NEW YORK V. U.S. NUCLEAR REGULATORY COMMISSION

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Introduction

The Nuclear Regulatory Commission ("NRC" or "the Commission") licenses and regulates the nation's commercial nuclear power plants. Over a span of several decades, it has grappled with its environmental obligations and faced recurrent litigation regarding its responsibilities under the National Environmental Policy Act ("NEPA"). In 2012, the D.C. Circuit heard another NEPA challenge, *New York v. U.S. Nuclear Regulatory Commission*,¹ just after a series of political events left the future of nuclear waste disposal less certain than ever before. In its decision, the court vacated a recent NRC rulemaking, holding that the Commission had violated NEPA through its failure to adequately assess the environmental impacts of long-term nuclear waste storage. This decision will lead to the NRC's first Environmental Impact Statement analyzing the effects of continued nuclear power generation in the event that the nation fails to eventually establish a permanent geologic repository for nuclear waste.

This Comment argues that the decision was an appropriate NEPA holding and a welcome departure from earlier decisions that displayed more extreme deference to the Nuclear Regulatory Commission despite similarly lackluster environmental analyses. The decision also highlights a larger issue: the active role that the judiciary must take in response to legislative inaction in the environmental arena.

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I. Background

Nuclear energy has long inspired heated rhetoric in the United States. Opponents cite public safety concerns, environmental threats, and the expensive capital costs required to build nuclear reactors.² Proponents, meanwhile, argue that the U.S. is poised for a twenty-first century "nuclear revival" in the face of growing energy demand coupled with the call for carbon-neutral energy sources.³ Indeed, the Nuclear Regulatory Commission recently issued licenses for a Georgia nuclear plant to construct two new reactors, the first such licenses in decades.⁴ On the other hand, the role of nuclear energy in the U.S. received renewed criticism following the Fukushima Daiichi disaster, in which an earthquake and tsunami resulted in radioactive releases at a Japanese nuclear plant. Commentators called for renewed evaluation of the risks of commercial U.S. nuclear plants, particularly the on-site storage of nuclear waste.⁵

Throughout the fluctuating American history of civilian nuclear power, there has been one persistent and pervasive problem: the failure of the federal government to successfully dispose of nuclear waste in a permanent repository. Nuclear energy has comprised a significant segment of the United States' energy portfolio for almost four decades.⁶ Nuclear power provides about twenty percent of US electricity; there are 104 active commercial nuclear reactors throughout the country today.⁷ The industry currently generates over 2,000 tons of spent nuclear fuel ("SNF") each year, most of which is stored on-site at the power plants in concrete-lined pools.⁸ But such arrangements were designed only for temporary usage.⁹ Regardless of whether nuclear energy is destined to take off or gradually disappear, the problem of *existing* nuclear waste calls for a safe and expedient permanent solution.

² See, e.g., Nuclear Power Plants Are Unlikely to Provide a Significant Fraction of Future U.S. Needs for Low-Carbon Energy, NATURAL RES. DEF. COUNCIL (Feb. 2007), available at http://www.nrdc.org/nuclear/plants/plants.pdf.

³ J. Samuel Walker & Thomas R. Wellock, U.S. Nuclear Regulatory Comm'n, A Short History of Nuclear Regulation, 1946–2009, 93–96 (2009), available at http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0175/br0175.pdf.

⁴ Matthew L. Wald, *Federal Regulators Approve Two Nuclear Reactors in Georgia*, N.Y. TIMES, Feb. 9, 2012, http://www.nytimes.com/2012/02/10/business/energy-environment/2-new-reactors-approved-in-georgia.html?_r=0.

⁵ Karl S. Coplan, *Is Political Accountability Bad for the Environment? Nuclear Edition*, Green-Law: Blog of the Pace Envtl. L. Programs (Mar. 17, 2011), http://greenlaw.blogs.law.pace.edu/2011/03/17/is-political-accountability-bad-for-the-environment-nuclear-edition (comparing U.S. nuclear power plants to the Fukushima plant).

⁶ NUCLEAR ENERGY INST., U.S. NUCLEAR GENERATING STATISTICS (1971–2011) (2012), available at http://www.nei.org/resourcesandstats/Documentlibrary/Reliable-and-Affordable-Energy/graphicsandcharts/usnucleargeneratingstatistics (showing that nuclear power has comprised over ten percent of U.S. electricity generation since 1977).

⁷ BLUE RIBBON COMM'N ON AMERICA'S NUCLEAR FUTURE, REPORT TO THE SECRETARY OF ENERGY 14 (Jan. 2012) [hereinafter BLUE RIBBON COMM'N REPORT], *available at* http://brc.gov/sites/default/files/documents/brc_finalreport_jan2012.pdf.

⁸ *Id.* About a quarter of the existing commercial SNF has been transferred to dry casks, which are considered to be the safest temporary storage option available today. *Id.* at 34.

The executive and legislative branches have struggled for decades to formulate a permanent solution that is both technically and politically feasible. The Nuclear Waste Policy Act of 1982 required the Department of Energy ("DOE") to promulgate guidelines in order to assess potential sites for a permanent geological repository, and to recommend three candidate sites to the President, who could approve or disapprove each option.¹⁰ At that point, the DOE would evaluate each alternative through a more rigorous "site characterization" process, which was to include consultation with the relevant state governments.¹¹ The NRC would then be responsible for issuing a "construction authorization and license" for the chosen repository. This process was later truncated, however. Though the DOE made its three initial recommendations, in 1987 Congress amended the statute and selected Nevada's Yucca Mountain as the presumptive site, curtailing consideration of the other two possibilities.¹³ Yet in 2010, after years of prolonged disputes about the proposal, including entrenched opposition from constituencies in Nevada,14 the DOE announced that it would no longer seek a license from the NRC for the repository. 15

The decision by the Obama Administration to table the Yucca Mountain proposal has been characterized as the culmination of years of failure to address the repository issue, and seen as a final sign that progress towards a nuclear waste solution has ground to a standstill.¹⁶ In 2010, President Obama convened a Blue Ribbon Commission ("BRC") to assess the situation and designate a new course of action.¹⁷ The BRC proposed the formulation of a new waste management agency and recommended that the government make "prompt efforts" to develop both an interim storage facility and a permanent geologic repository.¹⁸ If they are to be implemented, these recommendations will require legislation to amend the previous nuclear waste statute, which as it stands is geared only towards development of the now-abandoned Yucca Mountain proposal.¹⁹ Thus, before any progress can be made towards building a repository,

 $^{^{10}}$ Pub. L. No. 97-425, §§ 112–114 (1983) (codified as amended at 42 U.S.C. §§ 10132–10134). 11 Id

¹² *Id*.

