United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued October 30, 2025 Decided July 21, 2026

No. 24-1318

BEYOND NUCLEAR, INC. AND THE SIERRA CLUB, INC.,
PETITIONERS

v.

U.S. NUCLEAR REGULATORY COMMISSION AND UNITED STATES OF AMERICA,
RESPONDENTS

NUCLEAR ENERGY INSTITUTE, ET AL.,
INTERVENORS

On Petition for Review of an Order
of the Nuclear Regulatory Commission

Diane Curran argued the cause for petitioners. With her on the briefs was *Caroline Leary*.

Rachael Curran and *Jaclyn Lopez* were on the brief for amicus curiae Miami Waterkeeper in support of petitioners.

Andrew P. Averbach, Solicitor, U.S. Nuclear Regulatory Commission, argued the cause for respondents. With him on the brief were *Adam R.F. Gustafson*, Acting Assistant Attorney

General, U.S. Department of Justice, and *Christopher Anderson*, Attorney.

Jonathan M. Rund argued the cause for intervenors Nuclear Energy Institute, et al. With him on the brief were *Ellen C. Ginsberg*, *Anne R. Leidich*, *Timothy J. Walsh*, and *Jay E. Silberg*. *Jerry Bonanno* entered an appearance.

Before: MILLETT, WILKINS, and GARCIA, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* GARCIA.

GARCIA, *Circuit Judge*: In 2024, the Nuclear Regulatory Commission revised the Generic Environmental Impact Statement it uses in evaluating nuclear power plant operating-license renewals. Petitioners argue that the Commission did not adequately consider how aging components and climate change affect the risk of accidents involving reactor-core damage. We deny the petition.

I

Under the Atomic Energy Act, the Nuclear Regulatory Commission (NRC) issues operating licenses to commercial nuclear power plants. 42 U.S.C. § 2133. The initial term of such licenses is capped at forty years, and the licenses "may be renewed upon the expiration of such period." *Id*. § 2133(c). NRC regulations permit renewal to extend the license term by up to twenty years. *See* 10 C.F.R. § 54.31(b). Renewed licenses may also be subsequently renewed. *See id.* § 54.31(d). At the end of 2024, 94 commercial nuclear power reactors were operating at 54 sites in the United States. Of those operating reactors, 85 had successfully renewed their operating licenses at least once.

License renewal involves two parallel reviews. Under 10 C.F.R. Part 54, the Commission conducts a plant-specific

safety review and may issue a renewed license only upon finding "reasonable assurance" that the facility will continue to operate in accordance with its "[c]urrent licensing basis"—that is, applicable NRC requirements, license conditions, and the licensee's plant-specific commitments to the Commission. 10 C.F.R. §§ 54.29(a), 54.3(a). As part of the same review, the Commission must also find that the applicant will adequately "manag[e] the effects of aging during the period of extended operation." *Id*. § 54.29(a)(1).

Simultaneously, the Commission conducts an environmental review under 10 C.F.R. Part 51 to comply with the National Environmental Policy Act (NEPA). NEPA requires federal agencies to prepare an environmental impact statement for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C). That statement must address the "reasonably foreseeable environmental effects of the proposed agency action." *Id.* § 4332(C)(i). In essence, agencies must "look hard at the environmental effects" of covered actions before approving them. *Sierra Club v. FERC*, 153 F.4th 1295, 1303 (D.C. Cir. 2025) (internal citation omitted). This requirement ensures that "important effects will not be overlooked or underestimated only to be discovered after resources have been committed." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

To organize and streamline its environmental reviews, the Commission relies on a Generic Environmental Impact Statement (GEIS). The Commission first issued a GEIS in 1996, revised it in 2013, and in 2024 finalized the revision at issue here—Revision 2.

