REGULATORY ISSUES FOR NUCLEAR FACILITIES AT BROWNFIELD AND/OR RETIRED FOSSIL FUEL SITES

A Report for the
U.S. Senate Committee on Environment and Public Works and the
U.S. House of Representatives Committee on Energy and Commerce

U.S. Nuclear Regulatory Commission
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INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) developed this report as required by Section 206(b) of the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024 (ADVANCE Act) (Ref. 1). Specifically, Section 206(b)-(d) of the ADVANCE Act requires the following:

> (b) IDENTIFICATION OF REGULATORY ISSUES.—
> (1) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Commission shall evaluate the extent to which modification of regulations, guidance, or policy is needed to enable efficient, timely, and predictable licensing reviews for, and to support the oversight of, production facilities or utilization facilities at covered sites.
> (2) REQUIREMENT.—In carrying out paragraph (1), the Commission shall consider how licensing reviews for production facilities or utilization facilities at covered sites may be expedited by considering matters relating to siting and operating a production facility or a utilization facility at or near a covered site to support—
> (A) the reuse of existing site infrastructure, including—
> (i) electric switchyard components and transmission infrastructure;
> (ii) heat-sink components;
> (iii) steam cycle components;
> (iv) roads;
> (v) railroad access; and
> (vi) water availability;
> (B) the use of early site permits;
> (C) the utilization of plant parameter envelopes or similar standardized site parameters on a portion of a larger site; and
> (D) the use of a standardized application for similar sites.
> (3) REPORT.—Not later than 14 months after the date of enactment of this Act, the Commission shall submit to the appropriate committees of Congress a report describing any regulations, guidance, and policies identified under paragraph (1).
> (c) LICENSING.—
> (1) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Commission shall—
> (A) develop and implement strategies to enable efficient, timely, and predictable licensing reviews for, and to support the oversight of, production facilities or utilization facilities at covered sites; or (B) initiate a rulemaking to enable efficient, timely, and predictable licensing reviews for, and to support the oversight of, production facilities or utilization facilities at covered sites.
> (2) REQUIREMENTS.—In carrying out paragraph (1), consistent with the mission of the Commission, the Commission shall consider matters relating to—
> (A) the use of existing site infrastructure;
> (B) existing emergency preparedness organizations and planning;
> (C) the availability of historical site-specific environmental data;
> (D) previously completed environmental reviews required by the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.);

(E) activities associated with the potential decommissioning of facilities or decontamination and remediation at covered sites; and
(F) community engagement and historical experience with energy production.

(d) REPORT.—Not later than 3 years after the date of enactment of this Act, the Commission shall submit to the appropriate committees of Congress a report describing the actions taken by the Commission under subsection (c)(1).

This report addresses the matters specified in Section 206(b) and will serve as the foundation for the NRC's implementation of Section 206(c), which requires the NRC to implement strategies or a rulemaking to enable efficient, timely, and predictable licensing reviews for, and to support the oversight of, production and utilization facilities at brownfield and/or retired fossil fuel sites.[1] This report will also inform a second Congressional report, which Section 206(d) requires the NRC to submit by July 9, 2027.

In developing this report, the NRC considered completed, ongoing, and potential future actions identified to improve efficiency, timeliness, and predictability of licensing reviews for nuclear facilities in response to other provisions in the ADVANCE Act, such as Section 505, "Nuclear Licensing Efficiency" (Refs. 2 and 3), and Section 506, "Modernization of Nuclear Reactor Environmental Reviews" (Ref. 4), and those contained in recent Executive Orders (EOs). The NRC is also implementing EO 14300, "Ordering the Reform of the Nuclear Regulatory Commission" (Ref. 5), which directed the NRC to take additional actions to reform the NRC, including reforming and modernizing its regulations and guidance documents to facilitate nuclear technology licensing and deployment. Furthermore, the Commission has directed the staff to initiate a rulemaking for Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," to adapt the NRC's environmental reviews to align with the 2023 amendments to the National Environmental Policy Act of 1969 (NEPA) (Ref. 7). This Commission direction is consistent with Section 5(c) of EO 14300, which directs the NRC to "[r]evise, in consultation with the Council on Environmental Quality, the NRC's regulations governing NRC's compliance with NEPA (Reg. 7) regulations to reflect Congress' 2023 amendments to the statute and the policies articulated in sections 2 and 5 of Executive Order 14154 of January 20, 2025 (Unleashing American Energy)", "Unleashing American Energy" (Ref. 8) and in accordance with recent Supreme Court jurisprudence.

This report builds on those actions by focusing on regulatory issues specific to licensing nuclear facilities at brownfield and/or retired fossil fuel sites. The NRC has identified potential regulatory changes related to offsite meteorological data, reactor decommissioning, and population-related siting criteria that could expedite or otherwise enable siting nuclear facilities at brownfield and/or retired fossil fuel sites. In addition to the regulatory modifications discussed in this report, the NRC is developing a resource webpage that will provide information to potential applicants and NRC staff on how to leverage the use of existing site characterization information, studies, and permits in the NRC's licensing process. After implementation of this webpage, the NRC will consider whether development of a guidance document specific to licensing nuclear facilities at brownfield and/or retired fossil fuel sites is necessary. Enclosure 1 of this report includes summary tables of the actions discussed in this report.

[1] Section 206(a)(2) of the ADVANCE Act defines "covered site" as "a brownfield site, a retired fossil fuel site, or a site that is both a retired fossil fuel site and a brownfield site." To ensure consistent terminology, the NRC will refer to these collectively as "brownfield and/or retired fossil fuel sites" throughout this report.

The NRC held public meetings in November 2024 and January 2025 to gather perspectives from a diverse range of stakeholders related to Section 206. In addition, in March 2025, the NRC sought input during a public meeting on the use of offsite meteorological data for NRC siting reviews. The NRC considered all input obtained during these meetings as well as in written correspondence in preparing this report. Enclosure 2 of this report contains details of those public meetings and written correspondence.

BACKGROUND

Consistent with Section 206(b) of the ADVANCE Act, this report addresses how consideration of matters relating to siting and operating nuclear facilities at or near brownfield[2] and/or retired fossil fuel sites can expedite licensing reviews. For this report, brownfield sites could include sites that are co-located at an operating, decommissioning, or decommissioned nuclear facility site; at an active or former industrial site; or at a site located at or near a retired fossil fuel site.

The NRC leveraged several reports recently published on siting advanced reactors at former coal plant sites. In conducting the evaluation, the NRC coordinated with the Gateway for Accelerated Innovation in Nuclear (GAIN), a U.S. Department of Energy (DOE) initiative at the Idaho National Laboratory (INL) that assists communities and utilities interested in repurposing former coal plant sites for advanced reactors. GAIN, DOE, the National Laboratories, the Electric Power Research Institute (EPRI), and the Nuclear Innovation Alliance have contributed to or have published detailed reports on coal-to-nuclear transition. Enclosure 3 of this report lists the publications that the NRC considered during its evaluation of licensing efficiencies related to Section 206.

