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Preventing Atoms for Peace From Becoming Atoms of Terror: The National Environmental Policy Act Is Not a Vehicle for Addressing Terrorism

Cover Page Footnote

J.D. candidate, May 2012, Catholic University of America, Columbus School of Law; M.S. Engineering Science, Naval Postgraduate School, 2006; B.S. Materials Engineering, Iowa State University, 2003. I would like to thank David Repka, Partner at Winston & Strawn, for his comments and perspective in preparing this Comment. I would also like to thank the editors and staff of Volumes 60 and 61 of the Catholic University Law Review for their hard work in bringing this Comment to publication.

PREVENTING ATOMS FOR PEACE FROM BECOMING ATOMS OF TERROR: THE NATIONAL ENVIRONMENTAL POLICY ACT IS NOT A VEHICLE FOR ADDRESSING TERRORISM

David D. Leege⁺

“Tuesday, September 11, 2001, dawned temperate and nearly cloudless in the eastern United States. Millions of men and women readied themselves for work.”¹ By 10:30 a.m. eastern time, the United States had suffered the worst terrorist attack to occur on American soil.² The nation’s sense of security and self-confidence had been severely shaken.³ Ten years later, it is evident that the attacks of September 11th have forever changed how Americans perceive and react to threats.⁴

The ramifications of the September 11th terrorist attacks have been far-reaching and have resulted in heightened airline security regulations,⁵ buffer zones around federal buildings,⁶ and a persistent public fear that manifests itself in response to previously mundane events, such as a plane

⁺ J.D. candidate, May 2012, Catholic University of America, Columbus School of Law; M.S. Engineering Science, Naval Postgraduate School, 2006; B.S. Materials Engineering, Iowa State University, 2003. I would like to thank David Repka, Partner at Winston & Strawn, for his comments and perspective in preparing this Comment. I would also like to thank the editors and staff of Volumes 60 and 61 of the *Catholic University Law Review* for their hard work in bringing this Comment to publication.

1. NAT’L COMM’N ON TERRORIST ATTACKS UPON THE UNITED STATES, THE 9/11 COMMISSION REPORT 1 (2004). The beginning of the nuclear power program in the United States was marked by President Dwight D. Eisenhower’s “Atoms for Peace” address to the United Nations, in which he promised that the United States would “‘find the way by which the miraculous inventiveness of man shall not be dedicated to his death, but consecrated to his life.’” NUCLEAR ENGINEERING HANDBOOK at ix (Kenneth D. Kok ed., 2009).

2. NAT’L COMM’N ON TERRORIST ATTACKS UPON THE UNITED STATES, *supra* note 1, at 311.

3. R.W. Apple, Jr., *Awaiting the Aftershocks: Washington and Nation Plunge Into Fight With Enemy Hard to Identify and Punish*, N.Y. TIMES, Sept. 12, 2001, at A1.

4. *See id.*; *see also* A. G. Sulzberger & Matthew L. Wald, *White House Apologizes for Air Force Flyover*, N.Y. TIMES CITY ROOM BLOG (Apr. 27, 2009, 10:36 AM), <http://cityroom.blogs.nytimes.com/2009/04/27/air-force-one-backup-rattles-new-york-nerve> (describing the public’s reaction to an unannounced flyover of New York, which incited spontaneous reactions and fear of an attack).

5. *See* Eben Kaplan, *Targets for Terrorists: Post-9/11 Aviation Security*, COUNCIL ON FOREIGN REL. (Sept. 7, 2006), http://www.cfr.org/publication/11397/targets_for_terrorists.html.

6. *See* SHAWN REESE & LORRAINE H. TONG, CONG. RESEARCH SERV., R 41138, FEDERAL BUILDING AND FACILITY SECURITY 3 (2010).

flying over downtown Manhattan.⁷ Elevated security concerns have affected commercial nuclear facilities as well.⁸ The United States Nuclear Regulatory Commission (NRC or the Commission)⁹ has taken steps to increase nuclear security.¹⁰ However, citizens' groups and local governments have called for greater action.¹¹ Particularly, these groups have advocated for the inclusion of terrorists' acts in the environmental-impact analysis conducted when the NRC issues a new license for a facility.¹² This Comment addresses whether the law necessitates consideration of the impact of a potential terrorist attack on a nuclear facility in an Environmental Impact Statement (EIS).

In December 2001, Pacific Gas & Electric (PG&E) applied for a license from the NRC to operate an independent spent-fuel storage installation at PG&E's Diablo Canyon Power Plant in San Luis Obispo, California.¹³ The

7. See Sulzberger & Wald, *supra* note 4.

8. *E.g.*, Consideration of Aircraft Impact for New Nuclear Power Reactors, 74 Fed. Reg. 28,112, 28,112-13 (June 12, 2009) (codified at 10 C.F.R. pts. 50 & 52) (requiring nuclear facilities to incorporate the capability to withstand impact from aircraft into their design).

9. The NRC is responsible for the licensing of commercial nuclear reactors and associated facilities. 42 U.S.C. § 5842 (2006). The federal government is responsible for providing for the disposal of spent nuclear fuel. *See id.* § 10131(a)(4). Until the federal government takes responsibility for this fuel, utilities must provide interim storage through one of two methods: spent-fuel pools or dry-cask storage. *Id.* § 10131(a)(5); *Storage of Spent Nuclear Fuel*, U.S. NRC, <http://www.nrc.gov/waste/spent-fuel-storage.html> (last updated Sept. 16, 2011). An independent spent-fuel-storage installation is a facility that may be located on a reactor site or on a separate site for storage of spent nuclear fuel. *Independent Spent Fuel Storage Installations (ISFSI)*, U.S. NRC, <http://www.nrc.gov/reading-rm/basic-ref/glossary/independent-spent-fuel-storage-installation-isfsi.html> (last updated Oct. 6, 2011). The two independent spent-fuel-storage installations discussed in this Comment utilize the dry-storage method. *See Spent Fuel—What Is It and How Will It be Stored*, PRIVATE FUEL STORAGE, LLC, <http://www.privatefuelstorage.com/project/howitworks.html> (last visited Oct. 20, 2011); *see also* *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1021 (9th Cir. 2006). The spent fuel is placed into a stainless-steel canister that is welded shut. *San Luis Obispo*, 449 F.3d at 1021. The canister is then placed into a concrete storage overpack, which utilizes passive air cooling through the circulation of air. *Id.* The overpack is then placed on concrete pads for interim storage. *Id.*

10. See BACKGROUND: NUCLEAR SECURITY, U.S. NRC 1, 3 (2008), available at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/security-enhancements.pdf>.

11. *See, e.g.*, EDWARD S. LYMAN, *CHERNOBYL ON THE HUDSON? THE HEALTH AND ECONOMIC IMPACTS OF A TERRORIST ATTACK ON THE INDIAN POINT NUCLEAR PLANT*, UNION OF CONCERNED SCIENTISTS 8 (2004).

12. *See infra* Part I.E (discussing attempts to require the NRC to include a terrorist-attack analysis in an Environmental Impact Statement (EIS)). The NRC's issuance of a license is considered a "major Federal action[]" under the National Environmental Policy Act (NEPA). National Environmental Policy Act, Pub. L. No. 91-190, 83 Stat. 852 (1969) (codified as amended at 42 U.S.C. §§ 4321-4370h (2006 & Supp. IV 2010)). The NRC is required to assess the possible environmental impact and issue an EIS. *See* 42 U.S.C. § 4332(2)(c) (requiring all federal government agencies to prepare an EIS along with all "major Federal actions"); 10 C.F.R. § 51.20 (2010) (setting forth instances when an EIS is required, including with the issuance of licenses).

13. *San Luis Obispo*, 449 F.3d at 1021.

NRC's Environmental Assessment (EA)¹⁴ set forth a "finding of no significant environmental impact" (FONSI).¹⁵ Notably, the EA did not consider a possible terrorist attack.¹⁶ San Luis Obispo Mothers for Peace, the Sierra Club, and an individual citizen appealed the final order of the NRC, alleging that the NRC violated the National Environmental Policy Act (NEPA) by failing to include an evaluation of the environmental effects of a terrorist attack in the EA.¹⁷ The Ninth Circuit agreed and held that the NRC should have included terrorist attacks as part of its NEPA review.¹⁸

In July 2005, AmerGen Energy Company, L.L.C. (AmerGen) sought to renew its operating license for the Oyster Creek Generating Station in Ocean County, New Jersey.¹⁹ Again, the NRC did not address acts of terrorism in the EIS for AmerGen's license application, and the New Jersey Department of Environmental Protection appealed the NRC's decision to the Third Circuit.²⁰ The Third Circuit, disagreeing with the Ninth Circuit's *San Luis Obispo* ruling,²¹ held that the NRC did not have to consider acts of terrorism in their NEPA analysis²²—creating a circuit split. This split is likely to expand as a result of a challenge brought to a recent NRC licensing decision in the U.S. Court of Appeals for the District of Columbia.²³

14. See *infra* note 40.

15. *San Luis Obispo*, 449 F.3d at 1024.

