1	SMALL	RCRA Small Quantity Generator for Mixed Waste.
Waste Management—Nonradiological Waste Management			
Construction:			
Construction nonradiological waste	1	SMALL	The applicant must meet all the applicable permit conditions, regulations, and BMPs related to solid, liquid, and gaseous waste management. For hazardous waste generation, applicants must meet conformity with hazardous waste quantity generation levels in accordance with RCRA. For sanitary waste, applicants must dispose of sanitary waste in a permitted process. For mitigation measures, the applicant would perform mitigation measures to the extent practicable, such as recycling, process improvements, or the use of a less hazardous substance.
Operation:			
Operation nonradiological waste	1	SMALL	The applicant must meet all the applicable permit conditions, regulations, and BMPs related to solid, liquid, and gaseous waste management. For hazardous waste generation, applicants must meet conformity with hazardous waste quantity generation levels in accordance with RCRA. For sanitary waste, applicants must dispose of sanitary waste in a permitted process. For mitigation measures, the applicant would perform mitigation measures to the extent practicable, such as recycling, process improvements, or the use of a less hazardous substance.
Postulated Accidents			
Operation:			

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Design Basis Accidents Involving Radiological Releases.	1	SMALL	For the exclusion area boundary, the maximum total effective dose equivalent for any 2-hour period during the radioactivity release should be calculated. For the low-population zone, the total effective dose equivalent should be calculated for the duration of the accident release (*i.e.,* 30 days, or other duration as justified). The above calculations would compare the design basis accident doses with the dose criteria given in regulations related to the application (*e.g.,* 10 CFR 50.34(a)(1), 10 CFR 52.17(a)(1), and 10 CFR 52.79(a)(1)), standard review plans (*e.g.,* standard review plan criteria, table 1 in standard review plan section 15.0.3 of NUREG–0800), and regulatory guides, (*e.g.,* RG 1.183), as applicable.
Accidents Involving Releases of Hazardous Chemicals.	1	SMALL	Reactor inventory of a regulated substance is less than its Threshold Quantity (TQ). TQs are found in 40 CFR 68.130, tables 1, 2, 3, and 4; and Reactor inventory of an extremely hazardous substance is less than its Threshold Planning Quantity (TPQ). TPQs are found in 40 CFR part 355, appendices A and B.
Severe Accidents	1	SMALL	Within the maximum population dose risk 95th confidence bounding value of 9.727×10^3 person-rem per reactor year (*i.e.,* Indian Point Energy Center Units 2 and 3) specified in the 1996 LR GEIS and demonstrating the utilization of 10 CFR 50.155 or diverse and flexible coping strategies (FLEX) to address mitigation of beyond-design-basis events; or Within the maximum 10- and 150-mile Exposure Index at the 95th confidence bounding value of 1.896×10^4 and 2.864×10^6, respectively (*i.e.,* Indian Point Energy Center Units 2 and 3) specified in the 1996 LR GEIS and demonstrating the utilization of 10 CFR 50.155 or FLEX to address mitigation of beyond-design-basis events; or Utilizing the source term from 10 CFR 50.34(a)(1)(ii)(D), or the equivalent 10 CFR 52 regulation, with a non-intact containment or confinement for population density assessments under 10 CFR 100.21(h) to demonstrate a calculated total effective dose equivalent (TEDE) of no greater than 1 rem over a period of 30 days and that no further mitigation is necessary because health effects are shown not to be significant or a new reactor that is co-located with an existing LWR may compare its source terms to demonstrate that the LWR's severe accident risks bounds the new reactor's risks; or Utilizing 10 CFR 50.33(g)(2) to demonstrate there is no plume exposure pathway emergency planning zone where the projected total effective dose equivalent exceeds 1 rem over 96 hours (*i.e.,* 10 CFR 50.33(g)(2)(i)(A)) and no further mitigation is necessary because health effects are shown not to be significant.