The GEIS addresses the environmental impacts that can result from continued plant operations by identifying discrete environmental "issues" and organizing them into two

categories. "Category 1" issues are resolved generically and need not be re-analyzed in individual environmental reports for each plant. *See* 10 C.F.R. § 51.53(c)(3)(i); Renewing Nuclear Power Plant Operating Licenses—Environmental Review, 89 Fed. Reg. 64,166, 64,169 (Aug. 6, 2024). "Category 2" issues, by contrast, require plant-specific evaluation through a supplemental environmental impact statement. *See* 89 Fed. Reg. at 64,169. Even for Category 1 issues, however, individual license-renewal applicants must disclose "any new and significant information regarding the environmental impacts of license renewal" of which they are aware. *See* 10 C.F.R. § 51.53(c)(3)(iv). Revision 2 identifies 80 environmental issues, 59 of which are classified as Category 1, and assigns each Category 1 issue a significance level of small, moderate, or large. 89 Fed. Reg. at 64,168, 64,171. The GEIS's framework thus avoids duplicative analysis of impacts that are "essentially common" across plants while preserving individualized consideration where plant-specific circumstances warrant. *See New York v. NRC* ("*New York II*"), 824 F.3d 1012, 1019 (D.C. Cir. 2016).

Petitioners Beyond Nuclear, Inc. and The Sierra Club, Inc. (together, the Environmental Groups) challenge Revision 2's generic determination that the environmental impacts of "severe accidents" during extended operation are "small." 2024 GEIS 2-13. "Severe accidents" are those that involve substantial damage to a reactor's core and may result in the release of radioactive material into the environment. *See* 2024 GEIS app. E, at E-1; 2024 GEIS app. A, at A-123. The Commission's determination rested on its finding that, although severe accidents could have significant consequences, they are extremely unlikely to occur. In the Commission's terms, "the probability-weighted consequences of severe accidents" are low. 89 Fed. Reg. at 64,180; *see also*

2024 GEIS app. E, at E-8. That analysis is supported by an appendix spanning more than 100 pages. 2024 GEIS app. E.

In reaching its "small" determination, the Commission relied on data from the license renewal applications it had processed since 1996 and on its experience from ongoing research and oversight. It used as its baseline the 1996 GEIS's conservative, upper-bound estimate of the probability-weighted risk posed by severe accidents, which the Commission had determined to be "small." *Id*. at E-9. In updating that analysis, the Commission incorporated multiple factors that the 1996 analysis had not quantitatively assessed, such as the risks from external events (like earthquakes). *Id*. at E-1, E-6, E-92–93.

Even after analyzing those new elements, the Commission concluded that the expected environmental impact from severe accidents fell far below even the conservative upper bound that the 1996 assessment had deemed "small." Specifically, the 2024 severe-accident impact estimates were, on average, about 120 times lower than the 1996 bounding values—that is, conservatively high estimates used to account for uncertainty—representing a "decrease of more than 10,000 percent." *Id*. at E-93. The Commission explained that this large margin of error addressed concerns about "uncertainties" including the possibility that inputs in its risk analysis may have been "imperfectly quantified." 2024 GEIS app. A, at A-222.

The Commission thus determined, on a generic basis, that environmental impacts from severe accidents were "small." 2024 GEIS 4-131–32. In addition to that generic impact finding, the Commission addressed whether license-renewal applicants must consider measures that could reduce the risk or consequences of severe accidents. Those measures are known as severe-accident mitigation alternatives, or SAMAs. The

Commission did not eliminate plant-specific SAMA review altogether: Plants that have not previously considered SAMAs must still do so. 89 Fed. Reg. at 64,180. But plants that have already completed a SAMA analysis need not repeat it. 2024 GEIS app. E, at E-94.

The Environmental Groups petitioned for review.

II

Although no party disputes the Environmental Groups' standing, we have an independent obligation to ensure we have jurisdiction. *See Dominguez v. UAL Corp.*, 666 F.3d 1359, 1362 (D.C. Cir. 2012). The Environmental Groups satisfy the requirements for associational standing: "[A]t least one member" would have standing in their own right; the interests asserted are "germane to [the organizations'] purposes"; and "neither the claims nor the relief requested require" the participation of individual members. *Nat'l Council for Adoption v. Blinken*, 4 F.4th 106, 111 (D.C. Cir. 2021) (internal quotation marks and citations omitted).