¹³ Pub. L. No. 100-203, Title V, §§ 5011–5012 (1987) (amending 42 U.S.C. §§ 10132–10134).

¹⁴ See, e.g., Harry Reid, Issues: Yucca Mountain, U.S. Sen. For Nev. Harry Reid, http://www.reid.senate.gov/issues/yucca.cfm (last visited Jan. 31, 2013) (on file with the Harvard Law School Library) ("I have a long history of working with the Nevada congressional delegation and Nevada's leaders to put a stop to this flawed plan.").

¹⁵ See Waste Confidence Decision Update, 75 Fed. Reg. 81,037, 81,039 (Dec. 23, 2010) (to be codified at 10 C.F.R. pt. 51) (describing the history of the Yucca Mountain application).

¹⁶ Blue Ribbon Comm'n Report, supra note 7, at vi.

¹⁷ Barack Obama, *Presidential Memorandum* — *Blue Ribbon Commission on America's Nuclear Future*, The White House (Jan. 29, 2010), http://www.whitehouse.gov/the-press-office/presidential-memorandum-blue-ribbon-commission-americas-nuclear-future.

¹⁸ Blue Ribbon Comm'n Report, supra note 7, at vii-viii.

¹⁹ *Id.* The Blue Ribbon Commission explicitly chose not to weigh in on the feasibility of the Yucca Mountain proposal; however, it tacitly acknowledged the downfall of the Yucca Mountain option through one of its key recommendations: embracing a "consent-based approach" and siting any future repository only where the local population supports the proposal. The BRC also suggested that even if the Yucca Mountain project is resurrected, it will be insufficient to accommo-

Congress must pass a new law on a controversial topic,²⁰ and the government must restart the process of identifying brand new sites that are both scientifically feasible and politically plausible. There remains a long way to go.

II. LEGAL FRAMEWORK

Although the future of nuclear waste disposal remains unclear, the NRC is nonetheless tasked with the unenviable burden of assessing the environmental impacts of nuclear power — including the impacts of waste disposal, uncertain though they may be. Under the National Environmental Policy Act, federal agencies are required to conduct environmental evaluations of any "major federal actions significantly affecting the quality of the human environment."²¹ At the heart of NEPA is the requirement that federal agencies produce an Environmental Impact Statement ("EIS") outlining the proposed action, identifying any unavoidable environmental consequences, and considering alternatives to the main proposal.²² Alternatively, if the agency conducts an initial Environmental Assessment ("EA") and issues a Finding of No Significant Impact ("FONSI"), the environmental review process concludes without the need for further analysis.²³ Issuing a license to a nuclear reactor qualifies as a major federal action under the statute, so the NRC must evaluate the environmental impact of its licensing decisions.²⁴ The NRC does not, however, conduct environmental evaluations *only* during individual licensing proceedings. It is also permissible for the Commission to hold rulemakings in advance to determine general presumptions about the environmental effects of nuclear reactors for NEPA purposes.²⁵ This case concerns just such a rulemaking.

Since the 1980s, the NRC has issued general conclusions about the environmental safety of nuclear waste through a rulemaking called the Waste Confidence Decision ("WCD"). In 1979, as the NRC was permitting new nuclear reactors to store spent nuclear fuel on-site in concrete pools, the D.C. Circuit ordered the agency to determine "whether there is reasonable assurance that an off-site storage solution will be available by the years 2007–09 . . . and if not, whether there is reasonable assurance that the fuel can be stored safely at the

date all of the country's nuclear waste, so the government must prepare to identify additional sites for permanent repositories regardless. *Id.* at 48.

²⁰ A bill incorporating some of the BRC's recommendations was introduced in the Senate in August 2012 by New Mexico Senator Jeff Bingaman but it did not make it out of committee. S. 3469, 112th Cong. (2012).

²¹ 42 U.S.C. § 4332(2)(c) (2012).

 $^{^{22}}$ Id.

^{23 40} C.F.R. § 1508.13 (2013).

²⁴ See New York v. U.S. Nuclear Regulatory Comm'n, 589 F.3d 551, 553 (2d Cir. 2009).

²⁵ See, e.g., Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 89–90 (1983) (upholding the NRC's "generic rulemaking proceedings" which established an assumption, for NEPA purposes, that "permanent storage of certain nuclear wastes would have no significant environmental impact"). *Baltimore Gas* and its relationship with this case are discussed in more detail in Part IV.B, *infra*.

sites beyond those dates."²⁶ In response, the NRC issued the Waste Confidence Decision, finding that a permanent geologic repository was indeed technically feasible and that such a repository would become available by 2007–2009.²⁷ In addition, the NRC found that it would be safe to store SNF on-site at nuclear plants for at least thirty years after their licenses expire.²⁸ In 1990, the NRC amended its prediction: the permanent repository would be available by 2025.²⁹

In 2010, the NRC revisited its findings once again, issuing the decision that forms the basis of the litigation in New York v. NRC.30 The Waste Confidence Decision Update contained two revisions of the 1990 decision.³¹ First, no doubt influenced by the recent shelving of the Yucca Mountain proposal, the Commission decided to forgo further speculation about when a permanent repository would be built.³² Instead of estimating a year by which the repository would become operational, the NRC simply announced that a repository would be available "when necessary." Second, the Commission determined that SNF can now be safely stored on-site at nuclear plants for at least sixty years, rather than thirty.³⁴