Acts of Terrorism	1	SMALL	The environmental impacts of acts of terrorism and sabotage only need to be addressed if a reactor facility is subject to the jurisdiction of the U.S. Court of Appeals for the Ninth Circuit.
Socioeconomics			
Construction:			
Community Services and Infrastructure	1	SMALL	The housing vacancy rate in the affected economic region does not change by more than 5 percent, or at least 5 percent of the housing stock remains available after accounting for in-migrating construction workers. Student:teacher ratios in the affected economic region do not exceed locally mandated levels after including the school age children of the in-migrating worker families.
Transportation Systems and Traffic	1	SMALL	The LOS determination for affected roadways does not change. Mitigation measures may include implementation of traffic flow management, management of shift-change timing, and encouragement of ride-sharing and use of public transportation options, such that LOS values can be maintained with the increased volumes.
Economic Impacts	1	Beneficial	The economic impacts of construction and operation of a new nuclear reactor are expected to be beneficial; therefore, this is a Category 1 issue. If, during the project-specific environmental review, the NRC determines a detailed analysis of economic costs and benefits is needed for analysis of the range of alternatives considered or relevant to mitigation, the NRC may require further information from the applicant.
Tax Revenue Impacts	1	Beneficial	The tax revenue impacts of construction and operation of a new nuclear reactor are expected to be beneficial; therefore, this is a Category 1 issue. If, during the project-specific environmental review, the NRC determines a detailed analysis of tax revenue costs and benefits is needed for analysis of the range of alternatives considered or relevant to mitigation, the NRC may require further information from the applicant.
Operation:			
Community Services and Infrastructure	1	SMALL	The housing vacancy rate in the affected economic region does not change by more than 5 percent, or at least 5 percent of the housing stock remains available after accounting for in-migrating construction workers. Student:teacher ratios in the affected economic region do not exceed locally mandated levels after including the school age children of the in-migrating worker families.
Transportation Systems and Traffic	1	SMALL	The LOS determination for affected roadways does not change. Mitigation measures may include implementation of traffic flow management, management of shift-change timing, and encouragement of ride-sharing and use of public transportation options, such that LOS values can be maintained with the increased volumes.
Economic Impacts	1	Beneficial	The economic impacts of construction and operation of a nuclear reactor are expected to be beneficial; therefore, this is a Category 1 issue. If, during the project-specific environmental review, the NRC determines a detailed analysis of economic costs and benefits is needed for analysis of the range of alternatives considered or relevant to mitigation, the NRC may require further information from the applicant.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Tax Revenue Impacts	1	Beneficial	The tax revenue impacts of construction and operation of a nuclear reactor are expected to be beneficial; therefore, this is a Category 1 issue. If, during the project-specific environmental review, the NRC determines a detailed analysis of tax revenue costs and benefits is needed for analysis of the range of alternatives considered or relevant to mitigation, the NRC may require further information from the applicant.
Fuel Cycle			
Operation:			