At least one member of each organization has Article III standing. The organizations submitted declarations showing that multiple members reside near nuclear facilities affected by the challenged action. Those members assert an interest in avoiding exposure to severe-accident risks that could cause "death, injury, illness, dislocation and economic damage" as well as "devastating environmental damage." J.A. 624, 627, 630, 633. That asserted exposure to severe-accident risks establishes injury in fact. *See Nuclear Energy Inst., Inc. v. EPA*, 373 F.3d 1251, 1265–66 (D.C. Cir. 2004). Causation and redressability are likewise satisfied. *See id*. at 1266. The alleged injury is fairly traceable to Revision 2, which supplies the generic environmental determinations the Commission relies upon in license-renewal proceedings without further severe-accident analysis. Vacatur would require the

Commission to revisit those determinations before relying on them, with potential consequences for future licensing decisions.

The remaining associational-standing requirements are also met. The interests asserted are germane to the Environmental Groups' missions. Beyond Nuclear describes itself as a "membership organization" that seeks to "protect public health and safety" and "prevent environmental harms" from nuclear power. J.A. 569. The Sierra Club's stated purposes include promoting responsible use of "ecosystems and resources" and protecting and restoring "the quality of the natural and human environment." *Id*. This petition falls comfortably within those purposes. And neither the claims nor the relief requested demand the participation of individual members.

III

Turning to the merits, we review the Environmental Groups' challenge under the Administrative Procedure Act's arbitrary-and-capricious standard. *See Birckhead v. FERC*, 925 F.3d 510, 515 (D.C. Cir. 2019) (per curiam). That standard requires reasoned decisionmaking. An agency must adequately explain its action, and, although it need not address every comment, it must respond in a reasoned manner to comments that raise significant problems or challenge a fundamental premise of its action. *See Bloomberg L.P. v. SEC*, 45 F.4th 462, 476–77 (D.C. Cir. 2022).

Our review is substantially deferential "[w]hen a party argues that an agency action was arbitrary and capricious due to a deficiency in an EIS." *Seven Cnty. Infrastructure Coal. v. Eagle Cnty.*, 605 U.S. 168, 180 (2025). That is because NEPA is a "purely procedural statute" that "does not mandate particular results[] but simply prescribes the necessary process" for agency decisionmaking. *Id*. at 177 (internal

quotation marks and citations omitted). Our role is accordingly limited: We ask only whether the agency has "addressed environmental consequences and feasible alternatives as to the relevant project[,]" and whether its decision was reasonably explained. *Id*. at 180–81. In preparing an EIS "an agency will invariably make a series of fact-dependent, context-specific, and policy-laden choices about the depth and breadth of its inquiry[.]" *Id.* at 183. We should not "micromanage those agency choices so long as they fall within a broad zone of reasonableness." *Id*. NEPA's requirements are also guided by a "rule of reason," under which the scope of an EIS depends on whether the additional information or analysis that a challenger seeks would be useful to the agency's decisionmaking. *Id*. (quoting *DOT v. Pub. Citizen*, 541 U.S. 752, 767–68 (2004)).

The Environmental Groups principally challenge the Commission's determination that environmental impacts from severe accidents at nuclear power plants are "small." They argue that the Commission inadequately addressed two considerations in its severe-accident analysis: (1) the effects of long-term aging and degradation of reactor components, and (2) the effects of climate change in increasing external hazards to reactors, such as storms and flooding. The Environmental Groups also challenge the Commission's related treatment of SAMAs, arguing that the Commission could not generically dispense with further plant-specific mitigation review without first accounting for those same aging and climate-related accident risks.

Two high-level considerations frame our analysis. First, neither the effects of aging on components nor the effects of climate change on external hazards are themselves environmental impacts that NEPA required the Commission to address. The environmental impacts at issue are those from severe accidents, which the Commission studied extensively

by assessing their likelihood and the consequences if they were to occur. The two issues on which the Environmental Groups focus are upstream factors that may increase the likelihood of severe accidents. Second, the Commission explained that its risk estimate would need to increase by more than a factor of 100—that is, by more than 10,000 percent—before its assessment of the environmental impacts of severe accidents would be called into question. *See* 2024 GEIS 4-130–31; 2024 GEIS app. E, at E-93–94. The Environmental Groups do not question that high-level point.