Four states, numerous environmental groups, and the Prairie Island Indian Community³⁵ petitioned for judicial review of the 2010 rulemaking in *New York* v. NRC.36 Petitioners challenged both elements of the Waste Confidence Decision: they argued that nuclear waste cannot safely sit on-site at nuclear plants for sixty years, and they argued that a permanent repository might not be available "when necessary" because such a repository may never be built.³⁷ The petitioners therefore alleged that the Commission had neglected its duty under NEPA to prepare an EIS which properly evaluates the risks of nuclear waste storage.³⁸ To comply with NEPA, petitioners argued, the Commission must issue an EIS which weighs the dangers of on-site sixty-year storage and evalu-

²⁶ Minnesota v. U.S. Nuclear Regulatory Comm'n, 602 F.2d 412, 418 (D.C. Cir. 1979).

²⁷ Waste Confidence Decision, 49 Fed. Reg. 34,658, 34,658 (Aug. 31, 1984) (to be codified at 10 C.F.R. pts. 50-51).

²⁹ Waste Confidence Decision Review, 55 Fed. Reg. 38,474, 38,474 (Sept. 18, 1990) (to be codified at 10 C.F.R. pt. 51).

³⁰ See Waste Confidence Decision Update, 75 Fed. Reg. 81,037, 81,038 (Dec. 23, 2010) (to be codified at 10 C.F.R. pt. 51).

³¹ *Id*. ³² *Id*.

³³ *Id*.

³⁴ *Id*.

³⁵ The Prairie Island Indian Community reservation is located in Minnesota, adjacent to the Prairie Island Nuclear Generating Plant. New York v. U.S. Nuclear Regulatory Comm'n, 681 F.3d 471, 482 (D.C. Cir. 2012).

³⁶ Opening Brief for Petitioners Natural Res. Def. Council, Inc. et. al. at 2–3, New York v. U.S. Nuclear Regulatory Comm'n, 681 F.3d 471 (D.C. Cir. Sept. 15, 2011) (No. 11-1051), 2011 WL 4197728 [hereinafter Brief for Petitioners].

³⁷ New York, 681 F.3d at 477.

³⁸ Brief for Petitioners, *supra* note 36, at 30–32.

ates the possibility that a repository will never be built.³⁹ In July 2012, the D.C. Circuit issued its decision.⁴⁰

III. THE D.C. CIRCUIT'S OPINION

At the outset, the court agreed with petitioners that the WCD Update is itself a "major federal action" subject to NEPA. This part of the holding was a relatively straightforward application of NEPA case law. The Commission argued that because it will produce a site-specific EIS for each nuclear reactor during the licensing process, it need not produce an EIS evaluating the environmental impacts of the WCD itself.⁴¹ But this argument is flawed because the WCD rule establishes certain environmental conclusions which may not be challenged in subsequent licensing adjudications.⁴² The NRC can remove certain environmental decisions from the individual licensing proceedings and address them in one big rulemaking for the sake of efficiency, but it cannot exempt such decisions from NEPA. The court noted that long-standing NEPA precedent requires the agency to consider environmental impacts "at every important stage in the decision making process concerning a particular action."43 Because the WCD has a "preclusive effect" on future licensing adjudications, it is a "stage" of the licensing process and is therefore subject to NEPA review 44

Second, the court held that the NRC did not do an adequate job of evaluating the key question: when will a federal repository become available, and more importantly, what will happen if it does not?⁴⁵ The court found that the NRC neglected to even consider the possibility that a permanent repository will not be established and thereby disregarded the environmental effects which would accompany such an event.⁴⁶ The NRC's conclusive determination that such a repository would be available "when necessary" is inadequate under NEPA.⁴⁷ The court therefore vacated the WCD Update and remanded to the NRC for assessment of what environmental impacts can be anticipated if a repository is not created in the future.⁴⁸

In reaching this conclusion, the court made no secret of its sympathy with the petitioners' position that the creation of a permanent repository is unlikely

³⁹ *Id.* at 17–18 (explaining that state and tribal petitioners are challenging NRC's sixty-year on-site storage decision under NEPA, while environmental group petitioners are challenging NRC's permanent repository determination under NEPA and the Atomic Energy Act).

⁴⁰ New York, 681 F.3d at 471.

⁴¹ Brief for Respondents at 69–73, New York v. U.S. Nuclear Regulatory Comm'n, 681 F.3d 471 (D.C. Cir. Nov. 14, 2011) (No. 11-1057), 2011 WL 5553594.

⁴² New York, 681 F.3d at 476-77.

⁴³ Id. at 476 (quoting Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1118 (D.C. Cir. 1971)).

⁴⁴ *Id*.

⁴⁵ See id. at 479.

⁴⁶ *Id*.

⁴⁷ Id. at 478.

⁴⁸ *Id.* at 483.

at best.⁴⁹ However, the court's decision did not hinge on its unfavorable view of the political fate of the repository, but resulted from the NRC's failure to even discuss the possibility that a repository would not be built.⁵⁰ The court reminded the NRC that it is obligated by NEPA to evaluate both the *probability* that an event will occur and the *consequences* if the event does occur.⁵¹ An agency must then determine whether to issue a FONSI or an EIS based on the combined likelihood and magnitude of harm.⁵² There is a narrow exception to this procedural requirement: if the probability of an event is "remote and speculative," an agency may omit the step of evaluating the severity of the consequences and proceed directly to issuing a FONSI.⁵³ But the court held that the future failure of the government to establish a repository is possible, not remote and speculative, so the NRC must evaluate the consequences of that possibility rather than wishing it away.⁵⁴ The court quipped that the NRC "apparently has no long term plan other than hoping for a geologic repository."⁵⁵