Siting nuclear facilities—particularly advanced reactors—at brownfield and/or retired fossil fuel sites offers several benefits. A 2022 DOE report (Ref. 10) estimates, based on reactor technology choice and reuse of existing infrastructure, such as transmission lines, cooling systems, and roads, that "overnight capital costs of construction"[3] could potentially decrease by 15 to 35 percent for brownfield and/or retired fossil fuel sites when compared to a greenfield site.[4] Using sites already designated for power generation could streamline State permitting and other nonnuclear regulatory processes (Ref. 11). In addition, using brownfield and/or retired fossil fuel sites minimizes land use and environmental impacts compared to greenfield projects, and repowering coal plants can provide opportunities related to energy-production workforce overlap (Ref. 12).

The NRC has previously issued licenses and permits for sites that fall under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 definition for "brownfield," and there were no delays in those reviews due to potential or confirmed presence of site contamination.[5] The site contamination matters discussed in this report are limited to

[2] Section 206(a)(1) of the ADVANCE Act defines "brownfield site" using the definition in Section 101 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Ref. 9), which defines "brownfield site" as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant," with certain exceptions. The NRC focused primarily on sites at or near closed or operating industrial facilities as well as retired fossil fuel sites, as these sites would likely have the available infrastructure and cooling water to support expedited licensing, construction, and operation of new nuclear facilities.
[3] The term "overnight capital costs of construction" means the cost of the construction excluding interest and financing costs during the construction period.
[4] The term "greenfield" refers to "facilities constructed on fields that were, literally, green, or not previously used for commercial purposes." See https://gain.inl.gov/our-work/transitioning-to-nuclear/types-of-potential-sites/greenfield-project/ (accessed July 2025).
[5] For the purposes of licensing and oversight of nuclear power plants, nonradiological contamination is outside of the NRC's regulatory purview; such contamination is regulated under the jurisdiction of individual States or the U.S. Environmental Protection

jurisdictional issues. While the presence of existing site radioactivity may add complexity to financial qualification requirements and nuclear facility decommissioning, the NRC licensing and oversight processes are otherwise unaffected by the potential presence of a hazardous substance, pollutant, or contaminant at a site.

IDENTIFICATION OF REGULATORY ISSUES (SECTION 206(b))

The NRC is actively working to implement the licensing timelines set forth in EO 14300 and in this report has identified additional opportunities to streamline licensing support at brownfield and/or retired fossil fuel sites. These opportunities include leveraging existing site characterization data, issuing guidance on accounting for existing site radioactivity in decommissioning funding assurance, and reconsidering population-related siting requirements. Separately, the NRC is implementing improvements to its oversight and inspection programs consistent with Section 507, "Improving Oversight and Inspection Programs," of the ADVANCE Act (Ref. 13), and in response to the direction in Section 5(g) of EO 14300 to revise the NRC's Reactor Oversight Process "to reduce unnecessary burdens and be responsive to credible risks" (Ref. 5). Reform and modernization of the NRC's oversight program will benefit nuclear facilities sited at brownfield and/or retired fossil fuel sites.

REUSE OF EXISTING SITE INFRASTRUCTURE (SECTION 206(b)(2)(A))

By capitalizing on existing infrastructure, applicants can accelerate development timelines, reduce environmental impacts, and navigate the NRC's licensing process more efficiently. During the November 2024 public meeting (Ref. 14), the NRC received feedback that reuse of existing infrastructure would likely be limited to roads and rail lines, transmission line and water pipeline corridors, water-intake structures, and potentially switchyard components. The NRC's current regulatory frameworks under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," enable applicants to reuse existing infrastructure at brownfield and/or retired fossil fuel sites, potentially expediting the licensing review.

Existing electric switchyards and transmission infrastructure—already designed to meet Federal Energy Regulatory Commission and North American Electric Reliability Corporation reliability standards—could be leveraged to support the electrical capacity needs of a new nuclear plant. Based on plant design specifications, applicants may modify their designs to reuse existing heat sinks, heat-sink components, and cooling components, such as rivers, ponds, intake structures, and piping, where feasible. Regarding steam cycle components, industry stakeholders have indicated that reuse of components such as turbines, condensers, and feedwater pumps would be unlikely due to significant operational differences between nuclear plants and other types of industrial sites, such as coal plants. Although the associated engineering challenges may make repurposing certain infrastructure technically challenging and potentially cost prohibitive (Ref. 11), the NRC regulations are sufficiently flexible to support reuse. Additionally, as discussed in the NRC's report to Congress for Section 401, "Report on Advanced Methods of Manufacturing and Construction for Nuclear Energy Projects," of the ADVANCE Act (Ref. 15), the NRC will continue to consider how different quality assurance standards can meet the requirements of 10 CFR Part 50 and how to utilize commercial-grade dedication for new reactors at brownfield and/or retired fossil fuel sites. Among the various matters being

Agency. During the NRC's licensing review for a nuclear facility at or near a brownfield and/or retired fossil fuel site, environmental impacts associated with known site contamination would be considered in the NEPA document that, in part, informs the NRC's licensing decision.

considered under EO 14300, the NRC is considering the need for a rulemaking to reform and modernize 10 CFR Part 50 in response to the direction in Section 5 of EO 14300 (ID1 in Enclosure 1, Table 3).

Environmental Review Efficiencies Associated with Reuse of Existing Site Infrastructure

The most significant regulatory benefit associated with reusing existing infrastructure is reducing environmental impacts, which would, at a minimum, expedite the NRC's environmental review both currently and as anticipated in the NEPA regulation revisions. The availability of existing transmission lines, pipelines, roads and railroads, and other facilities would reduce construction impacts to land use, aesthetics, historic and cultural resources, surface water quality and wetlands, terrestrial and aquatic resources, and threatened and endangered species. Pursuant to NEPA, if a licensing action is not expected to have a reasonably foreseeable significant effect on the quality of the human environment, and it is likely that a finding of no significant impact (FONSI) can be reached, the NRC could begin the environmental review by preparing an environmental assessment (EA) instead of an environmental impact statement (EIS). However, at present, for any action listed under 10 CFR 51.20(b), beginning the environmental review with preparation of an EA—instead of an EIS—requires an exemption from current NRC regulations. The NRC is prepared to grant exemptions from 10 CFR 51.20(b), on a case-by-case basis, if authorized to do so by law and if it is otherwise determined to be in the public interest. If an EA is prepared and a FONSI justified, an EIS need not be prepared for the proposed action. This would reduce NRC staff resources, time needed for the environmental review, and costs for applicants.