16. See *id.* (noting that although "[t]he EA is not devoid of discussion of terrorist attacks," the NRC had determined that an EA was "not the appropriate forum for the consideration of [such] acts").

17. *Id.* at 1021–22, 1024.

18. *Id.* at 1035.

19. *N.J. Dep't of Env'tl. Prot. v. NRC*, 561 F.3d 132, 135 (3d Cir. 2009). The Oyster Creek Generating Station consists of a boiling-water nuclear reactor used for commercial generation of electricity. OFFICE OF NUCLEAR REACTOR REGULATION, U.S. NUCLEAR REGULATORY COMM'N, GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR LICENSE RENEWAL OF NUCLEAR PLANTS: REGARDING OYSTER CREEK NUCLEAR GENERATING STATION—FINAL REPORT (NUREG-1437, SUPPLEMENT 1) § 2.0 (2007).

20. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 135.

21. *Id.* at 142 ("[W]e disagree with the [Ninth Circuit's] rejection of the 'reasonably close causal relationship' test set forth by the Supreme Court and hold that this standard remains the law in this Circuit.").

22. *Id.* at 143.

23. *Petition for Judicial Review of NRC Memorandum and Order CLI-12-02, Blue Ridge Env'tl. Def. League v. NRC*, 668 F.3d 747 (D.C. Cir. 2012) (No. 12-1105). On February 9, 2012, the Commission issued an order authorizing the construction and operation of two new reactors in Georgia. Memorandum and Order at 85, *In re Southern Nuclear Operating Co., CLI-12-02* (NRC Feb. 9, 2012), available at <http://www.nrc.gov/reading-rm/doc-collections/commission/orders/2012/2012-02cli.pdf> ("The Director of the Office of New Reactors therefore is authorized to issue the limited work authorizations and appropriate licenses authorizing construction and operation of Vogtle, Units 3 and 4."). In less than ten days, several environmental groups filed a challenge to the NRC order alleging that the EIS was insufficient. *Petition for Judicial Review of NRC Memorandum and Order CLI-12-02, supra*, at 2 ("Petitioners contend that in authorizing issuance of the [order], the NRC . . . violated the National Environmental Policy Act, . . . [and]

Part I of this Comment provides a background of the NRC's responsibilities under the Atomic Energy Act (AEA),²⁴ reviews both the NEPA process and key judicial decisions interpreting the Act and related regulations, and discusses the decisions of the Third and Ninth Circuit Courts. Part II analyzes the arguments for and against evaluating acts of terrorism as part of the NEPA Process. Part III argues that, although government agencies should confront the possibility of terrorist attacks directly, the NEPA process is not the right vehicle to address terrorism, and, in the absence of resolution by the Supreme Court, the circuit split should be resolved through agency rulemaking or legislative action.

I. START-UP SOURCES²⁵

A. *The Atomic Energy Act*

In the Energy Reorganization Act of 1974,²⁶ Congress created the NRC and transferred to it regulatory responsibilities previously held by the Atomic Energy Commission (AEC).²⁷ The present form of the Atomic Energy Act of 1954 (AEA) outlines these regulatory responsibilities,²⁸ and provides that any

the Council on Environmental Quality's regulations." Because the NRC's final EIS did not include acts of terrorism, such as an aircraft attack, the petitioners are likely to raise this omission as part of the challenge. See OFFICE NEW REACTORS, NUCLEAR REGULATORY COMM'N, FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR COMBINED LICENSES (COLS) FOR VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4—FINAL REPORT (1 NUREG-1947), at E-86 (2011).

24. 42 U.S.C. §§ 2011–2297g (2006).

25. To start up a reactor safely, it is necessary to monitor the number of neutrons in the core. When new fuel is used in a reactor, there may be an insufficient number of neutrons for the neutron detectors to work properly. Therefore, a start-up source is used to increase the number of neutrons needed for the detectors to work properly. See NUCLEAR ENGINEERING HANDBOOK, *supra* note 1, at 27.

26. Pub. L. No. 93-438, 88 Stat. 1233 (codified as amended at 42 U.S.C. §§ 5801–5891 (2006 & Supp. IV 2010)).

27. 42 U.S.C. §§ 5841(a), 5841(f)–(g). The Atomic Energy Act of 1946 established the AEC. Atomic Energy Act of 1946, ch. 724, § 2, 60 Stat. 755, 756 (amended 1954). This Act transferred control of the nation's nuclear program from the U.S. Army's Manhattan Engineer District (Manhattan Project) and placed it under civilian control. F.G. GOSLING, U.S. DEP'T OF ENERGY, THE MANHATTAN PROJECT: MAKING THE ATOMIC BOMB 99, 102 (2005). Later, Congress passed the Atomic Energy Act of 1954, which overhauled the 1946 Act and expanded the authority of the AEC to include civilian uses of atomic energy. Atomic Energy Act of 1954, Pub. L. No. 83-703, § 25, 68 Stat. 919, 925; see also *Our History*, U.S. NRC, <http://www.nrc.gov/about-nrc/history.html> (last updated May 11, 2011). Eventually, the AEC's regulatory programs came under attack, prompting Congress to split the promotional and regulatory functions of the AEC in the Energy Reorganization Act of 1974. Energy Reorganization Act of 1974 § 2(c); see also *Our History*, *supra*. Congress delegated the regulatory functions to the NRC and the promotional functions to the Energy Research and Development Administration (now the Department of Energy). 42 U.S.C. §§ 5801(b)–(c), 5841(f)–(g).

28. 42 U.S.C. §§ 2011–2297g-4.

commercial possession or use of special nuclear material²⁹ requires a license issued by the NRC.³⁰ The NRC is charged with ensuring that licenses are granted only when “utilization or production of special nuclear material will be in accord with the common defense and security and will provide *adequate protection* to the health and safety of the public.”³¹ Accordingly, the Commission must refuse to issue a license if it determines that issuing a license to the applicant “would be inimical to the common defense and security or to the health and safety of the public.”³² The “adequate protection” standard does not require absolute protection—some level of risk is acceptable.³³ In addition to issuing licenses for nuclear materials, the NRC performs its resulting functions through rulemaking and adjudication.³⁴ The incidents at Chernobyl,³⁵ Three Mile Island,³⁶ and, most recently, the nuclear incident at the Fukushima Daiichi nuclear power plant in Japan demonstrate that nuclear power is an unforgiving technology, which makes the NRC’s role in regulating nuclear materials all the more important.³⁷

29. *See id.* § 2131.

The term “special nuclear material” means (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of [42 U.S.C. § 2071 (2006)] determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material.

Id. § 2014(aa).

30. Similarly, the NRC also regulates source and byproduct material. *Id.* §§ 2093(a), 2111(a). Source material is material containing uranium or thorium. *Id.* § 2014(z). Byproduct material includes material that results from preparing or using special nuclear material. *Id.* § 2014(e).

31. *Id.* § 2232(a) (emphasis added). Courts have interpreted “common defense and security” to include safeguarding nuclear material, protecting restricted data, and maintaining special nuclear material for national defense. *See Siegel v. AEC*, 400 F.2d 778, 781 (D.C. Cir. 1968). Additionally, courts have interpreted the public-health-and-safety standard to ensure that the applicant is qualified and the design of the facility “protect[s] plant employees and the public against accidents and their consequences.” *Id.* at 781–82 (internal quotation marks omitted).

32. 42 U.S.C. § 2133(d).

33. *Pub. Citizen v. NRC*, 573 F.3d 916, 918 (9th Cir. 2009) (citing *Union of Concerned Scientists v. NRC*, 824 F.2d 108, 114, 118 (D.C. Cir. 1987)). “Adequate protection” is the minimum standard required by statute. *See Union of Concerned Scientists*, 824 F.2d at 118. Congress has granted the NRC discretion to impose additional requirements on licensees in order “to protect health or to minimize danger to life or property.” 42 U.S.C. § 2201(b).

34. *See* 42 U.S.C. § 2201 (describing these grants of authority).

35. In 1986, Chernobyl Nuclear Power Station was “the site of the world’s worst civilian nuclear power accident.” HELMUT HIRSCH ET AL., *NUCLEAR REACTOR HAZARDS: ONGOING DANGERS OF OPERATING NUCLEAR TECHNOLOGY IN THE 21ST CENTURY* 7 (2005), available at <http://www.greenpeace.org/seasia/th/pageFiles/106897/nuclearreactorhazards.pdf>.

36. *See infra* Part I.C.1.

