United States Court of Appeals
For the First Circuit

No. 12-1561

BEYOND NUCLEAR, Paul Gunter, Director of Reactor Oversight Project; NEW HAMPSHIRE SIERRA CLUB, Kurt Ehrenberg, Field Organizer; SEACOAST ANTI-POLLUTION LEAGUE, Doug Bogen, Executive Director,

Petitioners,

v.

U.S. NUCLEAR REGULATORY COMMISSION,

Respondent,

NEXTERA ENERGY SEABROOK, LLC; TAUNTON MUNICIPAL LIGHTING PLANT; MA MUNICIPAL WHOLESALE ELECTRIC COMPANY; HUDSON LIGHT & POWER DEPARTMENT,

Interested Parties, Intervenors.

PETITION FOR REVIEW FROM THE UNITED STATES NUCLEAR REGULATORY COMMISSION

Before

Lynch, Chief Judge,
Boudin,[*] Circuit Judge,
and Woodlock,[**] District Judge.

[*] Judge Boudin heard oral argument in this matter, and participated in the semble, but he did not participate in the issuance of the panel's opinion in this case. The remaining two panelists therefore issued the opinion pursuant to 28 U.S.C. § 46(d).

[**] of the District of Massachusetts, sitting by designation.

Terry J. Lodge, for petitioners.

Jeremy M. Suttenberg, Attorney, Office of the General Counsel, U.S. Nuclear Regulatory Commission, with whom Ignacia S. Moreno, Assistant Attorney General, J. David Gunter II, Attorney, Appellate Section, Environmental and Natural Resource Division, U.S. Department of Justice, Marian L. Zobler, Acting General Counsel, and John F. Cordes, Jr., Solicitor, were on brief, for respondent.

David R. Lewis, with whom Robert B. Ross, Pillsbury Winthrop Shaw Pittman LLP, Mitchell S. Ross, and Steven C. Hamrick were on brief, for intervenor NextEra Energy Seabrook, LLC.

Nicholas J. Scobbo, Jr., and Ferriter Scobbo & Rodophele, PC, on brief, for intervenors MA Municipal Wholesale Electric Company, Taunton Municipal Lighting Plant, and Hudson Light & Power Department.

January 4, 2013

LYNCH, Chief Judge. NextEra Energy Seabrook, LLC, operates the Seabrook, New Hampshire, Unit 1 nuclear power plant, which provides a significant portion of the baseload electric power used in New England. NextEra applied on May 25, 2010, to renew the Seabrook operating license, which will otherwise expire on March 15, 2030. See 42 U.S.C. § 2133 (permitting renewal of operating licenses). Renewal is allowed up to twenty years in advance. See 10 C.F.R. § 54.31(b). With its application, NextEra submitted an environmental report, as required by 10 C.F.R. § 51.53(c). That report discussed the feasibility of alternative sources of electric energy.

As part of that licensing process, the Nuclear Regulatory Commission ("NRC"), on March 8, 2012, issued a decision denying the admission of a contention by Beyond Nuclear, the New Hampshire Sierra Club, and the Seacoast Anti-Pollution League (collectively "BN"), which questioned and sought a hearing on the conclusion in the environmental report by NextEra that offshore wind electric generation was not a reasonable alternative to the extended licensing of Seabrook. In doing so, the NRC reversed the Atomic Safety and Licensing Board's ("ASLB") admission of that contention. The NRC's denial of admission of a contention here means that it ruled petitioners were not entitled to have a hearing on the merits about their contention that generation of electricity from offshore

wind was a reasonable alternative source of baseload energy to the relicensing of Seabrook.

On petition for review, BN advances two primary challenges to the NRC's decision. First, it argues that in formulating its contention-admissibility standard the NRC misapplied case law interpreting the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 et seq. Second, it argues that when the NRC applied its contention-admissibility standard to the facts, its conclusion that the contention was inadmissible was arbitrary, capricious, an abuse of discretion, or not otherwise in accordance with the law. Neither argument is persuasive, and for the reasons set forth below, we deny BN's petition for review.

I.