Related to this, in SRM-SECY-24-0046 (Ref. 6), the Commission directed the staff to initiate a rulemaking to, among other things, reevaluate the list of actions requiring preparation of an EIS under 10 CFR 51.20(b) and revise it consistent with the new threshold determination in Section 106(b) of NEPA (ID2 in Enclosure 1, Table 2). External stakeholders will have the opportunity to provide comments as part of the rulemaking process. Furthermore, recent Supreme Court decisions will inform and further streamline the NRC's final NEPA regulation revision as required by EO 14300.

Additionally, proximity to water and reuse of water intakes and pipelines would be potential benefits to siting a new reactor at a retired fossil fuel site because aquatic ecology impacts could be minimized, U.S. Army Corps of Engineers permitting could be simplified, and, if applicable, Coastal Zone Management Act (Ref. 16) compliance could be easier for applicants to obtain. In some cases (e.g., coal-to-nuclear transition), existing water, air, or land permits could potentially be modified for their continuation or reuse for the nuclear facility (Ref. 11). As part of the NRC's planned brownfield licensing resource webpage, the agency will outline how applicants can leverage existing data and site permits to meet NRC requirements and provide general information on other environmental statutes and permitting requirements related to siting nuclear facilities at or near brownfield and/or retired fossil fuel sites (ID3 in Enclosure 1, Table 3).

USE OF EARLY SITE PERMITS (SECTION 206(b)(2)(B))

Using the NRC's existing early site permit (ESP) process, applicants may reserve brownfield and/or retired fossil fuel sites for future use as part of a phased approach to licensing, which will streamline the licensing process by evaluating and addressing site-related concerns early and separately from the full construction and operation licensing phases. An ESP is typically valid for 10 to 20 years from the date of issuance and can be renewed for an additional 10 to 20 years.

The NRC received feedback indicating industry interest in banking brownfield and/or retired fossil fuel sites for future use and the extended project planning and financing timelines for nuclear development, particularly those projects that may replace fossil fuel generation. The NRC is considering this feedback as part of the reformation and modernization of its regulations in response to the direction in Section 5 of EO 14300. Among the various matters being considered under EO 14300, the NRC is considering the need for a rulemaking to extend the length of ESPs from 20 to 40 years, potentially eliminating the need for ESP holders to submit an ESP renewal application (ID4 in Enclosure 1, Table 3). External stakeholders would have the opportunity to provide comments as part of the rulemaking process.

In addition, for environmental reviews, the NRC could combine the ESP process with existing environmental streamlining efforts to maximize efficiencies. At present, NRC regulations require an exemption from 10 CFR 51.20(b) to begin NEPA reviews with an EA rather than an EIS. However, the NRC has initiated a rulemaking reconsidering this requirement as described in SRM-SECY-24-0046 (Ref. 6). As discussed above, if the EA shows that a FONSI is justified, an EIS would be unnecessary. Additionally, the NRC could use the generic analyses in the rulemaking to codify the "Generic Environmental Impact Statement for Licensing of New Reactors" (New Reactor GEIS) (Refs. 17, 18) and tier the EA off the New Reactor GEIS, once that rule is finalized.[6] The next section discusses the New Reactor GEIS in detail. The NRC and applicants could realize additional efficiencies when the environmental reviews for any future construction permit, operating license, or combined license application reference the ESP environmental document because previously dispositioned environmental issues would not need to be addressed again.

UTILIZATION OF PLANT PARAMETER ENVELOPES OR SIMILAR STANDARDIZED SITE PARAMETERS ON A PORTION OF A LARGER SITE (SECTION 206(b)(2)(C))

Using plant parameter envelopes and standardized site parameters (also referred to as site parameter envelopes) can expedite both safety and environmental reviews for brownfield and/or retired fossil fuel sites by screening out issues of low safety and environmental significance while also focusing applicant and NRC staff resources on analyzing more significant issues.

Regulatory Guide 4.27, "Use of Plant Parameter Envelope in Early Site Permit Applications for Nuclear Power Plants" (Ref. 19), provides guidance to applicants on the use of the plant parameter envelope for ESPs, which allows an applicant to postulate certain generic design criteria in the ESP application when a specific reactor technology has not been selected for a proposed site. Vendors use similar standardized site parameters in reactor designs to account for typical site parameters where nuclear plants are likely to be built. If a specific site has characteristics that are not bounded by the standardized site parameters, the NRC would evaluate the design performance and response to those external natural phenomena to determine the potential impact and necessary actions.

In SECY-25-0052, "Nth-of-a-Kind Micro-Reactor Licensing and Deployment Considerations" (Ref. 20), the NRC staff described the strategy for licensing "nth-of-a-kind" microreactors and sought Commission approval of a proposed approach to afford finality to standard operational programs or requirements reviewed and approved by the NRC in connection with a design certification or manufacturing license. The NRC staff outlined a graded approach to site characterization for microreactor designs that uses bounding site parameters as part of the

[6] Although the NRC's conclusions in the New Reactor GEIS (Ref. 17) are not legally binding until a final rule is published and in effect, the NRC is ready to leverage the bounding parameters and supporting technical analyses in the draft New Reactor GEIS in performing site-specific environmental reviews for new reactors.

screening analysis for external hazards. The purpose of the graded approach is to allow applicants to engage with the NRC to determine, for each hazard, which readily available information can be used to inform the level of site characterization needed to meet the regulatory requirements. The use of bounding site parameters to inform the graded approach for site characterization may be particularly useful for brownfield and/or retired fossil fuel sites that are already well characterized. The NRC is engaging external stakeholders to provide guidance on the graded approach to site characterization for advanced and microreactor designs, including the use of existing information (ID5 in Enclosure 1, Table 2).

The NRC is conducting a rulemaking that would codify the findings of the New Reactor GEIS (Ref. 17). For the New Reactor GEIS, the NRC is proposing a technology-neutral approach that would streamline the environmental reviews for future new nuclear reactor applications by codifying generic environmental impact conclusions for projects that fit within the plant parameter envelopes and site parameter envelopes specified in the New Reactor GEIS. The draft New Reactor GEIS generically analyzes many environmental issues. If the rule and the draft New Reactor GEIS are finalized, when a license application fits the plant parameter envelopes and site parameter envelopes for a generically resolved issue, that issue would not need to be revisited. Rather, the analysis in the New Reactor GEIS could be incorporated by reference in both the applicant's environmental report and the NRC's supplemental EIS. In that case, the applicant and the NRC would focus the environmental review on the significant environmental issues specific to that site and reactor design. This process is expected to result in a reduction in both time and resources for the NRC's environmental reviews associated with new reactor license applications, benefiting both the agency and applicants while maintaining safety and environmental review standards. The NRC staff expects to provide the draft final rule to the Commission by September 30, 2025 (ID6 in Enclosure 1, Table 2).