Third, and finally, the court rejected the NRC's finding that SNF could be "temporarily" stored on-site at nuclear plants for sixty years without an environmental impact, and held that the FONSI was unsupported by substantial evidence on the record.⁵⁶ The court focused on two key environmental risks: pool leakage and fires. With regard to leaks, petitioners argued that the NRC failed to account for the fact that the additional thirty years of storage could result in storage pool leakage, which has the potential to contaminate groundwater.⁵⁷ The NRC, in turn, contended that all past leaks had a negligible impact on the environment, and that the agency had even significantly strengthened its safety measures to prevent future leaks.⁵⁸ The court agreed with petitioners, holding that the mere existence of a compliance program could not be equated with a finding of no significant environmental impact; the Commission's assessment of the environmental risks from pool leakage was too cursory to merit judicial deference.⁵⁹

Fires are another serious risk associated with nuclear waste; they can occur when fuel rods are exposed to the air.⁶⁰ The court treated this issue similarly to

⁴⁹ *Id.* at 478 ("[W]e share petitioners' considerable skepticism as to whether a permanent facility can be built given the societal and political barriers to selecting a site"). ⁵⁰ *Id.*

⁵¹ *Id*.

⁵² *Id.* at 478–79; *see also* Carolina Envtl. Study Grp. v. United States, 510 F.2d 796 (D.C. Cir. 1975) (explaining the dual necessity of evaluating probability of and harm from an event).

⁵⁴ The Commission determined with "reasonable assurance" that permanent storage would be available "when necessary." The court held that such a determination is a "far cry" from a determination that failure to create permanent storage is "remote and speculative." *New York*, 681 F.3d at 479.

⁵⁵ *Id*.

⁵⁶ *Id*.

⁵⁷ Id. at 479–80.

⁵⁸ *Id.* at 480.

 $^{^{59}}$ Id. at 481 ("A study of the impact of thirty additional years of SNF storage must actually concern itself with the extra years of storage.").

the question of the geologic repository discussed above: It held that the NRC is obligated under NEPA to evaluate both the probability and the consequences of potential fires.⁶¹ The Commission had assessed only the probability; its analysis was therefore insufficient to survive NEPA review.⁶² The court noted, though, that the petitioners were incorrect in assuming that an EIS would be unavoidable.⁶³ According to the court, the NRC could still issue a FONSI if it found that the low odds of fires, combined with the predicted consequences of those fires, would not result in a significant environmental impact.⁶⁴

In sum, the D.C. Circuit handed a symbolic victory to petitioners and environmental interests by holding that the NRC is required to produce a more rigorous environmental review of the dangers of long-term, on-site storage. It must analyze the possibility that a geologic repository will never be built, and it must assess the leaks and fires that could occur if nuclear waste is left in its temporary resting place indefinitely. The court worded its opinion narrowly, leaving open the possibility that at least some of these evaluations could result in a finding of no significant impact, rather than an EIS.⁶⁵ Nevertheless, the NRC chose to stave off future litigation and proceed directly to issuing an EIS.⁶⁶ Thus, petitioners will be able to obtain the analysis of the dangers of nuclear waste that they were seeking.

The court's decision is also notable for what it did *not* decide. Most conspicuously, the court did not reach the question of whether and to what extent deference is due to agency decisions which involve a combination of political and technical calculations. As the court wrote, "we need not decide whether, as the Commission contends, an agency's interpretation of the political land-scape surrounding its field of expertise merits deference. Instead, we hold the WCD is defective on far simpler grounds "⁶⁷ In other words, because the NRC had not produced a thorough enough opinion to merit deference even if deference was appropriate, the court was able to dodge this topic.

The court also declined to comment on what alternatives the NRC must consider in its revised rulemaking. In their briefs, petitioners argued that the WCD was flawed because it did not evaluate the main alternative to licensing a nuclear reactor — namely, not licensing it.⁶⁸ As noted above, NEPA requires

⁶¹ Id. at 481-82.

⁶² *Id*.

⁶³ Id. at 482.

⁶⁴ *Id*.

⁶⁵ See, e.g., id. at 482 (on remand, the Commission's assessment of fires may conceivably result in a finding of no significant environmental impact); id. at 483 ("[T]he Commission must conduct a true EA regarding the extension of temporary storage."). The court, then, held only that the EA was inadequate and must be re-done but did not explicitly hold that an EIS would be required. The court also noted that some of the requisite analysis might already be underway because the NRC was performing an EIS regarding storage of waste beyond the sixty-year period. *Id*.

⁶⁶ Press Release, U.S. Nuclear Regulatory Comm'n, NRC Directs Staff to Conduct Two-Year Environmental Study and Revision to Waste Confidence Rule (Sept. 6, 2012), http://pbadupws.nrc.gov/docs/ML1225/ML12250A653.pdf.

⁶⁷ New York, 681 F.3d at 478.

⁶⁸ Brief for Petitioners, supra note 36, at 38.

an agency to consider "alternatives to the proposed action." Moreover, as petitioners pointed out, the NEPA regulations explicitly require the agency to consider "the alternative of no action." Petitioners argued that the NRC must "rigorously explore and objectively evaluate . . . all reasonable alternatives," including ceasing to relicense nuclear reactors.⁷¹ The court did not make clear whether it agreed with petitioner's assessment that a valid WCD would include analysis of an end to nuclear licensing. But given the plain language of the NEPA regulations on this point, the NRC would be well-advised to incorporate this analysis into its EIS.⁷²

IV. Analysis

The D.C. Circuit issued an appropriate NEPA holding. Α.