We give a brief description of the regulatory scheme governing the process for renewal of nuclear power plant operating licenses. The NRC must comply with obligations under two separate statutes, the Atomic Energy Act ("AEA"), 42 U.S.C. § 2011 et seq., and NEPA. Accordingly, it has two distinct sets of regulations containing requirements for license applicants. Massachusetts v. United States, 522 F.3d 115, 119 (1st Cir. 2008). The AEA addresses protection of public health and safety and provides the statutory basis for renewing licenses, designating the NRC to make the decision and to issue applicable rules and regulations. 42 U.S.C. §§ 2133, 2134(b); see Massachusetts, 522 F.3d at 119.

Initial licenses are valid for up to forty years and may be renewed. Id. § 2133(c). Under NRC regulations, a licensee may apply for a license renewal up to twenty years before expiration and the renewed license may be issued for a fixed time of no more than twenty years in excess of the current operating license. 10 C.F.R. § 54.31.

To fulfill the agency's obligations under NEPA, the NRC has promulgated a different set of regulations, codified at 10 C.F.R. Part 51. See 10 C.F.R. § 51.10. NEPA requires agencies to study and document the environmental impacts and alternatives to proposed "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(C).[1] The requirement serves two purposes. First, "it places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action." Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 97 (1983) (quoting Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 553 (1978)) (internal quotation marks omitted). "Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process." Id. (citing Weinberger v. Catholic Action of Haw. Peace

[1] The NRC considers a license renewal to be a major federal action significantly affecting the quality of the human environment and so requires its staff to prepare an environmental impact statement for such an action. 10 C.F.R. § 51.20(b)(2); id. § 51.95(c).

Educ. Project, 454 U.S. 139, 143 (1981)). The NRC requires applicants for relicensing, here, NextEra, to submit an environmental report to assist it. 10 C.F.R. § 51.53(c)(1). The NRC must take a "hard look" at the environmental impacts of major actions. Massachusetts, 522 F.3d at 127.

The environmental report must include consideration of alternative sources of energy generation to the relicensing, 10 C.F.R. § 51.45(b)(3), and must discuss their environmental impacts, id. § 51.53(c)(2).[2] At issue here is only one limited portion of the environmental report filed with the application on May 25, 2010, by NextEra.

The AEA also imposes a requirement that the NRC "shall grant a hearing upon the request of any person whose interest may be affected by the proceeding," such as a license renewal. 42 U.S.C. § 2239(a)(1)(A). Although NEPA does not provide for hearings on environmental matters, Union of Concerned Scientists v. NRC, 920 F.2d 50, 56 (D.C. Cir. 1990), NRC regulations provide for hearings, including as to NEPA issues. To obtain a hearing, a petitioner must make a written request under 10 C.F.R. § 2.309(a),

[2] In their analysis of alternatives, applicants may use information from the NRC's Generic Environmental Impact Statement ("GEIS") including discussion of the reasonableness of alternatives. Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,471-73 (June 5, 1996). That is not directly involved here because alternative energy sources must be further evaluated in individual licensing proceedings. Id. at 28,471-73; see 10 C.F.R. § 51.53(c)(2).

which must state the contention to be raised, id. § 2.309(f). On issues arising under NEPA, contentions must be based on the applicant's environmental report. Id. § 2.309(f)(2). To be admissible a contention must:

> (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
> (ii) Provide a brief explanation of the basis for the contention;
> (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
> (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
> (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue . . . together with references to specific sources and documents on which the requestor/petitioner intends to rely . . . ;
> (vi) Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact . . . .

Id. § 2.309(f)(1). In other words, the NRC denies hearings when the party's criticism of a portion of the applicant's environmental report does not meet the requirements of the regulations as to the admission of a contention. The NRC found that BN's attack on the wind power analysis portion of NextEra's environmental report failed to meet the standards for being an admissible contention and so denied a hearing on this point.

II.

We next address the relevant facts. Seabrook is New England's largest nuclear reactor, having a capacity of 1245 megawatts, and provides 8.2% of the actual generation of the Independent System Operator New England ("ISO-NE"), which the environmental report explains "is a regional network that coordinates the movement of wholesale electricity in all or parts of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont."

A. NextEra's Environmental Report

NextEra's environmental report, among other things, addressed four alternative sources of energy to renewing Seabrook's license that it deemed viable, reasonable alternatives: natural gas-fired generation; coal-fired generation; a new nuclear plant; and power purchases.

The report also discussed wind power, of which NextEra is the leading generator in North America, but concluded it was not a reasonable alternative as a source of baseload electricity during the relevant period of time. It is on that point that petitioners sought a full hearing before the Commission.

