



# **POLICY ISSUE**

## **(Information)**

August 10, 2023

SECY-23-0068

FOR: The Commissioners

FROM: Daniel H. Dorman  
Executive Director for Operations

SUBJECT: EVALUATION OF THE U.S. NUCLEAR REGULATORY COMMISSION'S  
PROCESS FOR SELECTING REASONABLE ALTERNATIVES FOR  
NATIONAL ENVIRONMENTAL POLICY ACT REVIEWS

### PURPOSE:

The purpose of this paper is to respond to Staff Requirements Memorandum (SRM)-SECY-21-0001, "Staff Requirements – SECY-21-0001 – Rulemaking Plan—Transforming the NRC's Environmental Review Process," issued April 2022 (Agencywide Documents Access and Management System Accession No. ML22109A171). This paper provides the results of the U.S. Nuclear Regulatory Commission (NRC) staff's evaluation of the NRC's process for selecting the reasonable alternatives that the agency's environmental impact statements (EISs) will review in detail. This paper does not address any new commitments or resource implications.

### BACKGROUND:

In recent years, the NRC has considered how to transform its National Environmental Policy Act (NEPA) reviews. In SECY-21-0001, "Rulemaking Plan—Transforming the NRC's Environmental Review Process," issued December 2020 (ML20212L393), the NRC staff recommended rulemaking to revise Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," to streamline and enhance the flexibility of the NRC's NEPA environmental review process. Part of this rulemaking recommendation included establishing a definition for

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“reasonable alternatives” that includes consideration of technical and economic feasibility. As an alternative to this recommendation, the staff provided the option that it could continue using the existing regulations in 10 CFR Part 51 without changes (i.e., no rulemaking) and instead revise NEPA guidance for applicants and the staff. In SRM-SECY-21-0001, the Commission approved the staff’s no-rulemaking option. Consistent with that Commission direction, the staff is updating its environmental standard review plans (NUREG-1555, “Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Environmental Standard Review Plan,” 2000, 2007) that guide the staff in preparing EISs.

In providing direction on SECY-21-0001, the Commission also instructed the staff to evaluate the NRC’s process for selecting the reasonable alternatives that the agency’s EISs will analyze in detail and to provide the results and any recommendations to the Commission for consideration. This paper responds to that Commission instruction by providing the staff’s evaluation of the NRC’s process for selecting the reasonable alternatives for inclusion in EISs and by recommending to the Commission no process changes at this time.

The Commission direction in SRM-SECY-21-0001 included further direction to the staff to continue monitoring ongoing efforts by the U.S. Council on Environmental Quality (CEQ) to revise its regulations and consider how these changes impact the NRC’s obligations under NEPA. The staff will continue to monitor and participate in Governmentwide initiatives by the U.S. Federal Permitting Improvement Steering Council and CEQ to streamline the NEPA process, including the alternatives analysis process. Additionally, the staff will continue to review the recent NEPA amendments included in the Fiscal Responsibility Act of 2023 to determine any impacts to the NRC’s alternatives analysis process.

#### DISCUSSION:

The Atomic Energy Act of 1954, as amended, and NEPA, as implemented through the NRC’s regulations, require the NRC to perform a safety review and an environmental review, respectively, of proposed agency actions, including licensing actions. The NRC staff documents its environmental reviews in the form of EISs, environmental assessments, and categorical exclusion determinations in accordance with 10 CFR Part 51. The NEPA process is intended to inform the public and decision-makers about the potential environmental impacts of proposed actions and a range of reasonable alternatives to the proposed actions with the goal of fostering environmentally informed agency decision-making.

The regulations for EIS preparation in 10 CFR Part 51 require the consideration of reasonable alternatives to the proposed action. An important element of NEPA compliance is the evaluation of possible alternatives that can meet the purpose and need of the proposed action, to determine whether any of those alternatives will lead to reduced environmental impacts. The CEQ has traditionally considered alternatives analysis to be the “heart of the environmental impact statement,” and the NRC has echoed this emphasis in Appendix A, “Format for Presentation of Material in Environmental Impact Statements,” to Subpart A, “National Environmental Policy Act—Regulations Implementing Section,” of 10 CFR Part 51. Alternatives considered in NRC reactor licensing EISs have commonly included, as applicable, a no-action alternative (required by 10 CFR Part 51), site alternatives, energy generation alternatives, and system design alternatives. The purpose and need of the proposed action determines the specific categories of alternatives, informed by the environmental report (ER) that an applicant is required to submit along with its application.

Following the creation of the NRC's Environmental Center of Expertise in 2019, the staff undertook a comprehensive review of its process for identifying and evaluating reasonable alternatives to proposed actions in its EISs. The staff's review built on prior analyses of the current process that the NRC's NEPA practitioners use to identify alternatives for inclusion in an EIS and lessons learned from previously completed evaluations.