37. In March 2011, an earthquake and subsequent tsunami caused the Fukushima Daiichi nuclear power plant to shut down and lose cooling capability, damaging the nuclear fuel. *See* CHARLES MILLER ET AL., *U.S. NUCLEAR REGULATORY COMM’N, RECOMMENDATIONS FOR*

B. The National Environmental Policy Act

In 1969, Congress established a national environmental policy through the enactment of the National Environmental Policy Act (NEPA).³⁸ Most notably, NEPA requires all federal agencies, when proposing a *major federal action* that significantly affects the environment, to provide a detailed EIS in connection with that proposal.³⁹

ENHANCING REACTOR SAFETY IN THE 21ST CENTURY 9 (2011), *available at* <http://pbadpws.nrc.gov/docs/ML/111861807.pdf>.

38. National Environmental Policy Act, Pub. L. No. 91-190, 83 Stat. 852 (1969) (codified as amended at 42 U.S.C. §§ 4321–4370h (2006 & Supp. IV 2010)) (setting forth the Act’s purpose “[t]o declare national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; [and] to enrich the understanding of the ecological systems and natural resources important to the Nation”).

The statute provides six goals for the federal government to adhere to in formulating environmental policy:

- (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- (2) assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
- (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life’s amenities; and
- (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

42 U.S.C. § 4331(b).

39. 42 U.S.C. § 4332(2)(C) (emphasis added). The detailed statement must include:

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Id. NEPA also established the Council on Environmental Quality (CEQ)—an executive branch agency that issues rules to implement the requirement that agencies prepare EISs. *Id.* §§ 4342, 4344; *e.g.*, 40 C.F.R. §§ 1500.1–1508.28 (2009). However, if an agency determines that EIS is not required, the agency may instead prepare an Environmental Assessment (EA)—a more concise document containing a brief analysis determining either that an EIS should be prepared, or that there is no significant environmental impact. 40 C.F.R. §§ 1501.4, 1508.9. The EA analysis is used to “[b]riefly provide sufficient evidence and analysis for determining whether to prepare an [EIS].” *Id.* § 1508.9. For a finding of no significant impact, the agency will report the EA (or a summary of it) and briefly state the reasons why the agency action will not have a significant effect on the environment. *Id.* § 1508.13. In this Comment, the process of preparing

In *Weinberger v. Catholic Action of Hawaii/Peace Education Project*, the Supreme Court identified the “twin aims” of NEPA: “The first is to inject environmental considerations into the federal agency’s decisionmaking process by requiring the agency to prepare an EIS. The second aim is to inform the public that the agency has considered environmental concerns in its decisionmaking process.”⁴⁰ The public disclosure of EISs falls within the purview of the Freedom of Information Act (FOIA), which contains an exception that restricts the disclosure of classified information.⁴¹ Nonetheless, the Supreme Court held that an agency otherwise required to prepare an EIS for consideration in its decision making (the first of NEPA’s twin aims), must do so even if the EIS cannot be released to the public (the second of the twin aims).⁴²

C. Supreme Court Decisions Interpreting “Reasonably Foreseeable” Impacts

1. Metropolitan Edison Co. v. People Against Nuclear Energy

Metropolitan Edison Co. owned two nuclear power plants on Three Mile Island (TMI) near Harrisburg, Pennsylvania.⁴³ On March 28, 1979, while TMI-1 was shut down for refueling, a severe accident damaged the reactor of TMI-2.⁴⁴ In response to the accident, the NRC ordered that TMI-1, which shared a similar design to TMI-2, remain inoperative until the NRC could determine whether the reactor could operate safely without placing the public

an EA followed by an EIS if necessary will be referred to as the “NEPA process” or “NEPA analysis.”

In 1983, the Supreme Court clarified that NEPA does not require “agencies to elevate environmental concerns over other appropriate considerations. . . . Rather, it require[s] only that the agency take a ‘hard look’ at the environmental consequences before taking a major action.” *Balt. Gas & Elec. Co., v. NRDC, Inc.*, 462 U.S. 87, 97 (1983) (citations omitted). Additionally, NEPA does not specify agency adherence to a particular decision-making structure. *Id.* at 100.

40. 454 U.S. 139, 143 (1981). In *Weinberger*, the Navy prepared an EA as part of the decision-making process to build a new weapons-storage facility on the island of Oahu, Hawaii. *Id.* at 141. This facility was capable of storing nuclear weapons, but, for national security reasons, whether nuclear weapons are actually stored at the location is classified national-security information. *Id.* Finding no significant environmental impact, the Navy did not prepare an EIS. *Id.* The respondents brought a suit to enjoin the Navy from constructing the facility on the basis that the EA did not adequately address the enhanced risk of a nuclear accident. *Id.* at 142.

41. *See id.* at 143; *see also* 5 U.S.C. § 552(b)(1) (2006) (exempting from public release “matters that are . . . (A) specifically authorized under criteria established by an Executive order to be kept secret in the interest of national defense or foreign policy and (B) are in fact properly classified pursuant to such Executive order”).

42. *Weinberger*, 454 U.S. at 146. In his concurring opinion, Justice Harry Blackmun noted that “[i]f nonclassified data is segregable and properly disclosable . . . it must be released to the public.” *Id.* at 147 (Blackmun, J., concurring).

43. *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 768 (1983). The two nuclear power plants operating at TMI are known as TMI-1 and TMI-2. *Id.*

44. *Id.* at 768.

at risk.⁴⁵ To make that determination, the NRC noticed a hearing and invited briefing on several issues, including whether to consider psychological harm and other indirect effects of a restart.⁴⁶ People Against Nuclear Energy (PANE) responded with a brief arguing that a restart of TMI-1 “would cause both severe psychological health damage to person living in the vicinity[] and serious damage to the stability, cohesiveness, and well-being of the neighboring communities.”⁴⁷ After the NRC disagreed, PANE petitioned the Court of Appeals for the D.C. Circuit for review of the NRC’s actions, contending that NEPA required the NRC to analyze such an effect.⁴⁸ The D.C. Circuit agreed with PANE, and held that NEPA required the NRC to consider psychological harm and other effects on the well-being of the community.⁴⁹

The Supreme Court granted certiorari, and analyzed the issue by interpreting NEPA’s language in the context of its legislative history.⁵⁰ The Court determined that Congress had designed NEPA to promote human welfare by forcing federal agencies to consider only the effects of their actions on the *physical* environment, rather than *every* effect of the proposed action.⁵¹ The Court further explained that NEPA requires more than actual or “but for” causation for the effect to be considered an environmental effect of an agency’s action;⁵² rather, the Court held that “the terms ‘environmental effect’ and ‘environmental impact’ in [NEPA should] be read to include a requirement of a *reasonably close causal relationship* between a change in the physical environment and the effect at issue. This requirement is like the familiar doctrine of proximate cause from tort law.”⁵³ Therefore, an effect—although *actually* caused by a *physical* change in the environment—will not be

45. *Id.* at 769 (citing Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit No. 1) Order, 44 Fed. Reg. 40,461, 40,461 (July 10, 1979)).

46. *Id.*

47. *Id.* at 769. PANE was a collation of local residents who opposed the restart of TMI-1. *Id.*

48. *Id.* at 769.

49. *Id.* at 771.

50. *Id.* at 772.

51. *Id.* The Court noted that the statute centers on the adjective “environmental.” *Id.* To interpret Congress’s intended meaning of “environmental,” the Court examined the statements of two principal sponsors of NEPA. *Id.* at 772–73. In support of his bill, Senator Henry Jackson stated that NEPA is a “congressional declaration that . . . as a government or as a people . . . we will not intentionally initiate actions which [will] do irreparable damage to the air, land and water which support life on earth.” *Id.* at 773 (quoting 115 CONG. REC. 40,416 (1969) (statement of Sen. Henry Jackson) (emphasis added by Court)). Representative John Dingell, echoing this intent, stated that “[w]e can now move forward to *preserve and enhance our air, aquatic, and terrestrial environments.*” *Id.* (quoting 115 CONG. REC. 40,924 (1969) (statement of Rep. John Dingell) (emphasis added by Court)). The Court concluded that Congress chose to promote the goals of human health and welfare by pursuing protection of the physical environment as the means for achieving these goals. *Id.*

52. *Id.* at 772, 774.

53. *Id.* (emphasis added).

considered under NEPA if the effect is too far attenuated from an agency's action.⁵⁴

Applying this reasonably close causal-relationship test, the Court examined the chain of causation that would lead to the psychological-health effects alleged by PANE.⁵⁵ The causal chain began with the Agency's proposed action to authorize renewed operation of TMI-1, which would cause change to the physical environment.⁵⁶ This change would create the risk of another accident.⁵⁷ The perception of this risk by members of PANE and the community would then cause the psychological health damage at issue.⁵⁸ The Court concluded that the risk of an accident alone as an unrealized event was not itself an effect on the *physical* environment.⁵⁹ Therefore, the psychological impact on humans based on the fear created by the risk was too far attenuated from the Agency's action to demonstrate the necessary reasonably close causal relationship contemplated under NEPA.⁶⁰

The Court admonished courts and agencies to draw a manageable line when defining a reasonably close causal relationship in light of time and resource constraints.⁶¹ Otherwise, the Court warned, limited agency resources may be spread so thin that the requirements would undermine NEPA's purpose of insuring "a fully informed and well-considered decision,"⁶² and, consequently, agencies would be unable to protect the environment adequately.⁶³

2. Department of Transportation v. Public Citizen

In 2001, President George W. Bush pledged to lift a long-standing moratorium on qualified Mexican motor carriers in accordance with U.S. obligations under the North American Free Trade Agreement.⁶⁴ To do so, the

54. *Id.* For example, the Court considered whether out-of-town relatives of local residents may claim to suffer psychological health problems as a result of the renewed operation of TMI-1. *Id.* ("However, this harm is simply too remote from the physical environment to justify requiring the NRC to evaluate the psychological health damage to these people that may be caused by renewed operation of TMI-1.")