The environmental report stated that "[f]or the purposes of this environmental report, alternative generating technologies were evaluated to identify candidate technologies that would be capable of replacing Seabrook Station's nominal net base-load

capacity of 1,245 MWe," and that it "accounted for the fact that Seabrook Station is a base-load generator and that any feasible alternative to Seabrook Station would also need to be able to generate base-load power." Thus, any reasonable alternative would need to generate baseload power.[3]

NextEra's report relied on the NRC's GEIS for the proposition that wind power is not suitable for baseload generation because of its intermittent nature. That intermittent nature meant that there had to be energy storage mechanisms. Energy storage mechanisms are too expensive to resolve the problem of intermittency and the technology for the generation of offshore wind energy is "not sufficiently demonstrated at this time."

The NRC published a notice in the Federal Register providing an opportunity for all interested parties to file contentions. See Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License No. NPF-86 for an Additional 20-Year

[3] Baseload power means that energy is produced at near full capacity, with high availability. Envtl. Law & Policy Ctr. v. NRC, 470 F.3d 676, 679 (7th Cir. 2006). Baseload generating sources, such as nuclear plants, have a 90-97% capacity factor, which is the ratio of electrical energy produced by a generating unit for a period of time to the electrical energy that could have been produced at continuous, full power operations during the same time. Alliance to Protect Nantucket Sound, Inc. v. Dep't of Pub. Utils., 959 N.E.2d 413, 426 n.25 (Mass. 2011). According to the environmental report, wind power has a capacity factor of 20-40%, an assertion not challenged by petitioners.

Period; NextEra Energy Seabrook, LLC; Seabrook Station, Unit 1, 75 Fed. Reg. 42,462 (July 21, 2010).

BN filed a hearing petition on October 20, 2010, proposing its one contention and focusing on the potential production of baseload power through either storing wind-produced power or interconnected offshore wind farms. BN attached twenty-one exhibits, including news articles, government reports, and academic articles, which it said supported its contention.

We provide some useful context. BN was not the only entity to file a hearing petition. The NRC has admitted two contentions challenging other aspects of the environmental report and will hold hearings on those contentions.[4]

B. ASLB Ruling on BN's Wind Power Contention

The NRC "appoints [ASLBs] to conduct public hearings and to make intermediate or final decisions in administrative proceedings" relating to licensing decisions. Johnston v. NRC, 766 F.2d 1182, 1183 (7th Cir. 1985). A Board consists of three members, one of whom is qualified in the conduct of administrative proceedings and two of whom have technical or other qualifications

[4] The first admitted contention, submitted by Friends of the Coast and the New England Coalition ("Friends/NEC") contends that the severe accident mitigation analysis in the report minimizes or underestimates the potential amount of radioactive release in a severe accident. The second admitted contention, also filed by Friends/NEC, contends that the report's severe accident mitigation analysis used an improper atmospheric dispersion model that underestimated the area likely to be affected by a severe accident.

the NRC deems appropriate. 42 U.S.C. § 2241(a). ASLBs now preside over most licensing hearings. Citizens Awareness Network, Inc. v. United States, 391 F.3d 338, 357 n.6 (1st Cir. 2004) (Lipez, J., concurring). Here, the NRC appointed an ASLB and the ASLB heard arguments on BN's contention, as well as on contentions filed by other groups.[5]

The Board determined that BN's contention was admissible, limiting its scope solely to offshore wind, and specifically citing to representations made orally by a BN representative at a hearing. The representations were that an exhibit, Ex. 17, University of Maine, "Maine Offshore Wind Plan," establishes that offshore wind farms would deliver baseload energy by 2015.[6] That representation proved to be untrue.

C. NRC Rejection of BN's Contention

NextEra appealed the Board's decision to the Commission, which unanimously reversed the admission. The NRC will reverse the ASLB based on an error of law or abuse of discretion. S.C. Elec. & Gas Co. & S.C. Pub. Serv. Auth., 72 N.R.C. 197, 200 (2010). The NRC correctly stated the standard for admission -- that a

[5] These included three safety-related contentions concerning management of aging plant systems, structures, and components, and a six-part contention on the severe accident mitigation analysis in the environmental report.