The holding in this case was a sensible application of NEPA to a conclusory rulemaking by the NRC. In its 2010 Waste Confidence Decision, the NRC assumed that the long-term on-site storage of nuclear waste was safe, and conducted only an abridged environmental assessment to support that conclusion. As the court pointed out, the NRC did not analyze what will happen if a geologic repository is not built, it did not assess the consequences of potential fires at nuclear plants, and it assumed without explanation that leakage will not have any meaningful environmental effects.⁷³ Though judicial review under NEPA is deferential to an agency's decisions, it is appropriate for the court to vacate a decision that eschewed legitimate analysis of several quite relevant possibilities. Such was the case with the NRC's finding of no significant environmental impact.

NEPA precedent makes clear that courts are required to undertake an extremely deferential form of review. NEPA petitioners have been famously unsuccessful in the Supreme Court, which has held for the government in all seventeen NEPA cases it has seen.⁷⁴ The Supreme Court explained in the 1970s that "the role of a court in reviewing the sufficiency of an agency's consideration of environmental factors is a limited one."75 Precedent also dictates that NEPA is only a procedural statute rather than a substantive one.⁷⁶ The court may not weigh in on the agency's substantive decision-making by "sub-

^{69 42} U.S.C. § 4332(2)(c) (2012).

⁷⁰ 40 C.F.R. § 1502.14(d) (2012).

⁷¹ Brief for Petitioners, supra note 36, at 19 (quoting Van Ee v. EPA, 202 F.3d 296, 309 (D.C. Cir.

⁷² The regulations explain that analysis of alternatives is the "heart" of the EIS. 40 C.F.R. § 1502.14.

73 New York, 681 F.3d at 478, 481–82.

⁷⁴ Richard Lazarus, The National Environmental Policy Act in the U.S. Supreme Court: A Reappraisal and a Peek Behind the Curtains, 100 GEO. L.J. 1507, 1510 (2012).

75 Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 555 (1978).

⁷⁶ See, e.g., N.J. Dep't of Envtl. Prot. v. U.S. Nuclear Regulatory Comm'n, 561 F.3d 132, 133 (3d Cir. 2009) ("NEPA is a procedural statute that does not mandate particular substantive results."); see also Balt. Gas and Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 97 (1983) (NEPA

stitut[ing] its judgment for that of the agency as to the environmental consequences of its actions" or "interject[ing] itself within the area of discretion of the executive as to the choice of the action to be taken." The court must, however, ensure that "officials and agencies have taken the 'hard look' at environmental consequences mandated by Congress." The court's decision in *New York v. NRC* fits squarely within this framework, requiring that the NRC take a hard look at the consequences of long-term on-site storage without mandating any particular outcome from the EIS.

B. This decision displayed less deference to the NRC than some prior NEPA cases concerning nuclear waste.

While the bulk of NEPA case law supports this outcome, there is mixed precedent, and some prior cases have applied strict deference to the NRC on the very topic of nuclear waste. The NRC has a lengthy history of grappling with its NEPA obligations. Just after NEPA was passed, the D.C. Circuit chastised the Atomic Energy Commission, the NRC's predecessor agency, for incorporating environmental assessments into its proceedings *pro forma* but failing to actually consider environmental impacts in its decision-making. Before NEPA existed, the agency had argued successfully that it was actually *prohibited* by law from considering environmental impacts when permitting nuclear reactors; under NEPA, it needed to fundamentally adjust its practices to incorporate mandatory environmental assessments.

Yet once the agency acknowledged its responsibility to "consider" the environment, the courts backed off. For example, the courts previously permitted the NRC to rely upon the notion that a repository would become available "when necessary" — the very same argument the agency presented unsuccessfully in this case. In 1978, the Second Circuit rejected an environmental petition for review of an NRC decision regarding disposal of high-level waste. The court found it acceptable that the NRC was issuing reactor licenses based on the "implied finding of reasonable assurance" that a permanent repository would be "available when needed." The court held that Congress had already

does "not require agencies to elevate environmental concerns over other appropriate considerations.").

⁷⁷ Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976) (internal quotations omitted).

⁷⁸ Natural Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 838 (D.C. Cir. 1972) (internal footnotes omitted).

⁷⁹ Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n, 449 F.2d 1109, 1117 (D.C. Cir. 1971) ("We believe that the Commission's crabbed interpretation of NEPA makes a mockery of the Act.... What possible purpose could there be in requiring the 'detailed statement' to be before hearing boards, if the boards are free to ignore entirely the contents of the statement?").

⁸⁰ *Id.* at 1112 & n.4.

⁸¹ Natural Res. Def. Council, Inc. v. U.S. Nuclear Regulatory Comm'n, 582 F.2d 166 (2d Cir. 1978). This challenge was brought not under NEPA but under the Atomic Energy Act, which requires the NRC to maintain "adequate protection to the health and safety of the public." *Id.* at 167–68.

⁸² *Id.* at 170.

"impliedly approved" the NRC's licensing scheme, so clearly Congress did not want to "require a moratorium on nuclear power reactor licensing" while waiting for the permanent repository question to be resolved. Though the court acknowledged the mounting opposition to hosting a repository in certain states, it announced that those obstacles could be addressed by the legislature, essentially holding that it was beyond the role of the court to evaluate such questions of political feasibility. The court thus chose to defer to the Commission and it tolerated the vague finding that a repository would be "available when needed." The D.C. Circuit, however, took a less deferential approach the following year, when it heard the *Minnesota* case and ordered the initial Waste Confidence Decision. This decision tempered the deference of the Second Circuit's ruling, asking the NRC for more details to support its "reasonable assurance" that the repository would become available "when needed." Notably, this more aggressive decision was issued just two months after the Three Mile Island accident. Confidence Decision was issued just two months after the Three Mile

In *Baltimore Gas & Electric Company v. Natural Resources Defense Council, Inc.*,⁸⁷ the Supreme Court reinstated the deferential tone toward the NRC regarding nuclear waste. The Court heard a challenge to an NRC rulemaking which had established, for NEPA purposes, that there would be no significant environmental impact from permanent nuclear waste storage whenever it became available.⁸⁸ In an opinion notable for its tone of deference, Justice O'Connor upheld this "zero-release" assumption, suggesting that the Commission was making an expert prediction "at the frontiers of science" and that the Court should therefore be "at its most deferential" to the agency.⁸⁹

The D.C. Circuit took a less deferential approach here, in *New York v. NRC*, despite the NRC's arguments that *Baltimore Gas*-style deference should apply. Making matters more complicated, petitioners asserted that the "zero-release" rule upheld in *Baltimore Gas* is no longer valid because it presumed that waste would be disposed of in a bedded salt repository, and the NRC has since rejected bedded salt as an unsafe geological medium. In the court refrained from discussing the issue posited by petitioners, but it also declined to

⁸³ Id. at 174.