Uranium Recovery	1	SMALL	Table S–3 of 10 CFR 51.51 is expected to bound the impacts for new reactor fuels, because of uranium fuel cycle changes since WASH–1248, including: —Increasing use of in situ leach uranium mining has lower environmental impacts than traditional mining and milling methods. —Current light-water reactors (LWRs) are using nuclear fuel more efficiently due to higher levels of fuel burnup resulting in less demand for mining and milling activities. —Less reliance on coal-fired electrical generation plants is resulting in less gaseous effluent releases from electrical generation sources supporting mining and milling activities. Must satisfy the regulatory requirements of 10 CFR part 40, Domestic Licensing of Source Material and 10 CFR part 71, Packaging and Transportation of Radioactive Material.
Uranium Conversion	1	SMALL	Table S–3 of 10 CFR 51.51 is expected to bound the impacts for new reactor fuels because of uranium fuel cycle changes since WASH–1248, including: Current LWRs are using nuclear fuel more efficiently due to higher levels of fuel burnup resulting in less demand for conversion activities. Less reliance on coal-fired electrical generation plants is resulting in less gaseous effluent releases from electrical generation sources supporting conversion activities. Must satisfy the regulatory requirements of 10 CFR part 40, Domestic Licensing of Source Material and 10 CFR part 71, Packaging and Transportation of Radioactive Material, and 10 CFR part 73, Physical Protection of Plants and Materials.
Enrichment	1	SMALL	Table S–3 is expected to bound the impacts for new nuclear reactor fuels, because of uranium fuel cycle changes since WASH–1248, including: Transitioning of U.S. uranium enrichment technology from gaseous diffusion to gas centrifugation, which requires less electrical usage per separative work unit. Current LWRs are using nuclear fuel more efficiently due to higher levels of fuel burnup resulting in less demand for enrichment activities. Less reliance on coal-fired electrical generation plants is resulting in less gaseous effluent releases from electrical generation sources supporting enrichment activities. Must satisfy the regulatory requirements of 10 CFR part 40, Domestic Licensing of Source Material; 10 CFR part 70, Domestic Licensing of Special Nuclear Material; 10 CFR part 71, Packaging and Transportation of Radioactive Material; and 10 CFR part 73, Physical Protection of Plants and Materials.
Fuel Fabrication (excluding metal fuel and liquid-fueled molten salt).	1	SMALL	Table S–3 is expected to bound the impacts for new nuclear reactor fuels, because of uranium fuel cycle changes since WASH–1248, including: Current LWRs are using nuclear fuel more efficiently due to higher levels of fuel burnup resulting in fewer discharged fuel assemblies to be fabricated each year and due to longer time periods between refueling. Less reliance on coal-fired electrical generation plants is resulting in less gaseous effluent releases from electrical generation sources supporting fabrication. Must satisfy the regulatory requirements of 10 CFR part 40, Domestic Licensing of Source Material, 10 CFR part 70, Domestic Licensing of Special Nuclear Material, 10 CFR part 71, Packaging and Transportation of Radioactive Material, and 10 CFR part 73, Physical Protection of Plants and Materials.
Reprocessing	1	SMALL	Table S–3 is expected to bound the impacts for new nuclear reactor fuels, because of uranium fuel cycle changes since WASH–1248, including: Current LWRs are using nuclear fuel more efficiently due to higher levels of fuel burnup resulting in fewer discharged fuel assemblies to be reprocessed each year. Less reliance on coal-fired electrical generation plants is resulting in less gaseous effluent releases from electrical generation sources supporting reprocessing. Reprocessing capacity up to 900 metric tons of uranium [MTU]/yr. Must satisfy the regulatory requirements of 10 CFR part 40, Domestic Licensing of Source Material; 10 CFR part 50, Domestic Licensing of Production and Utilization Facilities;10 CFR part 70, Domestic Licensing of Special Nuclear Material; 10 CFR part 71, Packaging and Transportation of Radioactive Material; 10 CFR part 72, Licensing Requirements for the Independent Storage of Spent Fuel, High-Level Radioactive Waste, and Reactor-related Greater Than Class C Waste; and 10 CFR part 73, Physical Protection of Plants and Materials.