[6] BN's representative specifically stated "Well, I think that we have established by our exhibit from the University of Maine that -- I think if the Board looks at it, that they are delivering baseload by 2015."

petitioner must present "sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact."[7] See 10 C.F.R. § 2.309(f)(1)(vi). That meant NextEra's environmental report only needed to consider (1) baseload-power alternatives, not non-baseload alternatives, and (2) only such alternatives "likely to exist" during the renewal period. The Commission explained that, because of the difficulty inherent in predicting the viability of technologies decades in advance, in most cases reasonable alternatives are those that are "currently commercially viable, or will become so in the relatively near term."

As a result:

> [T]o submit an admissible contention on energy alternatives in a license renewal proceeding, a petitioner ordinarily must provide 'alleged facts or expert opinion' sufficient to raise a genuine dispute as to whether the best information available today suggests that commercially viable alternate technology (or combination of technologies) is available now, or will become so in the near future, to supply baseload power.

Applying that standard, the Commission concluded the Board erred in admitting the contention for four reasons:

---

[7] This NRC standard differs from the summary judgment standard. See Gulf States Util. Co., 40 N.R.C. 43, 51 (1994). The NRC imposed the requirement to make the admission of contentions more difficult after Congress called for changes because of delays caused by poorly defined and poorly supported contentions. See Dominion Nuclear Conn., Inc., 54 N.R.C. 349, 358 (2001).

- there was no challenge by BN to the fact that storing wind power is too costly to be commercially viable;
- the data submitted by BN did not demonstrate that offshore wind farms would provide timely and feasible baseload power;
- BN's own exhibits stated that the lack of "requisite technology is an obvious barrier to establishment of the deep-water wind industry in Maine or elsewhere in the near term," and that essential infrastructure for installation, transmission, and maintenance does not yet exist; and
- the Board had supplied a basis for BN's contention that BN did not itself make, that interconnected offshore wind farms could constitute a single, discrete energy source, but this error was deemed harmless.

III.

A. NEPA and the NRC's Admissibility Standard

A major argument advanced in BN's briefing is that the NRC misused or misapplied NEPA case law in its decision. The argument is wrong.

First, NEPA does not, by its own terms or its intent, alter the Commission's hearing procedures, including the requirement that a petitioner provide sufficient information to show a genuine dispute on a material issue of law or fact. 10 C.F.R. § 2.309(f)(1)(vi). The Supreme Court has been clear that "the only procedural requirements imposed by NEPA are those stated in the plain language of the Act." Vt. Yankee, 435 U.S. at 548. NEPA does not mandate particular hearing procedures, Balt. Gas & Elec. Co., 462 U.S. at 100-01, and does not require hearings, Union of Concerned Scientists, 920 F.2d at 56. "As a result, NEPA does

not alter the procedures agencies may employ in conducting public hearings." Id.

Further, the NEPA requirements are procedural in nature and do not mandate particular results or specific standards. See United States v. Coal. for Buzzards Bay, 644 F.3d 26, 31 (1st Cir. 2011). Rather, NEPA requires an agency to take a "hard look" at environmental consequences. Id. at 31.

BN suggests that by requiring an alternative energy source to provide baseload power, the NRC defined the objectives of the proposed actions so narrowly that it engaged in "outcome-controlled rigging." See Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991) (stating agency cannot make objectives so narrow that outcome is a "foreordained formality").

That is not the case, for reasons both of law and common sense. NEPA requires only consideration of reasonable alternatives. See, e.g., Natural Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 837 (D.C. Cir. 1972). That means "the concept of alternatives must be bounded by some notion of feasibility," Vt. Yankee, 435 U.S. at 551, which includes alternatives that are "technically and economically practical or feasible," Theodore Roosevelt Conservation P'ship v. Salazar, 661 F.3d 66, 69 (D.C. Cir. 2011) (quoting 43 C.F.R. § 46.420(b)) (internal quotation marks omitted). Moreover, an agency need only

consider alternatives that will "bring about the ends" of the proposed action, Busey, 938 F.2d at 195, and where the agency is not itself the project's sponsor, "consideration of alternatives may accord substantial weight to the preferences of the applicant," City of Grapevine v. Dep't of Transp., 17 F.3d 1502, 1506 (D.C. Cir. 1994) (quoting Busey, 938 F.2d at 197-98) (internal quotation mark omitted).