These considerations are not, on their own, dispositive of whether the Commission fulfilled its duties under the APA and NEPA to provide a reasoned analysis of the environmental impacts of license renewals. The Commission still had to consider each "important aspect of the" issue before it. *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). But aging and climate change are inputs into a type of impact the Commission studied and determined was small with a substantial margin for error. That matters in assessing the reasonableness of the Commission's "choices about the depth and breadth of its inquiry" into those inputs. *Seven Cnty.*, 605 U.S. at 183.

Against that backdrop, we find no basis to conclude that the Commission acted arbitrarily by failing to discuss in greater detail the aging or climate-related inputs in its severe-accident risk analysis. We also reject the Environmental Groups' related challenge to the Commission's treatment of SAMAs.

A

The Commission's treatment of the effect of aging on accident risks was reasonable.

The Commission acknowledged the risk that aging reactor components can increase the likelihood of severe accidents, but

it explained that this risk did not meaningfully affect its environmental assessment. *See, e.g.*, 2024 GEIS app. A, at A-213–14. Several mutually reinforcing considerations support that conclusion: enforceable regulatory requirements specifically designed to manage aging, evidence that the Commission has studied these issues on an ongoing basis, and the Commission's express accounting for uncertainty through an assumed failure rate and a wide margin of error.

The Commission permissibly relied in part on its regulatory framework for managing aging. Under 10 C.F.R. Part 54, a license may be renewed only if the Commission finds "reasonable assurance" that "the effects of aging" on passive structures and components will be adequately managed, such that a plant's functions will remain consistent with its licensing basis. 10 C.F.R. § 54.29(a); *see also* 2024 GEIS app. A, at A-212. Active systems are subject to ongoing performance monitoring and corrective action under the agency's Maintenance Rule, codified at 10 C.F.R. § 50.65. *See* 2024 GEIS app. A, at A-213; *see also id*. at A-150 (discussing risk-management measures for low power and shutdown periods). Put plainly, the Commission's ongoing oversight focuses heavily on the risk that plant components will fail as they age. If the Commission lacks reasonable assurance that aging risks will be managed, renewal must be denied; and if renewal is granted, active systems remain subject to continued monitoring.

For purposes of its environmental assessment, the Commission reasonably projected that these requirements would be complied with and enforced, and therefore that the risk of severe accidents from aging components would be "minimize[d]." *Id*. at A-213–14; *see also* 2024 GEIS app. E, at E-1. Because of that "full suite of regulatory programs," which is "designed to help keep the appropriate components near a constant failure rate" and "minimize the uncertainty due

to aging," the Commission rejected the Environmental Groups' suggestion that the risk analysis should incorporate an "increasing failure rate [over time] due to aging." 2024 GEIS app. A, at A-213. The Environmental Groups, for their part, offer no concrete basis to believe that these oversight regimes have been or will be ineffectual in keeping risk within the expected bounds.

The Environmental Groups respond by pointing to NRC documents from 2014 in which Commission personnel identified knowledge gaps regarding aging effects. But those documents prompted years of follow-on analysis incorporating operating experience, materials research, and stakeholder input. *See*, *e.g.*, *id*. at A-104. That work led to updated aging-management guidance that identified programs to manage aging effects during license renewal and highlighted other programs that should be modified to address extended operation. *See id*. at A-212–13; J.A. 507–09, 559–66. We thus disagree with the Environmental Groups' suggestion that the NRC has simply ignored its prior acknowledgment of uncertainty. To the contrary, it acknowledged that uncertainty, noted its ongoing research efforts, and again noted that its license renewal and ongoing oversight programs "are designed to minimize the uncertainty due to aging." 2024 GEIS app. A, at A-213.