The NRC expects that for brownfield and/or retired fossil fuel sites with preferential site characteristics (e.g., existing infrastructure that can be leveraged or an industrial site requiring process heat), addressing the non-resource-related site-specific issues in the draft New Reactor GEIS—purpose and need of the proposed action, site alternatives, energy alternatives, and system design alternatives—could be simplified, saving resources and time for the NRC's environmental review. Additionally, in accordance with EO 14300 (Ref. 5), and as directed by the Commission in SRM-SECY-24-0046 (Ref. 6), the NRC has initiated a rulemaking to revise 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," to further streamline its NEPA reviews by addressing only the no action alternative and reasonably foreseeable environmental effects of the proposed agency action (ID7 in Enclosure 1, Table 2). External stakeholders will have the opportunity to provide comments as part of the rulemaking process.

USE OF STANDARDIZED APPLICATION FOR SIMILAR SITES (SECTION 206(b)(2)(D))

In SECY-25-0052, "Nth-of-a-Kind Microreactor Licensing and Deployment Considerations," the NRC staff developed a licensing strategy that includes the use of a standardized application for licensing reactors with an approved standard design at similar sites (Ref. 20). The licensing strategy relies on the NRC's current regulatory framework for upfront approval of a standard design and generic environmental review. A standardized license application that references the approved design will focus on demonstrating that site characteristics fall within the parameters specified in the standard design and generic environmental review as well as any other remaining site-specific matters. Standardized applications will also benefit from using a graded approach to site characterization, which could consider existing data and information for brownfield and/or retired fossil fuel sites. In addition, the NRC has identified the expansion of an

online portal for electronic submission and processing of standardized applications as a potential future action to provide greater clarity in this area (ID8 in Enclosure 1, Table 3). The portal will (1) automate numerous administrative functions; (2) be a centralized hub for the review process; (3) streamline issuance of licensing documents and NEPA reviews using standardized templates; and (4) facilitate external communications. While the online portal will initially focus on microreactors, the NRC intends to expand the use of the portal to support standardized applications for licensing other reactor technologies, including those to be located at brownfield and/or retired fossil fuel sites (e.g., larger reactors at retired fossil fuel sites). This action, if further pursued, will be addressed through the planning, budgeting, and performance management process, subject to resource availability and prioritization.

OTHER TOPICS CONSIDERED AS PART OF THE EVALUATION UNDER SECTION 206(b)(1)

LEVERAGING EXISTING SITE DATA

Brownfield and/or retired fossil fuel sites may have existing studies and detailed site characterization information that can be repurposed for NRC licensing and other permitting requirements. These sites have typically undergone environmental assessments to identify contaminants, analyze soil and groundwater conditions, and ensure compliance with environmental regulations. Furthermore, because these areas may have been used for industrial purposes, they frequently have extensive historical data, such as maps, infrastructure layouts, records of past activities, and environmental permitting information. Additionally, the NRC will continue to rely on prior EISs and EAs, and other available analyses, to streamline its NEPA review and documents as updated and modified by governing jurisprudence and EOs. The NRC's report for Section 506 of the ADVANCE Act describes how the agency uses "adoption" and "incorporation by reference" to formally leverage previous studies and environmental analyses (Ref. 4). As part of the NRC's planned brownfield licensing resource webpage, the agency will outline how applicants can leverage the use of existing studies and data to meet NRC requirements and provide general information on other environmental statutes and permitting requirements related to siting nuclear facilities at or near brownfield and/or retired fossil fuel sites (ID3 in Enclosure 1, Table 2). After implementation of this webpage, the NRC will consider the need for a guidance document specific to licensing nuclear facilities at brownfield and/or retired fossil fuel sites and whether guidance related to the use of alternative sources of meteorological and seismic data could benefit both brownfield and greenfield sites (ID9 in Enclosure 1, Table 3).

METEOROLOGICAL DATA AND ATMOSPHERIC DISPERSION MODELING

During the November 2024 and March 2025 public meetings, the NRC received feedback from external stakeholders that the agency should consider how alternative sources of meteorological data (rather than data from an onsite meteorological tower) could be certified for use in nuclear plant licensing and emergency planning (Refs. 14, 21). In a March 2025 report submitted to the NRC (Ref. 22), the Nuclear Energy Institute (NEI) stated that "there are credible and robust offsite data sources available—such as airport data, mesonets [mesoscale meteorological station networks], and state environmental agency datasets—that provide sufficient meteorological representation for both initial licensing evaluations and emergency prepared planning." Providing a pathway for applicants to use reliable, publicly available sources of meteorological data would result in cost savings for applicants by providing an

effective alternative to onsite meteorological towers, which are expensive to build and require years of lead-time to use the collected data as part of a license application (Ref. 22).

Regulatory Guide 1.23, “Meteorological Monitoring Programs for Nuclear Power Plants” (Ref. 23), currently allows for the use of alternate meteorological data parameters with appropriate technical justification. The NRC is considering NEI’s March 2025 report in its update of Regulatory Guide 1.23 to clarify how existing alternative meteorological data might be used for atmospheric dispersion calculations and what limitations may exist for the use of such data for licensing reviews and emergency planning (ID10 in Enclosure 1, Table 2). The NRC is also currently reviewing an application for a construction permit from Long Mott Energy, LLC, where the use of alternative meteorological data is being proposed.

SEISMIC DATA

During the November 2024 public meeting, nuclear industry stakeholders recommended that the NRC evaluate the use of existing seismic data, for example, the United States Geological Survey’s National Seismic Hazard Model, as part of a new, alternative methodology for site geological and geotechnical characterization for advanced reactors and microreactors (Ref. 14). In a report to the NRC titled “Regulation of Rapid High-Volume Deployable Reactors in Remote Applications (RHDRA) and Other Advanced Reactors,” NEI recommended the use of an alternative geo-characterization methodology that would rely on site parameter envelopes and site-independent reactor design parameters that would be commensurate with the potential radiological consequences of advanced reactors and microreactors (Ref. 24). The NRC is considering the use of existing seismic data as part of the ongoing efforts related to a graded approach to site characterization (ID5 in Enclosure 1, Table 2).