NextEra operates a baseload power generator at Seabrook, and despite BN's "outcome-controlled rigging" argument, BN's own brief concedes it was "permissible" for the NRC to consider the goal of providing baseload electrical power. Thus, BN does not challenge the NRC's decision, in considering the feasibility of an alternative energy source, to focus on whether such an alternative source could supply baseload power. Cf. Envtl. Law & Policy Ctr. v. NRC, 470 F.3d 676, 684 (7th Cir. 2006) (upholding baseload generation as appropriate goal).

BN then attempts an argument that the NRC was required to consider what alternatives might look like in forty years time.[8] Not so. Here again the NRC has taken a sensible course. The NRC

[8] Within this line of argument, BN also takes issue with the NRC's citation to Town of Winthrop v. FAA, 535 F.3d 1, 11-13 (1st Cir. 2008), which the NRC cited for the proposition that an environmental impact statement is not intended to be a "research document." BN argues that petitioners are not calling for additional research like the plaintiffs in Winthrop, but instead handed over information to the Commission. This argument goes more toward whether BN submitted sufficient information to raise a genuine dispute, which is dealt with below.

stated that "[a]ssessments of future energy alternatives necessarily are of a predictive nature," and that "the applicant -- and the agency -- are limited by the information that is reasonably available in preparing the environmental review documents." Because of the inherent difficulty in predicting decades in advance the viability of technologies not currently operational and years away from large-scale development, "in most cases a 'reasonable' energy alternative is one that is currently commercially viable, or will become so in the relatively near term."

The NRC acknowledged the need for prediction, and made a rational decision that in most instances the best predictor of viability of an alternative in the distant future is the near term viability of the alternative.[9] It did so in compliance with the law. The duty under NEPA is to "study all alternatives that 'appear reasonable and appropriate for study at the time' of drafting the EIS." Roosevelt Campobello Int'l Park Comm'n v. EPA, 684 F.2d 1041, 1047 (1st Cir. 1982) (quoting Seacoast Anti-Pollution League v. NRC, 598 F.2d 1221, 1228 (1st Cir. 1979)).[10]

---

[9] The NRC's decision acknowledged that there may be some instances where there is evidence of "unusual predictive reliability" to establish that an energy alternative not yet operational and many years away from large-scale development is likely to exist in the relevant future time period.

[10] Contrary to BN's argument, other language in these cited opinions that states agencies must consider "significant alternatives," brought to their attention by the public, see, e.g., Campobello, 684 F.2d at 1047, does not require the granting of a hearing simply because the public proposes some alternative.

Forecasting should be based on "existing technology and those developments which can be extrapolated from it." Natural Res. Def. Council, Inc. v. NRC, 547 F.2d 633, 639-40 (D.C. Cir. 1976), rev'd on other grounds, Vt. Yankee, 435 U.S. 519.[11] This aspect of the NRC's framework does provide a "hard look" at alternatives.

Substantial deference is required when an agency adopts reasonable interpretations of its own regulations, and we must accept the agency's position unless it is "plainly erroneous or inconsistent with the regulation." Auer v. Robbins, 519 U.S. 452, 461 (1997) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 359 (1989)) (internal quotation marks omitted). Because the NRC's elaboration of its admissibility standard was generally reasonable and consistent with both 10 C.F.R. § 2.309(f)(1)(vi) and NEPA, BN's challenge to the standard fails.

B. The NRC's Application of its Admissibility Standard to Facts

Our review is delimited by the Administrative Procedure Act ("APA"), which authorizes the court to reverse the NRC's decisions only if they are "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C.

[11] BN asserts that the NRC's reliance on Carolina Environmental Study Group v. United States, 510 F.2d 796 (D.C. Cir. 1975), which the NRC cited for the proposition that it need not consider "remote and speculative" alternatives, is misplaced. At its core, BN's argument is that it presented information showing that offshore wind is not remote or speculative, which is relevant to the NRC's application of its standard, not the correctness of the standard.

§ 706(2)(A); Massachusetts, 522 F.3d at 126. Indeed, "[t]he [AEA] is hallmarked by the amount of discretion granted the Commission in working to achieve the statute's ends." Massachusetts v. NRC, 878 F.2d 1516, 1523 (1st Cir. 1989).