The staff examined its current EIS development process using the following guiding principles to determine whether potential opportunities exist to enhance the analysis of alternatives:

- **“Reasonableness” criteria:** The focus of the process should remain on the reasonableness of alternatives selected for detailed evaluation, as opposed to analyzing a certain number of alternatives. The staff examined the NRC's existing processes and guidance for selecting alternatives to determine whether potential process improvements could facilitate the selection and analysis of the most representative alternative(s) for a proposed action.
- **Depth of experience:** The staff has decades of experience conducting environmental reviews for reactor license renewal, new reactor licensing, and materials licensing applications. The processes in these areas are well established and, in many cases, clearly defined through prior Commission direction. In instances where a process has already been sufficiently refined, the staff considered historical programmatic success and determined whether any lessons learned could be applied to future reviews. In contrast, an emerging area with fewer constraints, such as the review of advanced reactor applications, lends itself to a wider range of potential efficiency gains.
- **Appropriate flexibility:** Given that reasonable alternatives are inherently tied to the purpose and need of the proposed action, the staff noted the importance of retaining site-specific aspects of the evaluation process. A “one size fits all” approach is not conducive to fulfilling the objectives of NEPA's alternatives analysis; therefore, the NRC's process for environmental reviews must allow for appropriate flexibility to develop and analyze alternatives based on a variety of purposes and needs.

Using the above guiding principles, the staff evaluated whether the current alternatives analysis process is effective in providing appropriate information to agency decision-makers on alternatives for proposed actions under review. The enclosed report, “Evaluation of the NRC's Alternatives Analysis Process for National Environmental Policy Act Reviews,” documents this evaluation and the staff's current alternatives analysis process. The results of the evaluation are summarized below.

### The Staff's Current Alternatives Analysis Process

Specific requirements for the NRC's environmental reviews under NEPA are set forth in 10 CFR Part 51. These regulations contain general requirements that are applicable to all environmental reviews as well as specific requirements for different types of license applications. An important element of NEPA compliance is the evaluation of possible alternatives that can meet the purpose and need of the proposed action to determine whether any of those alternatives will lead to reduced environmental impacts.

In accordance with the requirements in 10 CFR Part 51, each applicant must submit with its application a separate ER to address issues related to the environmental effects of the

proposed action and its alternatives. The discussion of alternatives should be sufficiently complete to aid the Commission in developing and exploring, pursuant to NEPA section 102(2)(E), appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources. The staff relies on the applicant's ER to identify and evaluate a range of reasonable alternatives meeting the stated purpose and need. However, as with other documentation provided by the applicant, that information is subject to independent verification by the staff to ensure that the applicant has a logical basis for its alternatives analysis.

In its EIS, the staff describes how it (and the applicant) considered and evaluated alternatives to the proposed action, identifies reasonable alternatives for detailed analysis that meet the purpose and need of the proposed action, and explains why other possible alternatives were screened from detailed analysis. The staff then evaluates the environmental impacts from each alternative identified for detailed analysis for each affected resource considered for the proposed action. The staff characterizes the significance of impacts from each of the alternatives for each affected resource as SMALL, MODERATE, or LARGE, using the definitions from 10 CFR Part 51. Finally, the staff compares the environmental impacts of the proposed action with those for each alternative identified for detailed analysis for each affected resource.

### Evaluation Results

Based on its evaluation of its current alternatives analysis process, the staff recommends no process changes at this time. The staff's evaluation concluded that the staff has substantial experience conducting environmental reviews for reactor license renewal, new reactor licensing, and materials licensing applications and that the current alternatives analysis process in these areas has been streamlined to the maximum extent practicable based on decades of staff expertise.

Although it recommends no alternatives analysis process changes as part of this evaluation, the staff continues its efforts to streamline and improve the efficiency and effectiveness of its NEPA review process, including in the area of alternatives analysis. For example, in the emerging area of advanced reactor applications, the staff has developed and implemented several strategies for improving and streamlining its process for evaluating alternatives in its EISs. The staff expects the submission of several additional new reactor licensing applications in 2024. These projects will give the staff ample opportunity to implement the recently developed guidance and streamlining strategies on a diverse range of licensing scenarios. Because of the dramatic increase in workload anticipated over the next several years, the staff believes that its limited resources will be best focused on effective implementation of the process already developed. As these reviews are completed, the staff will continue to use this additional experience to determine whether additional process improvements would be helpful in streamlining the alternatives analysis process for new reactor licensing applications.

### CONCLUSION:

The staff evaluated the agency's process for selecting reasonable alternatives for inclusion in its EISs and determined there are no process changes to recommend to the Commission at this time. The staff will continue implementing the improvements developed for new and advanced reactor applications. The staff will also continue to leverage prior experience and lessons learned on the viability of alternatives for reactor license renewal and materials licensing applications. In addition, the staff will continue to monitor and participate in Governmentwide

initiatives by the U.S. Federal Permitting Improvement Steering Council and CEQ to streamline the NEPA process, including the alternatives analysis process. Additionally, the staff will continue to review the recent NEPA amendments included in the Fiscal Responsibility Act of 2023 to determine any impacts to the NRC's alternatives analysis process.

COORDINATION:

The Office of the General Counsel reviewed this paper and has no legal objection.

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Enclosure:  
Evaluation of the NRC's Alternatives  
Analysis Process for NEPA  
Reviews

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