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
Storage and Disposal of Radiological Wastes.	1	SMALL	Table S–3 is expected to bound the impacts for new nuclear reactor fuels, because of uranium fuel cycle changes since WASH–1248, including: Current LWRs are using nuclear fuel more efficiently due to higher levels of fuel burnup resulting in fewer discharged fuel assemblies to be stored and disposed. Less reliance on coal-fired electrical generation plants is resulting in less gaseous effluent releases from electrical generation sources supporting storage and disposal. Waste and spent fuel inventories, as well as their associated certified spent fuel shipping and storage containers, are not significantly different from what has been considered for LWR evaluations in NUREG–2157. Must satisfy the regulatory requirements of 10 CFR part 40, Domestic Licensing of Source Material; 10 CFR part 70, Domestic Licensing of Special Nuclear Material; 10 CFR part 71, Packaging and Transportation of Radioactive Material; 10 CFR part 72, Licensing Requirements for the Independent Storage of Spent Fuel, High-Level Radioactive Waste, and Reactor-related Greater Than Class C Waste; and 10 CFR part 73, Physical Protection of Plants and Materials.
Transportation of Fuel and Waste			
Operation:			
Transportation of Unirradiated Fuel	1	SMALL	The maximum annual one-way shipment distance does not exceed 59,160 km (36,760 mi). The annual shipments associated with the one-way shipment distance have been normalized to a net electrical output of 880 megawatts electric [MW(e)], *i.e.,* 1,100 MW(e) with an 80 percent capacity factor from WASH–1238. The maximum annual round-trip shipment distance does not exceed 118,320 km (73,520 mi). The annual shipments associated with the round-trip shipment distance have been normalized to a net electrical output of 880 MW(e), *i.e.,* 1,100 MW(e) with an 80 percent capacity factor from WASH–1238.
Transportation of Radioactive Waste ...	1	SMALL	The maximum annual round-trip shipment distance does not exceed 293,145 km (182,152 mi). The annual shipments associated with the round-trip shipment distance have been normalized to a net electrical output of 880 MW(e), *i.e.,* 1,100 MW(e) with an 80 percent capacity factor and a shipment volume of 2.34 m^3/shipment from WASH–1238.
Transportation of Irradiated Fuel	1	SMALL	The maximum annual one-way shipment distance does not exceed 505,393 km (314,037 mi). The annual shipments associated with the one-way shipment distance have been normalized to a net electrical output of 880 MW(e), *i.e.,* 1,100 MW(e) with an 80 percent capacity factor and a shipment capacity of 0.5 MTU/shipment from WASH–1238. The maximum annual round-trip shipment distance does not exceed 1,010,786 km (628,073 mi). The annual shipments associated with the round-trip shipment distance have been normalized to a net electrical output of 880 MW(e), *i.e.,* 1,100 MW(e) with an 80 percent capacity factor and a shipment capacity of 0.5 MTU/shipment from WASH–1238. A maximum assembly averaged burnup of 80 gigawatt-days [GWd]/MTU for UO2 fuel and peak pellet burnup of 133 GWd/MTU for TRi-structural ISOtropic (TRISO) fuel.
Decommissioning			
Decommissioning	1	SMALL	The environmental impacts for the following resource areas were generically addressed in NUREG–0586, Supplement 1, would be limited to operational areas, would not be detectable or destabilizing and are expected to have a negligible effect on the impacts of terminating operations and decommissioning: —Onsite Land Use —Water Use —Water Quality —Air Quality —Aquatic Ecology within the operational area —Terrestrial Ecology within the operational area —Radiological —Radiological Accidents (non-spent-fuel-related) —Occupational Issues —Socioeconomic —Onsite Cultural and Historic Resources for plants where the disturbance of lands beyond the operational areas is not anticipated —Aesthetics —Noise —Transportation —Irretrievable Resource The following issues were not addressed in NUREG–0586, Supplement 1, but have been determined to be Category 1 issues: —Nonradiological waste —Greenhouse Gases
Decommissioning	2	Undetermined	Threatened and endangered species was an issue identified in NUREG–0586, Supplement 1, as requiring a project-specific review. Four conditionally project-specific issues identified in NUREG–0586, Supplement 1, will require a project-specific review if present: —Land use involving offsite areas to support decommissioning activities —Aquatic ecology for activities beyond the licensed operational area —Terrestrial ecology for activities beyond the licensed operational area