DECOMMISSIONING OF EXISTING REACTORS

The regulations in 10 CFR Part 20, “Standards for Protection Against Radiation,” set radiological criteria for license termination of nuclear facilities undergoing decommissioning. Among the various matters being considered under EO 14300, the NRC is considering the need for a rulemaking to reform and modernize 10 CFR Part 20 in response to the direction in Section 5 of EO 14300 (ID11 in Enclosure 1, Table 3). In addition, the NRC identified strategies to ensure efficient licensing of new nuclear facilities co-located with decommissioning nuclear facilities. For siting of new nuclear facilities on or near the site of a decommissioning nuclear facility, efficiencies could be gained from leveraging previously docketed information from decommissioning facilities during the licensing of new facilities. The NRC will include these information-sharing efficiency strategies on its brownfield licensing resource webpage. In addition, once the proper authorizations are obtained, a licensee could potentially start construction of a new nuclear facility sooner if the NRC is able to accelerate license termination or partial site releases for the decommissioning facility. One way to accomplish that acceleration could be for licensees to rely on the new nuclear facility’s land use to limit scenarios evaluated in the decommissioning dose analyses.

RETIRED COAL PLANT OPPORTUNITIES

The coal-to-nuclear transition reports listed in Enclosure 3, and GAIN’s work with utilities and communities interested in nuclear, include extensive research on socioeconomic opportunities associated with replacing a retired coal plant with advanced reactors. Key findings of these reports include that (1) a similarly sized nuclear plant replacing a coal plant would employ more people and create more jobs, income, and revenue in the community as a whole; and (2) many

workers at a coal plant could become workers at a nuclear plant with adequate planning and support for training and reskilling. During the November 2024 and January 2025 public meetings (Refs. 14, 25), external stakeholders suggested that the NRC should factor into its licensing decisions the benefits of repurposing a brownfield and/or retired fossil fuel site with a nuclear facility, compared to leaving it idle. The NRC's evaluation of alternatives for NEPA looks at the impacts of the no-action alternative (i.e., not approving the proposed action), which could include socioeconomic impacts associated with not building and operating the proposed nuclear facility.

POPULATION-RELATED SITING REQUIREMENTS

The regulations in 10 CFR Part 100, "Reactor Site Criteria," incorporate specific population considerations into reactor siting proposals. Regulatory Guide 4.7, Revision 4, "General Site Suitability Criteria for Nuclear Power Stations" (Ref. 26), which was updated in February 2024 in accordance with Commission direction (Ref. 27), introduces technology-inclusive, risk-informed, and performance-based criteria to address population density considerations for advanced reactors. The new Appendix A to Regulatory Guide 4.7, "Alternative Approaches to Address Population-Related Siting Considerations," provides flexibility and alternatives to the traditional population density criteria, allowing advanced reactor applicants to demonstrate compliance with siting requirements closer to population centers of 25,000 or more than previously permitted for large light-water reactors.

During the November 2024 and January 2025 public meetings, the NRC received feedback from GAIN and industry stakeholders stating that the NRC's population-related siting criteria in 10 CFR Part 100 may be limiting opportunities to site advanced reactors at certain coal plant sites (Refs. 14, 25).[7] The NRC also received public comments on how the proposed 10 CFR Part 53 rulemaking could be revised to address the population-related siting requirements in 10 CFR Part 100 during the public comment period for the 10 CFR Part 53 proposed rule (Ref. 28) and as part of the NRC staff's engagement with external stakeholders related to Section 208, "Regulatory Requirements for Micro-reactors," of the ADVANCE Act. The NRC is considering this feedback as part of the 10 CFR Part 53 rulemaking process and the NRC is considering the need for a rulemaking to reform and modernize 10 CFR Part 100 in response to the direction in Section 5 of EO 14300 (ID12 in Enclosure 1, Table 3). External stakeholders would have the opportunity to provide comments as part of the EO 14300 rulemaking process.

FINANCIAL ASSURANCE CONSIDERATIONS – DECOMMISSIONING FUNDING

The existing framework for decommissioning funding assurance for power reactors under 10 CFR Parts 50 and 52, and the NRC's current decommissioning oversight process, provide reasonable assurance that funds will be available to decommission its licensed facilities to NRC standards after reactors have permanently ceased operations, and to terminate the licenses. A site-specific cost estimate calculation would likely be required to confirm that an applicant can provide a reasonable assurance of funds from liabilities related to existing radioactivity and that from reactor operations. To address this regulatory issue specific to brownfield and/or retired fossil fuel sites, the NRC has identified the development of guidance for applicants on the site-specific cost estimate as a potential future action, which, if further pursued, would address

[7] During the public meetings, external stakeholders mentioned a 2022 report prepared for DOE (Ref. 10), which found that nearly 79 percent of coal plant sites could be excluded for advanced reactor development if the NRC's current population-related siting criteria were applied. This report was issued before the NRC updated Regulatory Guide 4.7, but it acknowledged the safety profiles of advanced reactors by using a 4-mile radius to assess population density, rather than the 20-mile radius used for large light-water reactor designs.

responsibility by all entities for liabilities associated with existing radioactivity (ID13 in Enclosure 1, Table 3). This action would provide greater regulatory clarity for licensing nuclear facilities at brownfield and/or retired fossil fuel sites with existing radioactivity. This action, if further pursued, will be addressed through the planning, budgeting, and performance management process, subject to resource availability and prioritization.

CONCLUSION

The NRC has several initiatives underway that will improve efficiency and timeliness and reduce the costs of licensing reviews of nuclear facilities sited at or near brownfield and/or retired fossil fuel sites, including modernizing environmental reviews; developing guidance for advanced reactor and microreactor designs; and creating a resource webpage for applicants, other stakeholders, and the staff. The NRC can expedite licensing of nuclear facilities at brownfield and/or retired fossil fuel sites by combining those efficiencies with the potential regulatory modifications outlined in this report related to offsite meteorological data, reactor decommissioning, and population-related siting criteria. The NRC will continue to engage external stakeholders, and work with Federal, State, and Tribal partners, as necessary to maximize efficiency, regulatory predictability, and timeliness and reduce burden for licensing reviews and oversight of nuclear facilities at or near brownfield and/or retired fossil fuel sites.

ACRONYMS

10 CFR	Title 10 of the *Code of Federal Regulations*
ADAMS	Agencywide Documents Access and Management System
ADVANCE Act	Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024
CFR	*Code of Federal Regulations*
DOE	U.S. Department of Energy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPRI	Electric Power Research Institute
ESP	Early Site Permit
FONSI	Finding of No Significant Impact
GAIN	Gateway for Accelerated Innovation in Nuclear
GEIS	Generic Environmental Impact Statement
INL	Idaho National Laboratory
NEI	Nuclear Energy Institute
NEPA	National Environmental Policy Act of 1969
NRC	U.S. Nuclear Regulatory Commission