"An agency's decision is not arbitrary and capricious if that decision was based on consideration of the relevant factors and if it did not commit a clear error of judgment." Town of Winthrop v. FAA, 535 F.3d 1, 8 (1st Cir. 2008). A decision fails "if the agency relied on improper factors, failed to consider pertinent aspects of the problem, offered a rationale contradicting the evidence before it, or reached a conclusion so implausible that it cannot be attributed to a difference of opinion or the application of agency expertise." Associated Fisheries of Me., Inc. v. Daley, 127 F.3d 104, 109 (1st Cir. 1997).

BN sounds a theme which has no record support -- that the NRC improperly made a determination as to the reasonableness of offshore wind, at the admissibility stage, on the merits. To the contrary, the NRC made it clear that it was not doing that, but examining BN's submissions against the admissibility standard. It stated that "[BN] has not provided support for its claim that offshore wind is technically feasible and commercially viable . . . and therefore has not submitted an admissible contention," and that "[BN's] 'offshore wind' contention is not sustainable on its face

because it lacks a supporting basis," a result reached "without improperly resolving disputed facts."

This theme by BN is a backdoor challenge to the decision made by the NRC in 1989, at the prompting of Congress, to toughen the standards for getting a hearing on contentions. See Rules of Practice for Domestic Licensing Proceedings -- Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989) (imposing requirement that to be admissible a contention must provide "sufficient information . . . to show that a genuine dispute exists"); see also 10 C.F.R. § 2.309(f)(1)(vi). Congress was concerned and called for change because "[s]erious hearing delays -- of months or years -- occurred, as licensing boards admitted and then sifted through poorly defined or supported contentions." Dominion Nuclear Conn., Inc., 54 N.R.C. 349, 358 (2000). So, the NRC adopted the new rules to "raise the threshold" for admitting contentions. 54 Fed. Reg. at 33,168. "[M]aterials cited as the basis for a contention are subject to scrutiny by the board to determine whether they actually support the facts alleged," Calvert Cliffs 3 Nuclear Project, LLC, 72 N.R.C. 720, 750 (2010); otherwise, the aims of the rules and of Congress would be thwarted.

We hold that the NRC's decision to deny admissibility to BN's contention constituted reasoned decisionmaking and was not arbitrary or capricious. See Allentown Mack Sales & Servs., Inc.

v. NLRB, 522 U.S. 359, 374 (1998) (requiring agency adjudications to be subject to requirement of reasoned decisionmaking). That decision is reasonable because BN: (1) failed to even argue that the baseload requirement was inappropriate; and (2) its exhibits did not raise a genuine dispute as to the viability and feasibility of offshore wind to meet baseload requirements by 2030.

First, BN's contention did not respond to the requirement that a reasonable alternative must provide baseload power. BN did not supply information to dispute NextEra's conclusion that energy storage devices are too costly and baseload power generation by wind power would require such devices. The relevant exhibit only discussed storage potential, but not cost. Ex. 3, National Renewable Energy Laboratory, "Creating Baseload Wind Power Systems Using Advanced Compressed Air Energy Storage Concepts," (Oct. 2006). That failure by BN alone is fatal to their claim of error.[12] We go beyond that and also discuss the NRC's other fact-based grounds as contained in the record.

---

[12] In its reply brief, BN asserts the NRC failed to consider certain other exhibits. The argument is both waived and also fails on its merits. In its opening brief, BN either: (1) only mentioned these exhibits in the facts; or (2) used them in an unrelated portion of its argument. Thus, this argument is waived. See Waste Mgmt. Holdings, Inc. v. Mowbray, 208 F.3d 288, 299 (1st Cir. 2000). These exhibits purportedly show that by interconnecting offshore wind farms, one can, in theory, provide baseload power, and that efforts are being made to make such interconnections a reality, but they do not address current or near term feasibility or viability of such technology as required by the NRC. Moreover, as discussed below, BN failed to establish an admissible contention that offshore wind farms, themselves, are or will be feasible or viable.

The exhibit relied upon by BN before the ASLB to support their representation -- that wind power off Maine's coast would provide baseload power by 2015 -- does not support BN's representation. The exhibit does not make any suggestion about baseload power, let alone in the 2015 time period. The one-page exhibit,[13] an illustrative chart, calls for the deployment of one 3-5 megawatt prototype turbine in 2012-2014 and five turbines capable of producing 25 megawatts, combined, in 2014-2016, which cannot provide baseload power, much less power on the scale of Seabrook.[14]

Moreover, the NRC reasonably concluded that BN's exhibits did not raise a genuine dispute as to the technical feasibility or commercial viability of offshore wind farms in the relevant time period.[15] In fact, two of BN's own exhibits undercut its position.