55. *Id.* at 775–76.

56. *Id.* at 775.

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.*

61. *Id.* at 776.

62. *Id.* (citing *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 558 (1978)). In this case, for example, requiring the NRC to consider the psychological impacts of its decisions would compel the agency to devote significant resources to the development of psychological expertise, thereby reducing the resources available for evaluating physical effects on the environment. *Id.*

63. *Id.*

64. *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 762 (2004). Before 1982, Mexican motor carriers could obtain a certificate to operate within the United States. *Id.* at 759. However, concern with discriminatory treatment of U.S. motor carriers operating in Canada and Mexico

Federal Motor Carrier Safety Administration (FMCSA) issued interim rules on March 19, 2002 that provided safety requirements for licensing Mexican trucks to operate in the United States.⁶⁵ As required by NEPA, the FMCSA performed an EA of the safety-monitoring rules and found no significant impact to the environment.⁶⁶ Various individuals and groups challenged the FMCSA's rules on the grounds that FMCSA violated NEPA in reaching a finding of no significant impact.⁶⁷ These groups alleged—and the Ninth Circuit agreed—that FMCSA was required to conduct an EIS.⁶⁸

Upon review, the Supreme Court reversed and held that FMCSA had not violated NEPA by issuing the rules without considering the impact of increased volume of Mexican motor carriers on the environment.⁶⁹ In reaching this conclusion, the Court applied the reasonably close causal-relationship test articulated in *Metropolitan Edison Co.*⁷⁰ Concurrently, the Court included a “rule of reason” in its analysis,⁷¹ finding that “[w]here the preparation of an EIS would serve ‘no purpose’ in light of NEPA’s regulatory scheme as a whole, no rule of reason worthy of that title would require an agency to prepare an EIS.”⁷² The respondents argued that although FMCSA had no control over the decision to lift the moratorium, the agency’s action should still be considered a cause of the increased volume because “but for” the new rules, the increase could not occur.⁷³ However, the Court determined that because FMCSA had no authority to prevent Mexican motor carriers from entering the country, evaluating the environmental impact of their entry would have no

prompted Congress to enact a two-year moratorium on new certifications and to authorize the President to extend the moratorium to serve the national interest. *Id.* As part of the North American Free Trade Agreement, the United States agreed to phase out the moratorium in 1992, but progress stalled due to concern with Mexico’s safety regulations. *Id.* at 759–60. In early 2001, following an adverse international arbitration panel ruling, President Bush announced his intention to lift the moratorium “following the preparation of new regulations governing grants of operating authority to Mexican motor carriers.” *Id.* at 760.

65. *See id.* at 762.

66. *Id.* at 761–62. The EA assumed that there would be no significant change in U.S.-Mexico trade volume as a result of the new safety regulations. *Id.* at 761. Rather, the FMCSA determined that any increase in trade volume would be a result of the President’s action in lifting the ban, and not an “effect” of the rule. *Id.* For this reason, FMCSA did not consider any potential environmental impact from an increased volume of Mexican motor carriers in the United States. *Id.*

67. *Id.* at 762.

68. *Pub. Citizen v. Dep’t of Transp.*, 316 F.3d 1002, 1009, 1022 (9th Cir. 2003), *rev’d*, 541 U.S. 752 (2004).

69. *Pub. Citizen*, 541 U.S. at 773.

70. *Id.* at 767 (citing *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 (1983)).

71. *Id.*

72. *Id.* A “rule of reason” allows agencies to determine whether an EIS is required based on “the usefulness of any new potential information to the decision-making process.” *Id.*

73. *Id.*

effect on any action taken by FMCSA.⁷⁴ Therefore, the Court concluded that an evaluation of the motor carriers' entry failed the reasonably close causal-relationship test because the rules issued by FMCSA were not the legally relevant cause of the impact of the entry.⁷⁵

3. Robertson v. Methow Valley Citizens Council

In *Methow Valley*, the Supreme Court affirmed the regulations of the Council on Environmental Quality (CEQ) that concerned properly prepared EISs and did not require agencies to analyze worst-case scenarios in a particular action.⁷⁶ The Court agreed that agencies should evaluate only those impacts that are reasonably foreseeable without concern for "highly speculative harms."⁷⁷

D. *The Ninth Circuit's Interpretation of the Reasonably Foreseeable Standard Before San Louis Obispo*

Before the Supreme Court's holding in *Methow Valley*, the Ninth Circuit interpreted the "reasonably foreseeable" requirement in two principal cases: *Warm Springs Dam Task Force v. Gribble*⁷⁸ and *No GWEN Alliance Of Lane City, Inc. v. Aldridge*.⁷⁹ In *Warm Springs Dam*, the petitioners challenged the sufficiency of an EIS prepared by the Army Corps of Engineers for the

74. *Id.* at 768. The Court found that the twin aims of NEPA would not be served by requiring an evaluation of an increase in trade volume. *Id.* FMCSA lacks the authority to act on the information contained in the EIS. *Id.* Therefore, requiring an impact evaluation would not aid in the agency's decision-making process. *Id.* Similarly, consideration of the impact would not serve the policy's information purpose because the agency could not act on a larger audience's input on the effect of the higher volume. *Id.* at 768–69.

75. *Id.* at 769.

76. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989). As part of its responsibility to manage the nation's forests, the Forest Service has the statutory authority to issue special-use permits for the operation of ski areas on federal lands. *Id.* at 336. After preparing an environmental and financial feasibility study, the Forest Service decided to issue a special-use permit for the development of a ski resort on Sandy Butte located in the Okanogan National Forest in Okanogan County, Washington. *See id.* at 336–45 (describing in detail the findings and procedures used in the Forest Service's analysis). The Forest Service prepared an EIS in conjunction with this decision. *Id.* at 338. Four organizations petitioned for review of the Forest Service's decision, alleging that the Forest Service's study and its resulting EIS failed to meet NEPA's requirements adequately. *Id.* at 345–46. Although the trial court found that the EIS was adequate, the Ninth Circuit reversed, finding that the Forest Service improperly relied on speculative mitigation measures when concluding that the impact on mule deer would be minimal. *Id.* at 340–47. According to the Ninth Circuit, if the Forest Service lacks sufficient information to assess the impact, it must conduct a worst-case analysis. *Id.* at 347 (citing *Methow Valley Citizens Council v. Reg'l Forester*, 833 F.2d 810, 817 (9th Cir. 1987)). The Supreme Court reversed. *Id.* at 356.

77. *Id.*

78. 621 F.2d 1017 (9th Cir. 1980).

79. 855 F.2d 1380 (9th Cir. 1988).

construction of Warm Springs Dam in Northern California.⁸⁰ The petitioners alleged that the EIS was insufficient because it did not consider the consequences “of total failure of the dam in the wake of a catastrophic seismic event.”⁸¹ However, the Ninth Circuit held that “an impact statement need not discuss remote and highly speculative consequences Everyone recognizes the catastrophic results of the failure of a dam; to detail these results would serve no useful purpose.”⁸²

Several years later, the Ninth Circuit amplified its view of the reasonably foreseeable requirement in *No GWEN*,⁸³ in which petitioners challenged the sufficiency of the EA prepared in connection with an Air Force plan to construct the Ground Wave Emergency Network (GWEN).⁸⁴ Petitioners alleged that the EA was inadequate because it “fail[ed] to discuss environmental impacts of GWEN, including the impact of a nuclear exchange which might be provoked, at least in part, by the installation or use of the GWEN system.”⁸⁵ However, the petitioners conceded that GWEN’s provocation of nuclear war was merely speculative.⁸⁶ The Ninth Circuit found “the contention that GWEN would be a primary target in a nuclear war [would] be equally speculative.”⁸⁷ As a result, the Ninth Circuit held that a nuclear war was not a reasonably foreseeable effect of the Air Force’s decision to construct the GWEN system because the causal link was too attenuated, and, therefore, the impact of nuclear war did not need to be considered in the EA.⁸⁸

E. NRC Actions Before *San Luis Obispo Mothers for Peace v. NRC*

Shortly after the September 11th terrorist attacks, community organizations and local governments sought to intervene in several ongoing NRC license reviews through the NRC’s AEA-mandated public-hearing process.⁸⁹ These

80. *Warm Springs Dam*, 621 F.2d at 1019–20.