⁸⁴ Id. at 175.

⁸⁵ Minnesota v. U.S. Nuclear Regulatory Comm'n, 602 F.2d 412, 418 (1979).

⁸⁶ In March of 1978, the "worst accident in the history of nuclear power generation" occurred at the Three Mile Island power plant in Pennsylvania, where a series of mechanical failures and human errors caused a partial reactor meltdown. Report of the President's Commission on the Accident at Three Mile Island 1, 27 (1979), available at http://www.threemileisland.org/downloads/188.pdf. The accident "permanently changed" the nuclear industry due to increased public fear of nuclear power and strengthened regulations. U.S. Nuclear Regulatory Comm'n, Backgrounder on the Three Mile Island Accident (updated Feb. 11, 2013), http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html.

^{87 462} U.S. 87 (1983).

⁸⁸ Id. at 87.

⁸⁹ Id. at 103.

⁹⁰ Brief for Respondents, supra note 41, at 67-68.

⁹¹ Brief for Petitioners, *supra* note 36, at 38–40.

apply the deference requested by the NRC.⁹² Rather, it simply held that *Baltimore Gas* deference was inapplicable to the present case.⁹³ The court noted that the NRC's *Baltimore Gas* rule, known as Table S-3, was a calculation of zerorisk which *presupposed that a repository would be available to begin with*.⁹⁴ Thus, the court suggested that the Supreme Court's deferential ruling in *Baltimore Gas* was focused only on the scientific assertions underlying the zerorelease assumption.⁹⁵ However, distinguishing *Baltimore Gas* on this ground does not explain why the assumption that a repository would one day become available was permissible for the purposes of Table S-3, but not for the purposes of the Waste Confidence Decision at issue in this case. Nor can the court's decision here be easily reconciled with the early approach taken by the Second Circuit, embracing the "available when needed" determination despite the already-apparent political obstacles to constructing a repository.

Rather, the court here seemed willing to take on a more aggressive version of NEPA review because recent political events had made the creation of a permanent repository less likely than ever before. Indeed, Chief Judge Sentelle made clear in the opinion the court's exasperation with the political finagling of Yucca Mountain, stating: "Twenty years of work on establishing such a repository at Yucca Mountain was recently abandoned At this time, there is not even a prospective site for a repository, let alone progress toward the actual construction of one." Like the *Minnesota* court, which was willing to reprimand the NRC in the wake of the Three Mile Island accident, the court here stepped into the fray to note that congressional action is unlikely and to criticize the executive branch for exacerbating this dilemma.

C. Practical significance of the court's decision

The immediate effect of the court's decision in *New York v. NRC* has been to temporarily halt the issuance of nuclear reactor licenses until the NRC can develop a new Waste Confidence Decision. Because the WCD is "part of the basis for agency licensing decisions," the Commission decided to avoid issuing any final licenses until it prepares a new set of rules in compliance with the court's decision and those rules go into effect.⁹⁷ Moreover, the agency an-

⁹² See New York v. U.S. Nuclear Regulatory Comm'n, 681 F. 3d 471, 478 (2012) (summarizing the NRC's argument that the *Baltimore Gas* holding precludes the need for an EIS in this case); *id.* at 479 (dismissing that argument and distinguishing Table S-3, which was upheld in *Baltimore Gas*, from the determination that NRC made in this case).

⁹³ *Id.* at 479.

⁹⁴ *Id*.

⁹⁵ See id. at 481 (acknowledging the court's obligation under *Baltimore Gas* to afford extremely deferential treatment to the NRC's "technical expertise").

⁹⁷ Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation, 77 Fed. Reg. 65,137, 65,138 (Oct. 25, 2012) (to be codified at 10 C.F.R. pt. 51).

nounced that it would "proceed directly" with developing an EIS, and it aims to complete both the EIS and the new WCD within two years.⁹⁸

One petitioner, New York State, called the ruling a "landmark victory" because it forces the NRC to "thoroughly examine[]" the public health and environmental risks of long-term nuclear waste stored at plants like the one outside New York City.99 Another plaintiff, the Natural Resources Defense Council, called the decision a "game changer" because it will require the agency, for the first time, to examine what will happen if a geologic repository is not built. 100 Of course, given NEPA's status as a procedural statute, the courts cannot dictate any particular outcome from the upcoming environmental analysis. In that sense, any NEPA holding should be seen as more of a thorn in the side of the relevant agency than a power play by the courts; agencies that lose a NEPA challenge in court must spend the time and resources to produce a valid EIS but need not ultimately change any of their decisions. The ability to delay a project can itself be a valuable tool for NEPA litigants in some cases; here, the Nuclear Energy Institute, an industry group, issued a statement expressing its disappointment in the decision and urging the NRC to "act expeditiously" and "reissue the rule as soon as possible." There is no evidence, though, that the two-year moratorium on final licensing decisions will have any concrete effect on the nuclear power industry, as existing licenses will remain in effect pending final decisions on license renewals.¹⁰²

Nevertheless, the production of an EIS is a win for some environmental interests. For those opposed to nuclear energy or those concerned with expediting the creation of a geologic repository, it can only be considered helpful to have a concrete assessment of the health and environmental costs that can be expected if the federal government does not resolve the permanent repository

⁹⁸ Press Release, U.S. Nuclear Regulatory Comm'n, supra note 66.