TABLE C–1—SUMMARY OF FINDINGS ON ENVIRONMENTAL ISSUES FOR ISSUING A PERMIT OR LICENSE FOR A NEW NUCLEAR REACTOR [1]—Continued

Issue	Category [2]	Finding [3]	Plant parameter envelope/site parameter envelope values and assumptions [4]
			—Historic and cultural resources (archaeological, architectural, structural, historic) for activities within and beyond the licensed operational area with no current (*i.e.,* at the time of decommissioning) evaluation of resources for National Register of Historic Places (NRHP) eligibility Additionally, the following two environmental resource areas are additional decommissioning impacts that require project-specific review: —Climate Change: the effects of climate change are location-specific and cannot, therefore, be evaluated generically (see section 1.3.3.2.2, Category 2 Issues Applying Across Resources, of NUREG–2249) —Cumulative: must be considered on a project-specific basis where impacts would depend on regional resource characteristics, the resource-specific impacts of the project, and the cumulative significance of other factors affecting the resource. (see section 1.3.3.2.2, Category 2 Issues Applying Across Resources, of NUREG–2249).
Issues Applying Across Resources			
Climate Change Impacts on Environmental Resources.	2	Undetermined	The effects of climate change on environmental resources are location-specific and cannot, therefore, be evaluated generically. For example, while climate change may cause many areas to receive less than average annual precipitation, other areas may see an increase in average annual precipitation. Therefore, applicants and the NRC would address the effects of climate change on environmental resources in the environmental documents for new nuclear reactor licensing.
Cumulative Impacts	2	Undetermined	Applications must individually consider the cumulative impacts from past, present, and reasonably foreseeable actions known to occur at specific sites for proposed new nuclear reactors and briefly present those considerations in supplemental NEPA documentation. The staff would address whether these individualized evaluations of potential cumulative impacts alter any of the generic analyses and conclusions relied upon for Category 1 issues. The individualized cumulative impact analyses may also identify opportunities where NRC might rely upon the generic analyses for some Category 1 issues for which certain of the PPE or SPE values and assumptions might be exceeded.
Non-Resource Related Issues			
Purpose and Need	2	Undetermined	Must be described in the environmental report associated with a given application.
Need for Power	2	Undetermined	Must be described in the environmental report associated with a given application.
Site Alternatives	2	Undetermined	Must be described in the environmental report associated with a given application.
Energy Alternatives	2	Undetermined	Must be described in the environmental report associated with a given application.
System Design Alternatives	2	Undetermined	Must be described in the environmental report associated with a given application.

[1] Data supporting this table are contained in NUREG–2249, ''Generic Environmental Impact Statement for Licensing of New Nuclear Reactors.''

[2] The categories are defined as follows:

Category 1 issues—environmental issues for which the NRC has been able to make a generic finding of SMALL adverse environmental impacts, or beneficial impacts, provided that the applicant's proposed reactor facility and site meet or are bounded by relevant values and assumptions in the PPE and SPE that support the generic finding for that Category issue.

Category 2 issues—Environmental issues for which a generic finding regarding the environmental impacts cannot be reached because the issue requires the consideration of project-specific information that can only be evaluated once the proposed site is identified. The impact significance (*i.e.,* SMALL, MODERATE, or LARGE) for these issues will be determined in a project-specific evaluation.

N/A—Issues related to exposure to electromagnetic fields (EMFs) for which there is no national scientific agreement regarding adverse health effects.

[3] A finding of SMALL impacts means that environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. For the purposes of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered SMALL as the term is used in this table. For issues where probability is a key consideration (*i.e.,* accident consequences), probability was a factor in determining significance.

[4] Because the Category 2 issues require a project-specific review, there are no associated values and assumptions of the plant parameter envelope and site parameter envelope. A brief summary explanation for the designation of the Category 2 issues is provided in lieu of values and assumptions.

For the Nuclear Regulatory Commission.

Dated: April 22, 2026.

Carrie Safford,

Secretary of the Commission.

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