81. *Id.* at 1026.

82. *Id.* at 1026–27.

83. *No GWEN*, 855 F.2d at 1385–86 & n.1.

84. *Id.* at 1381. GWEN is designed to send messages to U.S. forces during and after nuclear war. *Id.* GWEN’s system involves the construction of numerous 300-foot radio towers and “is designed to withstand the electromagnetic pulse generated by atmospheric nuclear detonations.” *Id.*

85. *Id.*

86. *Id.* at 1386.

87. *Id.*

88. *Id.* In reaching this conclusion, the Ninth Circuit echoed its previous sentiments in *Warm Springs Dam* that “everyone recognizes that [the] effects [of a nuclear exchange] would be catastrophic. Detailing these results would serve no useful purpose.” *Id.* (citing *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1026–27 (9th Cir. 1980)).

89. See 10 C.F.R. § 2.309(a) (2010) (providing that “any person whose interest may be affected by a proceeding and who desires to participate as a party must file a written request for hearing and a specification of the contentions which the person seeks to have litigated in the hearing,” and citing the NRC’s standards in determining if the person may intervene).

intervenors sought to insure that acts of terrorism were adequately accounted for by asking the NRC to address them in the NEPA process.⁹⁰

The Commission took action on the first four of these petitions on December 18, 2002.⁹¹ In *Private Fuel Storage, L.L.C.*, the NRC laid out four reasons why addressing risks of terrorism through an EIS is inappropriate.⁹² First, the Commission argued that the action was beyond the “rule of reason” because a terrorist attack on a particular facility is not reasonably foreseeable.⁹³ Second, the Commission argued that, “[t]he horrors of September 11 notwithstanding,” it is not possible to quantify the likelihood of a terrorist attack on a particular facility.⁹⁴ Furthermore, consistent with *Limerick Ecology Action, Inc. v.*

90. See, e.g., *infra* note 92.

91. See *Dominion Nuclear Conn., Inc.*, 56 N.R.C. 368, 368 (2002); *Duke Cogema Stone & Webster*, 56 N.R.C. 335, 335 (2002); *Duke Energy Corp.*, 56 N.R.C. 358, 358 (2002); *Private Fuel Storage, L.L.C.*, 56 N.R.C. 340, 340 (2002).

Private Fuel Storage involved Private Fuel Storage, L.L.C.’s 1997 application for a license to possess and store spent nuclear fuel in an independent spent-fuel-storage installation on an Indian reservation in Utah. *Private Fuel Storage, L.L.C.*, 47 N.R.C. 142, 157 (Atomic Safety & Licensing Bd. 1998). After the September 11th attacks, the State of Utah intervened in this licensing proceeding and contended that the attacks revealed an increased likelihood for a similar attack on the proposed spent-fuel installation, which thereby required a NEPA review because such an attack was reasonably foreseeable. *Private Fuel Storage*, 56 N.R.C. at 345–46.

Duke Cogema Stone & Webster involved the Duke Cogema Stone & Webster consortium’s February 2001 application to construct a mixed oxide (MOX) fuel fabrication facility on the U.S. Department of Energy’s Savannah River, South Carolina site. *Duke Cogema Stone & Webster*, 56 N.R.C. at 337. MOX fuel—a blend of uranium oxide (conventional fuel) and plutonium oxides—serves as means to recycle surplus weapons-grade plutonium and can be used by commercial nuclear power stations to generate electricity. *Id.* Georgians Against Nuclear Energy sought to intervene and demanded a NEPA review of terrorism impacts. *Id.*

Duke Energy Corp. involved the Duke Energy Corporation’s June 2001 application to renew the operating licenses of four nuclear power plants for twenty more years of operation. *Duke Energy Corp.*, 56 N.R.C. at 362. The Blue Ridge Environmental Defense League intervened and asserted that renewal of the licenses would increase the likelihood of a terrorist attack on the nuclear power plant. *Id.* at 361. In addition to holding that a terrorism review was not required for the reasons set forth in *Private Fuel Storage*, the Commission held that contentions relating to terrorism are beyond the scope of a licensing renewal because “a license renewal is narrow in scope, confined to aging analyses of the plant’s structures, systems and components.” *Id.* at 362–65.

Dominion Nuclear Connecticut, Inc. involved Dominion Nuclear Connecticut’s March 1999 application for a license amendment to increase the storage capacity of the spent-fuel pool. *Dominion Nuclear Conn., Inc.*, 56 N.R.C. at 368–69. Two intervenors, the Connecticut Coalition Against Millstone and the Long Island Coalition Against Millstone, asserted that the NRC must prepare an EIS evaluating the impact of a potential terrorist attack on the spent-fuel pool and assessing the appropriateness of alternatives such as dry-cask storage. *Id.*

92. *Private Fuel Storage*, 56 N.R.C. at 347–55.

93. *Id.* at 348–49 (“Here, the possibility of a terrorist attack . . . is speculative and simply too far removed from the natural or expected consequences of agency action to require a study under NEPA.”).

94. *Id.* at 350.

NRC,⁹⁵ the NRC determined that it could not put forward a meaningful analysis of the risk to the environment.⁹⁶ Third, the Commission argued that the “theoretical possibility” of a terrorist attack was “not the same as a ‘reasonably foreseeable impact’” of such an event; simply assuming that the event *would* occur just because it *could* occur amounts to a worst-case scenario, which the Court in *Methow Valley* held was not required.⁹⁷ Finally, the Commission maintained its long-held position that discussing security vulnerabilities is a matter of national defense that should not be conducted in public, and, “in the absence of . . . clear Congressional direction to that end,” the Commission will not do so.⁹⁸

F. San Luis Obispo Mothers for Peace v. NRC

In December 2001, PG&E applied for a license from the NRC to operate an independent spent-fuel storage installation at the Diablo Canyon Power Plant.⁹⁹ The San Luis Obispo Mothers for Peace and eleven other petitioners requested to intervene in the licensing process.¹⁰⁰ The petitioners made several contentions, including an assertion that PG&E’s evaluation “of environmental impacts [was] inadequate because it [did] not include the consequences of destructive acts of malice or insanity against the proposed [independent spent-fuel-storage installation].”¹⁰¹ On the basis of its previous findings in *Private Fuel Storage*, the NRC dismissed the petitioners’ contention.¹⁰² The

95. In *Limerick Ecology Action*, the Third Circuit deferred to the NRC’s judgment not to consider the risks of sabotage in an EIS when licensing a reactor for operation because “current risk assessment techniques could not provide a meaningful basis upon which to measure such risks.” *Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 743 (3d Cir. 1989). Furthermore, the citizens’ group challenging the sufficiency of the EIS failed to rebut the NRC’s conclusion that the risks could not be assessed. *Id.*

96. *Private Fuel Storage*, 56 N.R.C. at 350–51.

97. *Id.* at 352 (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989)); *see also supra* Part I.B.3.

98. *Private Fuel Storage*, 56 N.R.C. at 355 (quoting *Fla. Power & Light Co.*, 4 A.E.C. 9, 13–14 (1967)) (internal quotation marks omitted), *aff’d sub nom. Siegel v. AEC*, 400 F.2d 778 (D.C. Cir. 1968)). A NEPA review is a process that involves the public in both providing comment and contesting environmental findings; as a result, it is not the appropriate forum to consider matters of national defense. *Id.* at 354–55. The Commission distinguished the holding of *Weinberger*, arguing that a NEPA review might be useful to an agency “that otherwise might not consider an issue relevant to licensing,” but would not provide benefit to the NRC, which “already . . . review[s] terrorism from every nearly conceivable angle.” *Id.* at 356–57.

99. *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1021 (9th Cir. 2006). The Diablo Canyon Power Plant is located in San Luis Obispo, California. *Id.* at 1019–20; *see also Pac. Gas & Elec. Co.*, 56 N.R.C. 413, 419 (Atomic Safety & Licensing Bd. 2002).

100. *Pac. Gas & Elec. Co.*, 56 N.R.C. at 419.

101. *Id.* at 447. Two other environmental contentions (EC-2 and EC-3) also included acts of terrorism, but the NRC only considered the terrorism actions as part of the challenge articulated in EC-1. *See Pac. Gas & Elec. Co.*, 57 N.R.C. 1, 4–6 (2003).