REFERENCES

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3. "Licensing Efficiency Expectations," Memorandum from John Lubinski, Office of Nuclear Material Safety and Safeguards, May 28, 2025 (ML25143A040).
4. "Modernization of Nuclear Reactor Reviews: A report for the U.S. Senate Committee on Environment and Public Works and the U.S. House of Representatives Committee on Energy and Commerce," January 6, 2025 Accession No. ML24290A159).
5. Executive Order 14300, "Ordering the Reform of the Nuclear Regulatory Commission," *Federal Register*, Vol. 90, No. 102, p. 22587 (90 FR 22587), May 29, 2025.
6. "Staff Requirements – SECY-24-0046 – Implementation of the Fiscal Responsibility Act of 2023 National Environmental Policy Act Amendments," July 28, 2025 (ML25209A050).
7. National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et seq.
8. Executive Order 14154, "Unleashing American Energy," *Federal Register*, Vol. 90, No. 18, p. 8353 (90 FR 8353), January 29, 2025.
9. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, § 101, 42 U.S.C. § 9601.
10. INL/RPT-22-67964, Revision 2, "Investigating Benefits and Challenges of Converting Retiring Coal Plants into Nuclear Plants," September 13, 2022. (Available at https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/C2N2022Report.pdf).
11. "From Coal to Nuclear: A Practical Guide to Developing Nuclear Energy Facilities in Coal Plant Communities," October 2023. (Available at https://www.epri.com/research/products/000000003002026517).
12. INL/RPT-23-75136, "Stakeholder Guidebook for Coal-to-Nuclear Conversions," April 2024. (Available at https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/C2N_Guidebook_2024.pdf.)

13. “Improving Oversight and Inspection Programs: A report for the U.S. Senate Committee on Environment and Public Works and the U.S. House of Representatives Committee on Energy and Commerce,” July 10, 2025 (ML25077A251).
14. “U.S. Nuclear Regulatory Commission Public Information Exchange on Section 206 of the ADVANCE Act, Regulatory Issues for Nuclear Facilities at Brownfield Sites,” December 19, 2024 (ML24345A049).
15. “Advanced Methods of Manufacturing and Construction for Nuclear Energy Projects: A report for the U.S. Senate Committee on Environment and Public Works and the U.S. House of Representatives Committee on Energy and Commerce,” January 2025 (ML24292A171).
16. Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451–1466.
17. NUREG-2249, “Generic Environmental Impact Statement for Licensing of New Reactors, Draft Report for Comment,” September 2024 (ML24176A220).
18. “Generic Environmental Impact Statement for Licensing of New Nuclear Reactors,” *Federal Register*, Vol. 89, No. 193, p. 80797 (89 FR 80797), October 4, 2024.
19. Regulatory Guide 4.27, “Use of Plant Parameter Envelope in Early Site Permit Applications for Nuclear Power Plants,” July 2023 (ML23010A004).
20. SECY-25-0052, “Nth-of-a-Kind Micro-Reactor Licensing and Deployment Considerations” June 18, 2025 (ML24309A266).
21. “U.S. Nuclear Regulatory Commission Meeting Summary. Proposed Use of Offsite Meteorological Data for Safety Reviews and Atmospheric Dispersion Modeling,” April 17, 2025 (ML25098A041).
22. “NEI Suggestions Regarding Use of Offsite Meteorological Data for Licensing and Emergency Planning,” March 31, 2025 (ML25098A278).
23. Regulatory Guide 1.23, “Meteorological Monitoring Programs for Nuclear Power Plants,” March 2007 (ML070350028).
24. “NEI Proposal Paper ‘Regulations of Rapid High-Volume Deployable Reactors in Remote Applications (RHDRA) and Other Advanced Reactors,’” July 31, 2024 (ML24213A337).
25. “Public Meeting Summary. U.S. Nuclear Regulatory Commission Public Meeting on Section 206 of the ADVANCE Act, “Regulatory Issues for Nuclear Facilities at Brownfield Sites,” February 9, 2025 (ML25032A028).
26. Regulatory Guide 4.7, “General Site Suitability Criteria for Nuclear Power Stations,” February 2024 (ML23348A082).
27. SRM-SECY-20-0045, “Staff Requirements – SECY-20-0045 – Population-Related Siting Considerations for Advanced Reactors,” July 13, 2022 (ML22194A885).
28. “Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors,” *Federal Register*, Vol. 89, No. 211, p. 86918 (89 FR 86918), October 31, 2024.

ENCLOSURE 1

SUMMARY OF ACTIONS RELATED TO THE ACCELERATING DEPLOYMENT OF VERSATILE, ADVANCED NUCLEAR FOR CLEAN ENERGY ACT OF 2024 (ADVANCE ACT) SECTION 206(b)

Actions described in this enclosure include implemented, ongoing, and potential new actions related to Section 206(b) of the ADVANCE Act and Executive Order (EO) 14300, “Ordering the Reform of the Nuclear Regulatory Commission” (90 FR 22587; May 29, 2025). These tables are not exhaustive but highlight actions of particular relevance to this report.

The tables provide the status and timeframes for each of the actions. Actions noted as “implemented” have been fully implemented by the U.S. Nuclear Regulatory Commission (NRC) and the benefits are being realized for ongoing licensing reviews. Actions noted as “ongoing” are in the process of being implemented by the NRC. Actions noted as “under evaluation” are potential future NRC actions under consideration or still in development.

The “short-term” timeframe indicates that actions will be implemented by February 23, 2026. The “medium-term” timeframe indicates that actions are expected to be completed by November 23, 2026. One action related to expanding the use of the online portal to other licensing actions is noted as “long-term,” and while work in this area has already begun, this action would not be fully implemented until sufficient experience is gained.

Table 1 – Completed NRC Program Actions Related to ADVANCE Act Section 206(b)

Action	ADVANCE Act Section 206(b) Provision(s)	Impact	Status/Timeframe
Use exemptions to begin review of a reactor application with preparation of an environmental assessment (EA) on a case-by-case basis when circumstances warrant.	206(b)(2)(A)	Yields substantial efficiency gains for external entities and the NRC related to focusing efforts on the most important issues and implementing streamlined environmental review processes, where appropriate, while still fulfilling the National Environmental Policy Act of 1969 (NEPA) requirements.	Implemented
Revise approach to scoping alternatives for new and advanced reactors based on the nature of the project.	206(b)(2)(C)	Yields moderate efficiency gains for external entities and the NRC related to eliminating duplication of effort, reducing unnecessary length in environmental documents, and focusing efforts on the most important issues.	Implemented
Use prior environmental impact statements (EISs) and EAs, as well as other available analyses, studies, and permitting information whenever feasible, whether prepared by the NRC, other Federal agencies, or other entities.	206(b)(1)	Yields moderate efficiency gains for external entities and the NRC related to eliminating duplication of effort, reducing unnecessary length in environmental documents, and focusing efforts on the most important issues.	Implemented
Develop strategies for standardized application submittals for licensing reactors of an approved standard design at similar sites, as described by staff in SECY-25-0052.[8]	206(b)(2)(D)	Yields substantial efficiency gains for external entities and the NRC related to applications focusing on demonstrating that site characteristics fall within the parameters specified in the standard design, generic environmental review, and any other remaining site-specific matters.	Implemented

[8] See SECY-25-0052, "Nth-of-a-Kind Micro-Reactor Licensing and Deployment Considerations," dated June 18, 2025 (ML24309A266).