The Environmental Groups nonetheless contend that the Commission's analysis amounts to little more than an assertion that its regulatory programs will prevent aging-related risks from materializing. They rely on *New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012) (*New York I*), but that decision is inapposite. In *New York I*, the Commission addressed the risks of environmental harms from leaks in "deep, water-filled pools" used to store spent nuclear fuel. *Id*. at 474. The Commission did not directly conduct any forward-looking analysis of whether such leaks would occur during the

extended storage period and what their consequences would be. It instead relied on the minimal effects of past leaks and referred "to its monitoring and regulatory compliance program as a buffer against pool degradation." *Id.* at 481. We rejected that approach because the Commission had to conduct an analysis that "actually concern[ed] itself with the extra years of [spent-fuel] storage," and because "merely pointing to the compliance program" was "in no way sufficient to support a scientific finding" that future leaks would not cause significant environmental impacts. *Id*.

This case is different. The Commission here did not rely on regulatory oversight as a substitute for the required environmental analysis. Rather, it extensively studied the impact at issue—the environmental harms from severe accidents—on a forward-looking basis. As part of that analysis, the Commission also modeled the impact of component failure on accident risk, assuming a constant failure rate. True, in responding to concerns that aging components would increase those risks, the Commission relied heavily on its "suite of regulatory programs" for managing the risks from aging components. 2024 GEIS app. A, at A-213. But that reliance does not resemble the problem we identified in *New York I* because the Commission did not invoke those programs as a stand-alone answer to the environmental consequences of severe accidents. Instead, it invoked them as part of its explanation for why aging-related degradation would be managed, such that the severe-accident analysis need not assume increasing component-failure rates over time.

The Commission's use of regulatory programs to support, rather than replace, an environmental analysis tracks the distinction litigated and accepted in *New York II*, which followed the remand in *New York I*. There, the petitioners argued that the Commission had fallen short yet again because it "posit[ed] that existing monitoring measures are sufficient to

detect leaks," even though "merely adverting to existing compliance measures does not suffice." States' Brief 43, *New York II*, 824 F.3d 1012 (No. 14-1210). The Commission responded that the post-remand GEIS did more than point to monitoring requirements: It analyzed how leaks could occur and migrate, assessed factors bearing on their consequences, and evaluated long-term undetected leakage scenarios. We accepted that approach, emphasizing that the GEIS "extensively analyze[d]" short-term, high-volume leaks while treating monitoring requirements as one factor "increasing the likelihood" of detection. *New York II*, 824 F.3d at 1021. And we further recognized that regulatory requirements may support an agency's predictive judgments, *id*., and that such judgments may rely on "[i]ncomplete data," when the agency's assumptions are supported by the record, *id.* at 1022 (internal quotation marks and citations omitted).

The "conservatism" built into the Commission's analysis here further supports its decision not to adjust the severe-accident analysis to account for increasing aging effects over time. 2024 GEIS 4-130. As noted, the Commission explained that data from its plant-specific analyses in the years since the 1996 GEIS showed that its original bounding values—which it had deemed consistent with a "small" impact determination—overstated the risks from severe accidents by a factor of 120, or 12,000 percent. 2024 GEIS app. E, at E-12–13, E-92–93. That overstatement dramatically outweighed the countervailing effect the Commission predicted from other factors, which would increase the risk level by a factor of four or five. *Id*. at E-92–94. Those margins make it unlikely that incremental aging effects would call its analysis into question or change the overall significance determination. *Cf. Balt. Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 98 (1983) (approving as reasonable the NRC's conclusion that "the uncertainties concerning the development of nuclear waste storage facilities

are not sufficient to affect the outcome of any individual licensing decision"). Indeed, the Commission discussed the "uncertainties" in its analysis in detail. *See* 2024 GEIS app. E, at E-68; *see also id*. at E-67–84. It explained that those uncertainties were mitigated by conservative assumptions that tended to overstate, rather than understate, the estimated environmental impacts.

At bottom, the Commission acknowledged and directly addressed the Environmental Groups' comments suggesting that the Commission should assume aging would increase component-failure rates over time. It explained why its severe-accident analysis need not build in an aging-related increase in those rates. That technical judgment falls within the Commission's expertise and is entitled to deference. *See Seven Cnty.*, 605 U.S. at 181–82.