102. *Pac. Gas & Elec. Co.*, 57 N.R.C. at 6. Before the NRC commissioner’s hearing of the petition, the NRC’s Atomic Safety Licensing Board (Board) first reviewed the petition. The

petitioners appealed, alleging that the NRC violated NEPA by not considering acts of terrorism in the EA.¹⁰³

The Ninth Circuit considered the four reasons articulated by the NRC in *Private Fuel Storage* and rejected each one.¹⁰⁴ Regarding the first reason, the Ninth Circuit acknowledged that the NRC had relied upon the Supreme Court's analysis in *Metropolitan Edison* to support its contention that an act of terrorism was outside the rule of reason,¹⁰⁵ but distinguished *Metropolitan Edison*'s proximate-cause analogy from the current case.¹⁰⁶ Both cases involved three events: "(1) a major federal action; (2) a change in the physical environment; and (3) an effect."¹⁰⁷ The court reasoned that in *Metropolitan Edison* the relationship at issue was between points two and three,¹⁰⁸ in that the portion of the causal chain was too far attenuated between the *risk* of a nuclear accident (a change in the physical environment) and the decline of the psychological health of the human population (the effect).¹⁰⁹ However, the causal relationship at issue in *San Luis Obispo* was between the first and second events—the licensing of the independent spent-fuel-storage installation (a federal act) and the risk of a terrorist attack (a change in the physical

Board ruled that the environmental report did not need to address acts of terrorism because the NRC had implemented a regulation specifically providing that applicants for licenses do not have to address acts of terrorism in their application. *Pac. Gas & Elec. Co.*, 56 N.R.C. at 448 (citing 10 C.F.R. § 50.13 (2011)). The regulation provides that applicants for a license or license renewal do not need to include design features that would specifically protect against attacks by enemies of the United States, including attacks incident to actions against the defense activities of the United States. 10 C.F.R. § 50.13 (2011). However, the Board referred the issue to the Commission for consideration. *Pac. Gas & Elec. Co.*, 56 N.R.C. at 448.

103. *San Luis Obispo*, 449 F.3d at 1019–20. The petitioners also argued that the NRC violated the AEA and the Administrative Procedure Act (APA). *Id.* at 1024. The petitioners alleged, and the Ninth Circuit agreed, that the NRC violated the AEA's hearing provisions by denying petitioners a hearing on including acts of terrorism in the EIS and a hearing on the security measures for Diablo Canyon as a whole. *Id.* at 1024–27. The petitioners also claimed that the NRC violated the notice and comment provisions of the APA's rulemaking requirements. *Id.* at 1027.

The flaw in Petitioners' argument is the mistaken assertion that the NRC's decisions were factual and not legal. If the NRC's conclusion that terrorism need not be examined under NEPA were factual, then Petitioners would be correct that its determination would have to comply with APA rulemaking requirements, including notice and comment, or else the agency would have to permit petitioners to challenge it in every proceeding where it was disputed.

Id. Because the NRC decided they were not required to evaluate terrorism under NEPA as a matter of law, the Ninth Circuit determined that the NRC had complied with the APA. *Id.* at 1027–28.

104. *Id.* at 1028; *see supra* Part I.D.

105. *San Luis Obispo*, 449 F.3d at 1029.

106. *Id.*

107. *Id.*

108. *Id.*

109. *Id.*; *see also* *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 775 (1983).

environment).¹¹⁰ The Ninth Circuit held that the *Metropolitan Edison* analysis did not apply “because it discusse[d] a different type of causation than that at issue in this case.”¹¹¹ Instead, the Ninth Circuit concluded that the appropriate standard to apply in *San Luis Obispo* was the remote and highly speculative standard articulated in *Warm Springs Dam* and *No GWEN*.¹¹²

Applying this standard, the Ninth Circuit determined “that it was unreasonable for the NRC to categorically dismiss the possibility of [a] terrorist attack . . . as too remote and highly speculative.”¹¹³ The court further recognized that the NRC’s view was inconsistent with the Commission’s efforts to prevent terrorist attacks against nuclear facilities after September 11th.¹¹⁴ Therefore, the court concluded that “the possibility of [a] terrorist attack is not so ‘remote and highly speculative’ as to be beyond NEPA’s requirements.”¹¹⁵

The Ninth Circuit also rejected the NRC’s second factor from *Private Fuel Storage*, finding that the NRC should *not* exclude acts of terrorism from the NEPA analysis simply because a risk is not quantifiable.¹¹⁶ Rather, the NRC could conduct a qualitative assessment of the uncertain risk in the absence of precise quantification of that risk.¹¹⁷ The court explained that because the NRC performs this type of qualitative analysis in other contexts, it should be able to apply this analysis to acts of terrorism as well.¹¹⁸ Furthermore, the court noted the NRC’s actions in other areas to combat terrorism indicated that the NRC found the risk to be significant.¹¹⁹ Therefore, the court concluded that the lack of precise quantification did not excuse the NRC from considering the significance of such a risk in the NEPA analysis.¹²⁰

110. *San Luis Obispo*, 449 F.3d at 1030.

111. *Id.* at 1029–30 (quoting *No GWEN Alliance v. Aldridge*, 855 F.2d 1380, 1385 (9th Cir. 1988)).

112. *Id.* at 1030. The NRC had previously determined that a terrorist attack was speculative as a matter of law, and, as a result, did not address the petitioners’ factual contentions that the probability of a terrorist attack on the power plant would actually increase as a result of the independent spent-fuel-storage installation. *Id.*

113. *Id.*

114. *Id.* at 1030–31.

115. *Id.* at 1031.

116. *Id.* at 1031–32.

117. *Id.* at 1031 (“It is therefore possible to conduct a low probability-high consequence analysis without quantifying the precise probability of risk.”).

118. *Id.* at 1031–32.

119. *Id.* at 1032. The court also pointed to the fact that the Department of Homeland Security uses an advisory system that provides a general assessment of the risk of terrorist attacks. *Id.*

120. *Id.* at 1032 (“This leaves the Commission in the tenuous position of insisting on the impossibility of a meaningful, i.e., quantifiable assessment of terrorist attacks, while claiming to have undertaken precisely such an assessment in other contexts.”). The court argued that, even if it accepted the argument that the risk must be quantifiable, the NRC failed to demonstrate that the risk was unquantifiable. *Id.* at 1032.

The NRC asserted as its third reason in *Private Fuel Storage* that evaluating terrorist attacks in the NEPA analysis equated to a worst-case scenario, which is no longer required under Supreme Court precedent.¹²¹ The Ninth Circuit agreed “that NEPA does not require a worst-case analysis.”¹²² However, it concluded that in this situation the NRC was not being asked to perform a worst-case analysis.¹²³ The Ninth Circuit noted that appropriate worst-case analysis, as set forth by CEQ, includes both high- and low-probability events; therefore, the distinguishing characteristic of worst-case scenarios cannot be probability alone.¹²⁴ As a result, the court determined that a terrorist attack should not escape analysis on the grounds of being a worst-case scenario solely because it is of “low or indeterminate probability.”¹²⁵ Because the petitioners “d[id] not seek to require the NRC to analyze the most extreme (i.e., the ‘worst’) possible environmental impacts of a terrorist attack,” the court concluded that evaluating the terrorist attack as part of the NEPA process was not a worst-case analysis.¹²⁶

The Ninth Circuit also rejected the NRC’s fourth contention in *Private Fuel Storage* that it could not comply with the NEPA requirements because of the security risks inherent in disclosure of sensitive information.¹²⁷ In dismissing this factor, the court cited to *Weinberger* as a demonstration that although the NEPA process may be modified for national-security considerations, such considerations do not exempt an agency from the requirements of the evaluation altogether.¹²⁸

121. *Id.*; see also *Private Fuel Storage, L.L.C.*, 56 N.R.C. 340, 351–52 (2002). In its brief to the Ninth Circuit, the NRC argued that to evaluate the risk and effects of a terrorist attack, the Commission would be forced to make a chain of assumptions that would only be theoretically possible. Brief for the Federal Respondents at 40–41, *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d at 1016 (No. 03-74628). An evaluation would require assuming that a terrorist attack would occur, succeed, and cause the release of radioactive materials. *Id.* According to the NRC, using a “theoretical possibility” analysis is the equivalent of a worst-case approach because it does not rise to the level of a “reasonably foreseeable” impact. *Id.* at 41.

122. *San Luis Obispo*, 449 F.3d at 1033.

123. *Id.* at 1033–34.

124. *Id.* Effects of “low or indeterminate probability” may need to be considered if they have significant consequences, “provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.” *Id.* (quoting 40 C.F.R. § 1502.22(b)(4) (2010)).

125. *Id.* at 1034.

126. *Id.* (“Instead, they seek an analysis of the range of environmental impacts likely to result in the event of a terrorist attack . . .”).

127. *Id.*

128. *Id.* (citing *Weinberger v. Catholic Action of Haw./Peace Earth Educ. Project*, 454 U.S. 139, 145–47 (1981)).