⁹⁹ Press Release, Attorney General Eric T. Schneiderman, A.G. Schneiderman Wins Landmark Victory in Challenge to Continued Storage of Nuclear Waste at Power Generating Stations Across the Country (June 8, 2012), http://www.ag.ny.gov/press-release/g-schneiderman-wins-landmark-victory-challenge-continued-storage-nuclear-waste-power.

¹⁰⁰ Press Release, Natural Res. Def. Council, Major Court Ruling Forces Nuclear Waste Disposal Review (June 8, 2012), http://www.nrdc.org/media/2012/120608.asp.

¹⁰¹ Press Release, Nuclear Energy Inst., NEI Responds to Court Ruling to Vacate NRC Waste Confidence Decision (June 8, 2012), http://www.nei.org/newsandevents/News-Releases/nei-responds-to-court-ruling-to-vacate-nrc-waste-c.

¹⁶² Of the nation's 102 nuclear reactors, only one of them has an operating license due to expire in the next two years: the Indian Point Nuclear Generating Unit 2 in Westchester County, New York. See List of Power Reactor Units, Nuclear Regulatory Comm'n, http://www.nrc.gov/reactors/operating/list-power-reactor-units.html (last updated Dec. 27, 2012). There is ongoing debate about whether Indian Point Units 2 and 3 should be re-licensed, with prominent New York politicians coming out on both sides of the issue. See Indian Point Nuclear Power Plant (NY), N.Y. Times, http://topics.nytimes.com/top/reference/timestopics/subjects/i/indian_point_nuclear_power_plant_ny/index.html (last updated Oct. 12, 2012). However, the moratorium on licenses resulting from New York v. NRC will not directly affect the Indian Point re-licensing decision, as the NRC has said that those current licenses "will remain in effect" until the Commission issues a final ruling on the re-licensing. See Press Release, U.S. Nuclear Regulatory Comm'n, Licensing Board to Hold Evidentiary Hearing Starting on Oct. 15 in Tarrytown, N.Y., on Indian Point License Renewal Contentions (Sept. 28, 2012), http://pbadupws.nrc.gov/docs/ML1227/ML12275A177.pdf.

dilemma. It would be a true game-changer if the EIS indicated that the environmental costs are so great that the NRC should stop licensing reactors unless and until a permanent repository becomes a part of the foreseeable future. Of course, the NRC is unlikely to make such a finding, and though Judge Tatel suggested it, perhaps rhetorically, during oral argument, ¹⁰³ the D.C. Circuit is unlikely to interject itself by suggesting such a course of action through the limited tool of NEPA review. ¹⁰⁴ Nevertheless, by showcasing the anticipated environmental harms of nuclear waste generation, the completed EIS may provide fodder for future environmental litigants to challenge individual licensing decisions in the absence of a permanent repository. More immediately, the practical effects of the opinion will be limited to greater transparency about the risks of on-site nuclear waste storage, and the hope that such information will shape the dialogue surrounding nuclear energy and incentivize faster action by Congress.

D. Unsettled issues: How should courts balance deference to an agency's technical expertise with questions of political feasibility?

One unanswered question arising from this case is how the courts should review agency decisions which concern a combination of political and scientific predictions. The court determined that it was unnecessary to reach this question in this case, but the issue was discussed in the NRC briefs and at oral argument, and is likely to reemerge in subsequent litigation about nuclear waste (and in other areas where regulatory agencies are stymied by Congressional inaction on a crucial question).

As described above, judicial review in NEPA cases is a deferential undertaking. Moreover, there is broad consensus that courts should be particularly deferential when agencies are making technical or scientific determinations. ¹⁰⁵ At the same time, courts are skeptical about deferring to an agency's political calculations, which are generally understood to fall beyond the scope of their expertise. As Chief Judge Sentelle told the NRC at oral argument in this case:

¹⁰³ Transcript of Oral Argument at 54–55, New York v. U.S. Nuclear Regulatory Comm'n, 681 F.3d 471 (D.C. Cir. 2012) (No. 11-1045) (stating that if the court ruled that the NRC had to cease licensing reactors until the waste disposal question was addressed, that would "resolve the political disputes" because "there would be a lot of pressure on Congress to get this thing fixed quick").

¹⁰⁴ Indeed, the court did not even recognize in its opinion whether the NRC would have the discretional of the court did not explicitly the court did not explicitly.

tion to make such a threat to Congress — as discussed previously, the court did not explicitly mandate that the NRC evaluate the "alternative" of not issuing licenses at all. *But see* Brief for Petitioners, *supra* note 36, at 38 (arguing that the no-licensing alternative must be assessed). ¹⁰⁵ *See* Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 103 (1983) ("[T]he Commission is making predictions, within its area of special expertise, at the frontiers of science. When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential."). *See also* Emily H. Meazell, *Super Deference, The Science Obsession, and Judicial Review as Translation of Agency Science*, 109 MICH. L. REV. 733, 734–35 (2011) (arguing that this "super deference" to scientific determinations lacks merit).

"We don't owe any deference to your political predictions." Moreover, the D.C. Circuit is particularly skeptical of predictions that Congress will pass new environmental laws or comprehensive amendments of existing ones. This attitude on the part of the judiciary is unsurprising given that Congress has been unable to enact significant environmental legislation since 1990 — despite the pressing need to amend environmental statutes to address new environmental challenges. One

Yet the NRC freely admitted that its decision was based on a combination of technical and political considerations, and argued that deference was due. NRC maintained that it had accounted for "institutional barriers" when issuing the WCD.¹⁰⁹ The agency provided its own analysis of recent political events: It suggested that despite the Yucca Mountain debacle, the existing legislative framework for nuclear waste, combined with the President's commitment to resolving the issue, "support NRC's predictive finding that a political consensus will eventually be reached."110 The agency also suggested that the technical capability exists to create a repository within twenty-five to thirty-five years following site selection. 111 The NRC's ultimate conclusion about the feasibility of a repository, then, is essentially based on its summation of estimated political delays and technical delays. But while the technical delays can be calculated within a rough timeframe, the political delays are up in the air. As the NRC continues to navigate this issue and as it becomes more and more clear that politics are the biggest obstacle to a repository, the court may have to revisit the question of the degree of deference that is owed to the agency, and the extent to which the courts must assess the political obstacles themselves. In the future, the court should follow its instincts and avoid deferring to the agency on questions of pure political feasibility. The point of NEPA is to assess probable environmental outcomes, not hypothetical ones.