---

[13] BN argues that when the NRC stated that the exhibit refers to a plan, not a statement of expectation, it arbitrarily imposed a new, heightened standard. The NRC was pointing out that BN's representative mischaracterized what the exhibit communicates. It did not require a statement of expectation for the admissibility standard to be met.

[14] Thus, we reject BN's argument that the NRC departed from its typical standard of review in reversing the ASLB. Although the NRC reviews ASLB decisions for abuse of discretion, this deferential standard of review does not prevent the NRC from reversing the ASLB's decision to admit a contention when the NRC reasonably concludes that the contention is unsupported by the record.

[15] In its reply brief, BN raises, for the first time, the argument that the Commission improperly required it to address the commercial viability of offshore wind as a source of baseload power. The argument was not raised in the opening brief and is waived. Mowbray, 208 F.3d at 299. Further, NextEra's

A report of the Maine Energy Task Force to then-Governor Baldacci stated that:

> [T]echnologies that would enable the placement of wind turbines on floating platforms or other structures in greater depths needed to tap the world-class deep-water wind resources in Maine's coastal waters or in adjoining federal waters are under development . . . . Lack of the requisite technology is an obvious barrier to establishment of the deep-water wind industry in Maine or elsewhere in the near term.

Ex. 14, "Final Report of the Ocean Energy Task Force to Governor John E. Baldacci" (Dec. 2009) 27 (emphasis added).

Other evidence supports the NRC's conclusion. A 2010 predecisional draft report by the U.S. Department of Energy submitted by BN also stated that: "significant challenges . . . need to be overcome"; uncertainty exists as to potential project power production and turbine and array designs; the implications of adding large amounts of offshore wind generation to the power system need to be better understood to know if it can be reliably integrated; and the infrastructure needed to install, operate, and maintain offshore wind farms cost-effectively does not currently exist in the U.S. Ex. 15, U.S. Department of Energy, "Creating an Offshore Wind Industry in the United States" (Sept. 2010) 7-10.[16]

---

environmental report concluded that offshore wind was not technically proven, which logically leads to it not being commercially viable.

[16] BN directs our attention to other portions of these exhibits that set a target date of 2030 for 5 gigawatts of offshore wind

BN argues that Exhibit 14 stated that shallow offshore wind power is viable today (because of its use in Europe) and points to Exhibit 11, European Wind Energy Association, "Oceans of Opportunity," (Sept. 2009), discussing the growth of offshore wind in Europe. As the NRC correctly noted, another of BN's exhibits, Ex. 19, U.S. Department of Energy, "20% Wind Energy by 2030" (July 2008) 57, stated that such European shallow-water technology is too expensive and too difficult to site in U.S. waters. And, both exhibits are silent on the critical issue of baseload generation.[17]

The NRC's decision was not arbitrary or capricious and there is no basis in law to set it aside.

IV.

If new information about the technical and economic feasibility of offshore wind as a source of baseload power, which differs materially from that which was available when the contention at issue was filed, becomes available prior to Seabrook's license renewal, NRC regulations would permit the filing of a new contention, if timely submitted. 10 C.F.R.

---

power off the coast of Maine and 54 gigawatts nationwide. But those same exhibits acknowledge that such goals are "extraordinary," Ex. 14 at vii, and "ambitious," Ex. 15 at 10, and BN ignores the contingent nature of those plans.

[17] We need not and do not address BN's challenge to the NRC's finding that the ASLB improperly provided a basis for BN's contention that offshore wind could count as a single, discrete source of energy. The NRC ruled such error was harmless because alternatives do not need to be single, discrete sources, and it was not the basis of the NRC's decision.

§ 2.309(c)(1)(i)-(iii). NRC's counsel confirmed that at oral argument. See Massachusetts, 522 F.3d at 130 (NRC bound by admissions to court). Of course, to be admitted, any newly filed contention would still need to meet the admissibility requirements in 10 C.F.R. § 2.309.

The petition for review is denied.