After rejecting all four of the NRC's reasons for refusing to consider acts of terrorism in the NEPA analysis, the Ninth Circuit remanded the case to the NRC with instructions to consider acts of terrorism in its analysis.¹²⁹

G. New Jersey Department of Environmental Protection v. NRC

In July 2005, AmerGen Energy Co. sought a twenty-year renewal on its operating license for the Oyster Creek Generating Station.¹³⁰ The New Jersey Department of Environmental Protection (New Jersey) filed a request to intervene¹³¹ alleging that the environmental report was deficient because it failed to consider an aircraft-attack scenario.¹³² In February 2006, before the Ninth Circuit's decision in *San Luis Obispo*, the Atomic Safety Licensing Board (ASLB) rejected this contention, citing the Commission's previous decisions, in particular *Private Fuel Storage*.¹³³

The Commission considered the appeal of the ASLB's decision after the Ninth Circuit had decided *San Luis Obispo*, and affirmed the Board's decision.¹³⁴ The Commission disagreed with the Ninth Circuit for the reasons articulated in *Private Fuel Storage* and the Solicitor General's brief to the Supreme Court in *San Luis Obispo*.¹³⁵ The Solicitor General had argued that

129. *Id.* at 1035. This issue was not resolved on remand to the NRC where the NRC staff prepared a supplemental EA (SEA) with a finding of no significant impact. *See San Luis Obispo Mothers for Peace v. NRC*, 635 F.3d 1109, 1112–13 (9th Cir. 2011). Petitioner San Luis Obispo Mothers for Peace challenged two NRC actions: (1) the NRC's refusal to hold a closed adjudicatory hearing allowing petitioner's access to classified and sensitive government information, and (2) the NRC's finding of no significant impact in the SEA. *Id.* at 6. The Ninth Circuit rejected both challenges. *Id.* at 111. The court upheld the sufficiency of the SEA, finding that NEPA and the AEA did not require the NRC to conduct a hearing in which FOIA-exempt information would be disclosed. *Id.*

130. N.J. Dep't of Env'tl. Prot. v. NRC, 561 F.3d 132, 135 (3d Cir. 2009). Oyster Creek Generating Station is located in Ocean County, New Jersey. *Id.* Commercial nuclear power plants are initially licensed for up to forty years, but the license may be renewed for another twenty years. 42 U.S.C. § 2133(c) (2006); 10 C.F.R. § 54.31(b) (2010). The initial operating license for the Oyster Creek Generating Station was set to expire on April 9, 2009. AmerGen Energy Co., 63 N.R.C. 188, 193 (Atomic Safety & Licensing Bd. 2006).

131. AmerGen Energy Co., 63 N.R.C. at 193.

132. *See id.* at 199–200.

133. *See id.* at 200–01 (citing *Private Fuel Storage, L.L.C.*, 56 N.R.C. 340, 349 (2002)) (holding that New Jersey's stated basis for intervening—the NRC's failure to consider the environmental impacts of an airborne terrorist attack—fell outside of the scope of the license-renewal proceedings).

134. AmerGen Energy Co., 65 N.R.C. 124, 126 (2007). The Commission acknowledged that it must follow Ninth Circuit precedent when deciding matters within that circuit, but asserted that it was not required to adhere to an unfavorable decision when the same issue is before another circuit. *Id.* at 128–29 & n.14 (citing *United States v. Stauffer Chem. Co.*, 464 U.S. 165, 173 (1984)).

135. *Id.* at 129. PG&E appealed the Ninth Circuit's decision in *San Luis Obispo* to the Supreme Court. Petition for Writ of Certiorari at 3, *Pac. Gas & Elec. Co. v. San Luis Obispo Mothers for Peace*, 549 U.S. 1166 (2007) (No. 06-466) [hereinafter PG&E Certiorari Petition].

the Ninth Circuit erred by failing to adhere to precedent such as *Metropolitan Edison* and *Public Citizen*, which established the need for a reasonably close causal relationship, analogized by the Supreme Court to the proximate-cause analysis used in tort law.¹³⁶ Additionally, the Commission decided that, even if it followed *San Luis Obispo*, the NRC had already considered the effects of terrorism in a generic EIS (GEIS) for license renewal,¹³⁷ from which it “concluded that the core damage and radiological release from such acts would be no worse than the damage and release to be expected from internally initiated events.”¹³⁸ New Jersey subsequently appealed the Commission’s decision to the Third Circuit.¹³⁹

The Third Circuit affirmed the NRC’s decision for two separate reasons:

First, [New Jersey] has not shown that there is a “reasonably close causal relationship” between the Oyster Creek relicensing proceeding and the environmental effects of a hypothetical aircraft attack. Accordingly, such an attack does not warrant NEPA evaluation. Second, the NRC has already considered the

Despite the NRC’s strong opposition to the *San Luis Obispo* decision, the Solicitor General elected not to file a separate petition for writ of certiorari because no direct conflict existed between the circuits and it was unclear how burdensome *San Luis Obispo* would actually prove to be on the NRC. Brief for the Federal Respondents at 17, *San Luis Obispo*, 549 U.S. 1166 (No. 06-466) [hereinafter Federal Respondent’s Brief].

136. Federal Respondent’s Brief, *supra* note 135, at 6–7. The Solicitor General, characterized the Ninth Circuit’s decision as “unprecedented” and argued that the decision created a tension in the law. *Id.* at 6. Furthermore, the Solicitor General contended that the decision could become “highly disruptive for [the] NRC (and perhaps other federal agencies).” *Id.* at 14.

137. The NRC has developed a GEIS for license renewal of existing plants. See OFFICE OF NUCLEAR REGULATORY RESEARCH, NUCLEAR REGULATORY COMM’N, GENERIC ENVIRONMENTAL IMPACT STATEMENT FOR LICENSE RENEWAL OF NUCLEAR PLANTS: MAIN REPORT (NUREG-1437) (1996) [hereinafter GEIS FOR LICENSE RENEWAL]. This GEIS has three primary objectives:

- (1) to provide an understanding of the types and severity of environmental impacts that may occur as a result of license renewal of nuclear power plants under 10 CFR Part 54,
- (2) to identify and assess those impacts that are expected to be generic to license renewal, and
- (3) to support a rulemaking (10 CFR Part 51) to define the number and scope of issues that need to be addressed by the applicants in plant-by-plant license renewal proceedings.

Id. at Abstract. Site-specific EISs are prepared as part of the license-renewal process and supplement the GEIS. See *id.* §§ 1.73–1.76. Notably, the GEIS provides:

Although the threat of sabotage events cannot be accurately quantified, the commission believes that acts of sabotage are not reasonably expected. Nonetheless, if such events were to occur, the commission would expect that resultant core damage and radiological releases would be no worse than those expected from internally initiated events.

Id. § 5.3.3.1.

138. AmerGen Energy Co., 65 N.R.C. at 131 (2007) (quoting AmerGen Energy Co., 63 N.R.C. 188, 201 n.8 (Atomic Safety & Licensing Bd. 2006)) (internal quotation marks omitted).

139. See *N.J. Dep’t of Env’tl. Prot. v. NRC*, 561 F.3d 132, 133 (3d Cir. 2009).

environmental effects of a hypothetical terrorist attack on a nuclear plant and found that these effects would be no worse than those caused by a severe accident.¹⁴⁰

Citing *Metropolitan Edison* and *Public Citizen*, the Third Circuit used tort law's proximate-cause analysis to inform its decision that the causal nexus between the agency action (NRC's renewal of a license) and the purported effect (aircraft attack on a nuclear facility) is too attenuated to satisfy the reasonably close causal-relationship test.¹⁴¹ Just as the FMCSA had no authority to prevent the effect in *Public Citizen*, the NRC lacks control of the airspace above the facilities it regulates.¹⁴² From this the court reasoned that an airborne attack on the Oyster Creek Generating Station could only result from "at least two intervening events: (1) the act of a third-party criminal and (2) the failure of all government agencies specifically charged with preventing terrorist attacks."¹⁴³ Applying tort causation concepts, the court determined that an airborne terrorist attack (third-party criminal act) would be a *superseding* cause, thus intervening as the legally relevant cause of any environmental effect resulting from the attack.¹⁴⁴ Therefore, the Third Circuit concluded that an environmental impact would not be the result of a major federal action subject to NEPA.¹⁴⁵

In further support of this conclusion, the Third Circuit noted that the Supreme Court in *Metropolitan Edison* had admonished courts to draw a line for imposing NEPA responsibilities in a way manageable for the agencies.¹⁴⁶ According to the Third Circuit, drawing this line to include assessing the consequences of an airborne attack would require the NRC to "spend time and resources assessing security risks over which it has little control and which would not likely aid its other assigned functions to assure the safety and security of nuclear facilities."¹⁴⁷

The Third Circuit also determined that the NRC had already considered the effects of a terrorist attack in the GEIS for License Renewal of Nuclear Plants.¹⁴⁸ Furthermore, the court held that New Jersey had not met its burden

140. *Id.* at 136 (citations omitted).

141. *See id.* at 139–40.

142. *Id.* at 139 (discussing how the Supreme Court in *Public Citizen* declined to find a reasonably close causal relationship because the Agency, FMCSA, lacked control over the volume of Mexican motor carriers in the United States); *cf. supra* Part I.C.2.

143. *Id.* at 140.

144. *Id.* at 140–41 (citing RESTATEMENT (SECOND) OF TORTS §§ 442, 448 (1965)).

145. *Id.*

146. *Id.* at 147 (citing *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 n.7 (1983)).