B

The Commission also reasonably addressed the Environmental Groups' climate-related objections.

The Commission's severe-accident analysis assessed the risk that both internal events (such as component failures) and external events could damage a plant's reactor core. *See* 2024 GEIS app. E, at E-7–37. For external events, the Commission explained that data and analysis from its site-specific license renewals showed that "[t]ypically, the external events that contribute the most to plant risk are seismic and fire events." *Id*. at E-23. Although "high winds, floods, tornadoes, and other external hazards may also contribute to plant risk," the Commission explained that those "contributions are generally, but not always, much lower than those from seismic and fire events." *Id*. The Commission thus focused its external events analysis on seismic and fire events. *Id.* And the Commission ultimately concluded, as discussed above, that its overall risk assessment showed that the predicted

environmental hazards posed by severe accidents were, on average, more than 100 times lower than its conservative estimates in 1996 had suggested.

The Environmental Groups commented that the Commission should have considered "the effects of climate change on accident risk." 2024 GEIS app. A, at A-218; *see also* J.A. 572. They described this as a "new and fast-developing issue," and stated that climate change can heighten accident risk by increasing storm frequency—specifically noting severe windstorms—and by worsening flood-related hazards. *Id.* at A-218.

The Commission acknowledged those comments and observed that several sections of the GEIS address "climate change and its possible environmental effects." *Id*. at A-221. But the Commission disagreed that "the impacts of future climate change and mitigation should be considered" in its severe-accident analysis. *Id*. at A-222. In context, the Commission's explanation for that judgment about the appropriate "depth" of analysis was reasonable. *See Seven Cnty.*, 605 U.S. at 183.

As part of its holistic assessment of the environmental impacts of severe accidents, the Commission acknowledged the types of climate-related events the Environmental Groups are concerned about: "high winds, floods, tornadoes, and other external hazards." 2024 GEIS app. E, at E-23. But it explained that those risks generally contributed much less to plant risk than seismic and fire events, and it considered external events as part of an all-hazards assessment. *Id*.; *see also id*. at E-37. Responding directly to the Environmental Groups' comment that climate change could increase those risks, the Commission referenced the "large margins" in its severe-accident data and noted that those margins "can account for a variety of uncertainties, including imperfectly quantified

factors in the risk analyses." 2024 GEIS app. A, at A-222; *see also* 2024 GEIS app. E, at E-92–94.

The Commission also stated that existing safety regulations supported its conclusion that further study of climate change's effect on storm frequency was unnecessary. The Commission explained that "adaptation of nuclear power plants to climate change is addressed through . . . existing regulations" requiring certain plant features to withstand natural phenomena without losing their safety functions. 2024 GEIS app. A, at A-222; *see also* 10 C.F.R. Part 50 app. A, General Design Criterion I-2 (requiring "[s]tructures, systems, and components important to safety" to be "designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions"). As with the Commission's treatment of uncertainties regarding aging, the Commission did not rely on safety regulations to substitute for NEPA analysis. *Contra New York I*, 681 F.3d at 481. Instead, it reasonably invoked relevant regulations as one reason why the GEIS need not separately assess the possible impact of climate change on storm frequency.

Finally, the Commission noted that it would evaluate any new and significant information in connection with plant-specific license applications and would revisit the license-renewal GEIS every 10 years. 2024 GEIS app. A, at A-222.

The Environmental Groups seize on statements from the Commission that their climate-related concerns were "outside the scope" of this proceeding to suggest that the Commission simply ignored the issue. *Id*. As the above shows, that is not a fair characterization of the Commission's analysis. The Commission reasonably explained that a precise accounting of climate change's impact on external hazards to plant operations

was "outside the scope" of the GEIS. The GEIS focused on assessing the environmental impacts of severe accidents, and, for all the reasons detailed above, the Commission explained that closer study of climate change's effects on external events was unlikely to alter its assessment. *Id.*