Table 2 – Ongoing NRC Program Actions Related to ADVANCE Act Section 206(b)

Action	ADVANCE Act Section 206(b) Provision(s)	Commission Action Needed?	Impact	Status/Timeframe
Consistent with EO 14300, initiating a rulemaking to reevaluate the list of actions requiring preparation of an EIS under Title 10 of the *Code of Federal Regulations* (10 CFR) 51.20(b) and revise it consistent with the new threshold determination in Section 106(b) of NEPA (ID2).	206(b)(2)(A)	Yes	May yield substantial efficiency gains for external entities and the NRC related to focusing on the most important issues and implementing streamlined environmental review processes where appropriate, while still fulfilling NEPA requirements.	Ongoing, short-term
Developing a brownfield licensing resource webpage that will provide information for applicants and NRC staff on how to leverage existing site characterization information, studies, and permits in the NRC's licensing process (ID3).	206(b)(2)(A)	No	Expected to yield moderate efficiency gains for external entities and the NRC related to eliminating duplication of effort and reducing unnecessary length of environmental documents.	Ongoing, short-term
Provide guidance on a graded approach to site characterization for advanced and microreactor designs using bounding site parameters as part of the screening analysis for external hazards (ID5).	206(b)(2)(C)	No	Expected to yield substantial efficiency gains for external entities and the NRC related to using readily available data to inform the level of site characterization needed to meet regulatory requirements for advanced reactor and microreactor designs.	Ongoing, medium-term

Action	ADVANCE Act Section 206(b) Provision(s)	Commission Action Needed?	Impact	Status/Timeframe
Publishing a final rule on "Generic Environmental Impact Statement for Licensing of New Nuclear Reactors" (New Reactor GEIS) (ID6).	206(b)(2)(B) 206(b)(2)(C)	Yes	Expected to yield substantial efficiency gains for external entities and the NRC related to eliminating duplication of effort and not having to recreate, reproduce, or provide previously existing information; facilitating shorter environmental review timelines; and developing application-specific EISs and EAs that focus on the environmental impacts unique to that application.	Ongoing, draft final rule expected to Commission by September 30, 2025
Consistent with EO 14300, initiating a rulemaking to further streamline alternatives analyses by addressing the scope of, the purpose and need for, and the evaluation of a reasonable range of alternatives to the proposed agency action (ID7).	206(b)(2)(C)	Yes	Expected to yield moderate efficiency gains for external entities and the NRC related to eliminating duplication of effort, reducing unnecessary length in environmental documents, and focusing efforts on the most important issues.	Ongoing, short-term
Updating Regulatory Guide 1.23, "Meteorological Monitoring Programs for Nuclear Power Plants," to clarify how existing alternative meteorological data might be used for atmospheric dispersion calculations (ID10).	206(b)(1)	No	Expected to yield moderate efficiency gains for external entities and the NRC by clarifying how reliable, publicly available sources of meteorological data can be used as an alternative to onsite meteorological towers.	Ongoing, short-term

Table 3 – Potential New NRC Program Actions Related to ADVANCE Act Section 206(b)[9]

Action	ADVANCE Act Section 206(b) Provision(s)	Commission Action Needed?	Impact	Status/Timeframe
Consistent with EO 14300, conduct rulemaking to reform and modernize 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities" (ID1).	206(b)(2)(A)	Yes	May yield moderate efficiency gains for external entities related to manufacturing quality assurance standards as well as the utilization of commercial-grade dedication for new reactors at brownfield and/or retired fossil fuel sites.	Under evaluation, medium-term
Consistent with EO 14300, consider the need for a rulemaking to extend the length of early site permits from 20 to 40 years (ID4).	206(b)(2)(B)	Yes	May yield moderate efficiency gains for external entities and the NRC as it relates to applicants not having to submit renewal applications for early site permits.	Under evaluation, medium-term
Expand use of the online portal for factory-fabricated microreactors to other licensing actions (ID8).	206(b)(2)(D)	No	Expected to yield substantial efficiency gains for external entities and the NRC related to ensuring that NRC actions are completed in an efficient and effective manner; streamlining environmental review processes; and facilitating timely coordination between the NRC, applicants, external participants, and the public.	Under evaluation, long-term
Consider future need for a guidance document specific to licensing nuclear facilities at brownfield and/or retired fossil fuel sites after implementation of brownfield licensing resource webpage (ID9).	206(b)(2)(A)	No	Expected to yield small efficiency gains for external entities and the NRC related to eliminating duplication of effort and reducing unnecessary length of environmental documents.	Under evaluation, short-term

[9] These potential future actions will be undertaken depending on NRC regulatory needs, technology development, and stakeholder interest, and subject to resource availability and prioritization.

Action	ADVANCE Act Section 206(b) Provision(s)	Commission Action Needed?	Impact	Status/Timeframe
Consistent with EO 14300, conduct rulemaking to revise 10 CFR Part 20, “Standards for Protection Against Radiation” (ID11).	206(b)(1)	Yes	Expected to yield moderate efficiency gains for licensees related to radiological criteria for license termination of nuclear facilities undergoing decommissioning.	Under evaluation, medium-term
Consistent with EO 14300, consider the need for a rulemaking to revise aspects of population-related siting criteria in 10 CFR Part 100, “Reactor Site Criteria,” for advanced reactors (ID12).	206(b)(1)	Yes	May yield moderate efficiency gains for applicants and resource savings for the NRC staff related to avoiding the need to submit exemptions to certain parts of 10 CFR Part 100.	Under evaluation, medium-term
Update NRC licensing guidance on decommissioning funding assurance to address existing radioactivity liabilities (ID13).	206(b)(1)	No	Expected to yield moderate efficiency gains for external entities and the NRC related to clarification of required information regarding existing radioactivity liabilities.	Under evaluation, medium-term

ENCLOSURE 2

STAKEHOLDER ENGAGEMENT

Public Meetings

In the preparation of this report, the U.S. Nuclear Regulatory Commission (NRC) held the following public meetings to seek input from external stakeholders on regulatory issues and efficiencies for licensing and oversight of nuclear facilities at or near brownfield and/or retired fossil fuel sites:

- Public Meeting on ADVANCE Act Section 206—Brownfields Information Exchange

  On November 21, 2024, the NRC held a public meeting to discuss Section 206 of the Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy Act of 2024 (ADVANCE Act) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24345A049). The meeting included both internal and external presenters. The external presenters were from the Gateway for Accelerated Innovation in Nuclear (GAIN), the Nuclear Energy Institute (NEI), the Electric Power Research Institute (EPRI), Duke Energy Corporation, Energy Northwest, and Oklo, Inc. Feedback received during the public meeting focused on improving licensing efficiency by leveraging existing site data and information, using alternative methodologies for meteorological data collection, and providing recommendations related to the NRC's population-related siting criteria for advanced reactors.