The D.C. Circuit continues to struggle to avoid political questions in an array of cases in which Yucca Mountain figures prominently. The court is repeatedly trapped between its duty to step in and enforce congressionally-enacted mandates and its goal of deferring to the practicalities of the situation and waiting for Congress to resolve a problem better suited to the legislature. For instance, the court recently agreed with the nuclear industry that the DOE must

¹⁰⁶ Transcript of Oral Argument, supra note 103, at 37.

¹⁰⁷ For example, in 2012, industry groups lobbied for the D.C. Circuit to strike down EPA's "Tailoring Rule," a regulation which technically benefits regulated industry by limiting the extent of greenhouse gas regulation. Petitioners suggested that in the absence of the Rule, the Clean Air Act would place such burdensome restrictions on greenhouse gas emitters that either EPA would ignore the statute or Congress would amend it. Chief Judge Sentelle, however, rejected the notion any court decision could compel Congress to address the issue, saying, "[A]ny sentence that begins . . . by saying that *Congress will surely*, whatever the sentence says after that, it's not a very convincing sentence." Transcript of Oral Argument at 14, Coalition for Responsible Regulation v. EPA, 684 F.3d 102 (D.C. Cir. 2012) (No. 10-1073) (emphasis added).

¹⁰⁸ Richard J. Lazarus, Congressional Descent: The Demise of Deliberative Democracy in Environmental Law, 94 Geo. L.J. 619, 629–30 (2006).

¹⁰⁹ Brief for Respondents, *supra* note 41, at 59–60.

¹¹⁰ *Id.* at 64.

¹¹¹ Id. at 66.

reassess the annual fees it charges to nuclear plants in light of the fact that the Yucca Mountain project had been canceled. 112 This case seems consistent with New York v. NRC in that the court took note of the practical reality and required the agency to account for the fact that Yucca Mountain is no longer in play. 113 But because the National Waste Policy Act has not yet been amended, the NRC is still legally obligated to continue the Yucca Mountain licensing process even though the executive branch has no plans to do so. In the Aiken County case of 2012, the court acknowledged that the NRC still has a legal obligation to pursue Yucca Mountain, but that the NRC does not have the funds to continue with the licensing.¹¹⁴ Because of these "unusual circumstances," the court chose to hold the case in abeyance in the hopes that the 2013 Congress would resolve the question, either by allocating more funds or by revising the statute. 115 There is tension between that holding — which acknowledged that Yucca Mountain is still legally mandated to proceed — and cases like New York v. NRC, where the court asked the agency to make a realistic prediction of what the future holds regardless of the law that is currently on the books.

Conclusion

In New York v. U.S. Nuclear Regulatory Commission, the NRC was placed in a difficult position: it has a legal duty to assess the environmental impacts of commercial nuclear waste, but those impacts will ultimately be shaped by uncertain political dynamics which make environmental outcomes impossible to quantify. Though the court acknowledged the delicate nature of the NRC's dilemma, it also held that the agency was required to do better. Under the National Environmental Policy Act, the agency was obliged to render a good faith and thorough environmental assessment of the hazards of continuing to store nuclear waste on-site at power plants — including what will happen if a permanent repository is never built. In the wake of the Obama Administration's about-face on the Yucca Mountain repository, the court expected the agency to acknowledge the significant institutional obstacles to timely nuclear waste disposal, and was willing to use a more rigorous incarnation of NEPA review to

¹¹² Nat'l Ass'n of Regulatory Util. Comm'rs v. U.S. Dep't. of Energy, 680 F.3d 819, 820 (D.C. Cir. 2012). The fees are legally required to be linked to the actual costs of building a repository, so if the Yucca Mountain project is not going to proceed, the Department of Energy is required by law to adjust the fees it charges. *Id.* (citing the requirements of the National Waste Policy Act of 1982). However, because there is not yet a plan in place to replace Yucca Mountain, it remains unclear how DOE is supposed to fulfill this statutory mandate on remand.

¹¹³ Compare New York v. U.S. Nuclear Regulatory Comm'n, 681 F.3d 471, 474 (D.C. Cir. 2012) (stating that there is currently no "prospective site" for a repository) with Nat'l Ass'n of Regulatory Util. Comm'rs, 680 F.3d at 820 (concurring that "the Administration has discontinued development of Yucca Mountain").

¹¹⁴ In re Aiken Cnty., No. 11-1271, 2012 WL 3140360, at *1 (D.C. Cir. Aug. 3, 2012) (Kavanaugh, J., concurring).

¹¹⁵ *Id.* (suggesting that if Congress does not resolve the issue promptly, the court is likely to issue a writ of mandamus requiring the NRC to follow the law and continue with the Yucca Mountain project). *See also id.* at *2 (Randolph, J., dissenting) (arguing that the writ of mandamus should be issued immediately).

keep the NRC in line. Because NEPA is only a procedural statute, this holding will not disrupt the nuclear industry. Rather, it will result in an EIS providing greater transparency about the risks of nuclear waste storage (and fueling future environmental challenges of NRC licensing decisions). Meanwhile, the D.C. Circuit continues to deal with a flurry of litigation surrounding Yucca Mountain in which these political feasibility questions are unavoidable. The court will remain trapped in this difficult balancing act of trying to avoid political questions while enforcing agency legal obligations until Congress steps in to clarify the future of American nuclear waste disposal.