In essence, the Commission declined to expend further resources on an attempt to model the future effects of climate change on severe storms. It did so because its assessment based on current data showed the risks from such storms to be minimal compared to other risks, because its overall analysis already included a large buffer that could account for these types of uncertainties, and because regulatory mechanisms exist to address the issue should circumstances change. No party identifies any estimate—or even speculation—suggesting that the impact of climate change on storm severity could put a meaningful dent in the greater-than-10,000 percent buffer for uncertainties in the Commission's analysis. This is precisely the type of judgment call "about the depth and breadth" of an environmental analysis to which we must defer, so long as it falls within a "broad zone of reasonableness." *Seven Cnty.*, 605 U.S. at 183; *cf. Sierra Club v. DOE*, 867 F.3d 189, 198–202 (D.C. Cir. 2017) (upholding agency's decision not to conduct more granular environmental analysis where the agency reasonably explained that the analysis would be too speculative to be useful, would not meaningfully inform its decisionmaking, and would raise practical feasibility concerns).[1]

[1] The Environmental Groups argue in their reply brief that the GEIS is internally inconsistent because it treats some climate-related issues as site-specific but resolves climate-related accident risk generically as a Category 1 issue. Reply Brief 25–27. The Environmental Groups forfeited this argument by failing to raise it

C

The Environmental Groups' related challenge to the Commission's decision not to require plants to conduct a second SAMA analysis in connection with future license renewals fails for similar reasons. They contend that the Commission could not make a binding generic determination that additional plant-specific SAMAs were not warranted without first accounting for aging and climate-related risks. As relevant here, that argument concerns plants that have already completed a SAMA or similar analysis, because plants that have not previously considered SAMAs must still do so. 89 Fed. Reg. at 64,180. But the Environmental Groups' argument rests on the same premise rejected above—that the Commission's treatment of aging and climate change as they relate to accident risks was insufficient. Because the Commission reasonably addressed those factors, the Environmental Groups' challenge fails. *See NRDC v. NRC*, 823 F.3d 641, 652 (D.C. Cir. 2016) (explaining that NRC's policy of not requiring a second SAMA was "reasonable and so [wa]s entitled to deference" given "how extensive the first SAMA analysis [wa]s").

D

Our conclusions do not leave the Environmental Groups or others without recourse should plant-specific conditions warrant further scrutiny. The generic "small" determination means that severe-accident impacts are treated as Category 1 issues in individual license-renewal proceedings, and related mitigation issues are typically resolved generically for plants that have already completed a SAMA. But that classification is not a permanent bar to site-specific consideration.

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in their opening brief, and we decline to address it. *See Jones Lang LaSalle Ams., Inc. v. NLRB*, 128 F.4th 1288, 1296 (D.C. Cir. 2025).

The mechanisms for such consideration are meaningful. A participant in an adjudicatory proceeding may petition for waiver of a GEIS finding by submitting an affidavit stating "with particularity the special circumstances alleged to justify the waiver" and demonstrating that those "special circumstances" render the application of the rule inconsistent with its purposes. 10 C.F.R. § 2.335(b). We have recognized that process as an appropriate vehicle for raising site-specific challenges to generic environmental analyses. *See New York II*, 824 F.3d at 1021–22. In certain circumstances, interested parties may also intervene in individual license-renewal proceedings and raise environmental contentions grounded in plant-specific evidence. *See* 10 C.F.R. § 2.309(c)(1), (f)(1)(v)–(vi), (f)(2). And license-renewal applicants must disclose any known "new and significant information regarding . . . environmental impacts" in their environmental reports, which the NRC must evaluate in preparing the plant-specific supplemental EIS. *Id*. § 51.53(c)(3)(iv); *see also id*. § 51.95(c)(4).

These mechanisms reflect a considered regulatory design: Generic analysis addresses what is common across plants, while individualized processes remain available where generic conclusions may not hold for a particular facility. NEPA does not demand that a GEIS anticipate every conceivable site-specific variation. It requires a "hard look" at reasonably assessable impacts and allows more particularized issues to be addressed in subsequent proceedings. *See Methow Valley*, 490 U.S. at 339, 352; *Pub. Citizen*, 541 U.S. at 767. The Commission adhered to that framework here.

IV

The petition for review is denied.

So ordered.