- Public Meeting on ADVANCE Act Section 206—Regulatory Issues for Nuclear Facilities at Brownfields

  On January 16, 2025, the NRC held a public meeting that focused on community-related issues related to Section 206 of the ADVANCE Act (ML25032A028). The meeting included presentations by (1) the NRC staff on financial assurance requirements for brownfields and population-related siting requirements; (2) the States of Kentucky and Tennessee on their State's brownfield voluntary cleanup programs; (3) NEI on its population-related siting criteria preliminary recommendations; (4) GAIN on socioeconomic benefits of repowering retired coal plant sites with advanced nuclear; (5) the Energy Communities Alliance and the Eastern Tennessee Economic Council on how to approach community engagement for new nuclear; and (6) Canadian Nuclear Laboratories on establishing baseline radiological conditions at brownfield sites for regulation and environmental impact assessment, and the feasibility of brownfield sites for small modular reactor deployment in Canada. In addition to these presentations, feedback received during the public meeting focused on variable state-level liability processes and the importance of baseline site characterization data for decommissioning assessments and associated financial assurance requirements, the importance of effective communication, outreach to and engagement of Tribal governments and the public for nuclear projects, and aligning population-related siting criteria with the expected safety of advanced reactors.

- Public Meeting on Proposed Use of Offsite Meteorological Data for Safety Reviews and Atmospheric Dispersion Modeling

  On March 6, 2025, the NRC held a public meeting to discuss the proposed use of offsite meteorological data for safety reviews and atmospheric dispersion monitoring (ML25098A041). This meeting was related to ADVANCE Act Section 206 due to the interest in this topic that arose during the November 2024 public meeting. Both the NRC staff and NEI gave presentations during this public meeting (ML25058A252, ML25064A310). Feedback received during the public meeting focused on (1) differences between meteorological data to describe climatological characteristics versus data for use in dispersion modeling, (2) differences between the NRC's method for classifying atmospheric stability and other methods, and (3) the need to address technical issues for reactor designs to be deployed in locations subject to extreme and persistent cold conditions.

Correspondence

The NRC received written input related to Section 206 of the ADVANCE Act from the following groups and individuals.

Incoming Correspondence	ADAMS Accession No.
Bryson Roberson and Nicholas McMurray, ClearPath, letter to the NRC staff, "ClearPath Comments on the ADVANCE Act Section 206: NRC Licensing at Brownfield Sites," February 14, 2025.	ML25051A309
Spencer Toohill, The Breakthrough Institute, letter to the NRC staff, "BTI Comments on the ADVANCE Act: Population Density Considerations," July 15, 2025.	ML25202A076

ENCLOSURE 3

COAL-TO-NUCLEAR REPORTS

The U.S. Nuclear Regulatory Commission (NRC) appreciates the coordination with the Gateway for Accelerated Innovation in Nuclear (GAIN) during the NRC's evaluation of regulatory issues and efficiencies for licensing and oversight of nuclear facilities at or near brownfield and/or retired fossil fuel sites. GAIN, the U.S. Department of Energy (DOE), the National Laboratories, the Electric Power Research Institute (EPRI), and the Nuclear Innovation Alliance (NIA) have contributed to or have published detailed reports on coal-to-nuclear transition. The NRC considered the following reports during its evaluation of licensing efficiencies related to Section 206:

1. DOE. "Coal-to-Nuclear Transitions: An Information Guide," April 1, 2024. (Available at https://www.energy.gov/ne/articles/coal-nuclear-transitions-information-guide.)
2. DOE. "Investigating Benefits and Challenges of Converting Retiring Coal Plans into Nuclear Plants: Nuclear Fuel Cycle and Supply Chain," INL/RPT-22-67964, Revision 2, September 13, 2022. (Available at https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/C2N2022Report.pdf.)
3. DOE. "Stakeholder Guidebook for Coal-to-Nuclear Conversions: Nuclear Fuel Cycle and Supply Chain," INL/RPT-23-75136, April 2024. (Available at https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/C2N_Guidebook_2024.pdf.)
4. DOE. "Evaluation of Nuclear Power Plant and Coal Power Plant Sites for New Nuclear Capacity: Nuclear Fuel Cycle and Supply Chain," ORNL/SPR-2024/3483, September 3, 2024. (Available at https://fuelcycleoptions.inl.gov/SiteAssets/SitePages/Home/Evaluation%20of%20NPP%20and%20CPP%20Sites%20Aug%2016%202024.pdf.)
5. EPRI. "Coal Repowering: A White Paper Series—Repurposing Coal-Fired Power Plants to Anchor Net-Zero Industrial Clusters," July 2023. (Available at https://restservice.epri.com/publicdownload/000000003002026481/0/Product.)
6. EPRI. "From Coal to Nuclear: A Practical Guide for Developing Nuclear Energy Facilities in Coal Plant Communities," Technical Report 3002026517, October 2023. Available at https://www.epri.com/research/products/000000003002026517.
7. GAIN. "Coronado Generating Station Nuclear Feasibility Study: Summary Report," INL/RPT-23-72901, Revision 1, March 2024. (Available at https://gain.inl.gov/content/uploads/4/2024/06/Coronado-Generating-Station-Summary-Report_INLRPT-23-72901.pdf.)
8. GAIN. "Ghent Generating Station Nuclear Study: Siting Evaluation," INL/RPT-23-72896, Revision 0, March 2024. (Available at https://gain.inl.gov/content/uploads/4/2024/06/Ghent-Generating-Station-Nuclear-Study-Siting-Evaluation_INLRPT-23-72896.pdf.)
9. GAIN. "Ghent Generating Station Nuclear Feasibility Study: Summary Report," INL/RPT-23-72902, Revision 0, May 2024. (Available at https://gain.inl.gov/content/uploads/4/2024/06/Ghent-Generating-Station-Nuclear-Feasibility-Study-Summary-Report_INLRPT-23-72902.pdf.)
10. Idaho National Laboratory. "Transitioning Coal Power Plants to Nuclear Power," INL/EXT-21-65372, December 2021. (Available at https://inldigitallibrary.inl.gov/sites/sti/sti/Sort_54812.pdf.)
11. Nuclear Innovation Alliance. "Resources for Coal Repowering with Nuclear Energy," September 2023. (Available at http://nuclearinnovationalliance.org/sites/default/files/2023-09/NIA_Resources%20for%20Coal%20Repowering%20with%20Nuclear%20Energy_v1.0.pdf.)