147. *Id.*

148. *See id.* at 143; *see also supra* note 138. The Third Circuit found the analysis in a GEIS to be an appropriate means for conducting the EIS. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 139 (citing *Balt. Gas & Elec. Co. v. NRDC, Inc.* 462 U.S. 87, 101 (1983)). Additionally, the court deemed it improper to challenge the GEIS analysis in an adjudicatory hearing because the NRC

of demonstrating “that the NRC could [have] evaluate[d] the risks more meaningfully than it already ha[d] done.”¹⁴⁹ Because the Third Circuit concluded that NEPA did not require an assessment of possible terrorist attacks, and that even if it did, the NRC had already sufficiently evaluated those impacts, the court affirmed the NRC’s decision.¹⁵⁰

H. The NRC Addresses Acts of Terrorism Outside of NEPA

Pursuant to its responsibility under the AEA,¹⁵¹ the NRC has enacted rules requiring licensees to protect themselves against certain acts of radiological sabotage, including terrorism.¹⁵² The regulations provide for two general requirements for securing special nuclear material and the plants that use it: (1) specific physical protection requirements,¹⁵³ and (2) a requirement that the overall safeguard systems protect against specific design-basis threats set forth in the regulations.¹⁵⁴

The NRC requires a licensee to have security measures capable of repelling an attack on the facility.¹⁵⁵ The NRC’s design-basis threats simulate the magnitude of a potential attack to test the strength of the facility’s security.¹⁵⁶ The NRC has updated the design-basis threats in response to anticipated changes in the types of attacks against the United States.¹⁵⁷ The next several paragraphs chronicle the NRC’s modifications to the design-basis threats since the early 1990s.

The design-basis threats were initially very limited in scope, and “protected only against industrial sabotage by individuals and groups with possible inside information and hand-held weapons.”¹⁵⁸ In response to a vehicle intrusion

had codified the GEIS in rulemaking. *Id.* Lastly, the court recognized that the site-specific EIS had properly assessed the alternatives to mitigate severe accidents. *Id.* at 143–44.

149. *N.J. Dep’t of Env’t. Prot.*, 561 F.3d at 144.

150. *Id.* at 143–44.

151. *See supra* Part I.A.

152. *See* 10 C.F.R. § 73.1 (2010).

153. *Id.* § 73.1(a); *see, e.g., id.* § 73.55 (providing the requirements for physical protection of licensed activities). Physical-protection requirements include erecting physical barriers, § 73.55(e)(1)(i), maintaining access controls, § 73.55(g)(1), and establishing search programs, § 73.55(h)(1). The regulations also specifically require bullet-resistant barriers around the reactor control room, § 73.55(e)(5), an isolation zone around the perimeter of the facility, § 73.55(e)(7), and vehicle-control measures (both water and land), § 73.55(e)(10).

154. 10 C.F.R. § 73.1(a).

155. *See* MARK HOLT & ANTHONY ANDREWS, CONG. RESEARCH SERV., RL 34331, NUCLEAR POWER PLANT SECURITY AND VULNERABILITIES 1 (2010).

156. *Id.*

157. *Id.* at 1–2.

158. *See* Pub. Citizen v. NRC, 573 F.3d 916, 919 (9th Cir. 2009) (tracing the origins of the design-basis-threat rules); *see also* Requirements for the Physical Protection of Nuclear Power Reactors, 42 Fed. Reg. 10,836, 10,836–40 (Feb. 24, 1977) (codified at 10 C.F.R. pts. 50 & 73) (adopting the NRC’s 1977 final rules for the protection of nuclear facilities against security threats).

incident at TMI and the 1993 bombing of the World Trade Center, the NRC subsequently amended the design-basis-threat rules in 1994.¹⁵⁹

Following the September 11th attacks, the NRC took several actions to address the security of nuclear power plants.¹⁶⁰ In the immediate aftermath of the attacks, the NRC issued advisories to licensed facilities aimed at heightening their security and ability to respond effectively to an attack.¹⁶¹ Although licensees voluntarily took action in response to the threat advisories, in March of 2002, the NRC issued an order mandating additional safeguards beyond the regulatory requirements because of the high-level threat environment.¹⁶²

The NRC has taken specific action to strengthen the design-basis-threat rule and established the Office of Nuclear Security and Incident Response to oversee these changes.¹⁶³ In 2004, as part of its design-basis-threat improvements, the NRC began requiring “force-on-force” security exercises at each nuclear power plant every three years.¹⁶⁴ The NRC approved a final rule revising the design-basis-threat rule on March 19, 2007.¹⁶⁵ Although specific

159. See Protection Against Malevolent Use of Vehicles at Nuclear Power Plants, 59 Fed. Reg. 38,889, 38,889 (Aug. 1, 1994) (codified at 10 C.F.R. pt. 73) (revising the design-basis-threat rules to include a possible attack by land vehicle, including the use of a land-vehicle bomb). The new rules required licensees to provide defensive capabilities to meet these threats. *Id.* at 38,900. For example, licensees were required to perform bomb-blast analyses, establish barriers to control vehicle access, and provide equipment necessary to prevent radiological releases. *Id.* at 38,899–90.

160. See Order Modifying Operating Power Reactor Licenses, 67 Fed. Reg. 9792, 9792 (Mar. 4, 2002) (providing immediate security measures for nuclear facilities in the wake of September 11th).

161. *Id.* As a result of these advisories, the facilities moved to the highest level of security and “increased patrols, augmented security forces and capabilities, added security posts, installed additional physical barriers, increased the standoff distance for vehicle checks, enhanced coordination with law enforcement and military authorities, and imposed more restrictive site access controls for all personnel.” Private Fuel Storage, L.L.C., 56 N.R.C. 340, 343–44 (2002) (footnotes omitted).

162. Order Modifying Operating Power Reactor Licenses, 67 Fed. Reg. at 9792.

163. See HOLT & ANDREWS, *supra* note 155, at 2.

164. *Id.* The Energy Policy Act of 2005 codified the force-on-force exercise requirements:

- (1) The security evaluations shall include force-on-force exercises.
- (2) The force-on-force exercises shall, to the maximum extent practicable, simulate security threats in accordance with any design-basis threat applicable to a facility.
- (3) In conducting a security evaluation, the Commission shall mitigate any potential conflict of interest that could influence the results of a force-on-force exercise, as the Commission determines to be necessary and appropriate.

Pub. L. No. 109-58, sec. 651(a)(1), § 170D(b), 119 Stat. 594, 799 (codified at 42 U.S.C. § 2210d(b) (2006)).

165. See Design Basis Threat, 72 Fed. Reg. 12,705, 12,705 (Mar. 19, 2007) (codified at 10 C.F.R. pt. 73). In enacting the Energy Policy Act of 2005, Congress required the NRC to revise the design-basis threat through rulemaking. Energy Policy Act of 2005, sec. 651(a)(1), § 170E(a), 119 Stat. at 799. The Act provided a non-exhaustive list of potential factors for the NRC to consider in its rulemaking, including:

details of the revised design-basis threats remain classified,¹⁶⁶ the revised model strengthened the assumed capabilities of adversaries, their equipment, their tactics, and their resolve.¹⁶⁷ The NRC excluded an air-based attack from the design-basis threat, concluding that a private security force could not reasonably be expected to defend against such an attack¹⁶⁸—that responsibility rests with other federal entities.¹⁶⁹

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- (1) the events of September 11, 2001;
 - (2) an assessment of physical, cyber, biochemical, and other terrorist threats;
 - (3) the potential for attack on facilities by multiple coordinated teams of a large number of individuals;
 - (4) the potential for assistance in an attack from several persons employed at the facility;
 - (5) the potential for suicide attacks;
 - (6) the potential for water-based and air-based threats;
 - (7) the potential use of explosive devices of considerable size and other modern weaponry;
 - (8) the potential for attacks by persons with a sophisticated knowledge of facility operations;
 - (9) the potential for fires, especially fires of long duration;
 - (10) the potential for attacks on spent fuel shipments by multiple coordinated teams of a large number of individuals;
 - (11) the adequacy of planning to protect the public health and safety at and around nuclear facilities, as appropriate, in the event of a terrorist attack against a nuclear facility; and
 - (12) the potential for theft and diversion of nuclear materials from such facilities.

Id. at sec. 651(a)(1), § 170E(b), 119 Stat. at 800.

166. Design Basis Threat, 72 Fed. Reg. at 12,706.

167. See HOLT & ANDREWS, *supra* note 155, at 3.

168. Design Basis Threat, 72 Fed. Reg. at 12,710.

169. *Id.* at 12,710. Shortly after its enactment, several petitioners challenged the revised design-basis-threat rule in the Ninth Circuit. *Pub. Citizen v. NRC*, 573 F.3d 916, 917 (9th Cir. 2009). The Petitioners—Public Citizen Inc., San Luis Obispo Mothers For Peace, the State of New York, and amicus State of California—claimed that the “Commission acted arbitrarily and capriciously and contrary to law by refusing to include the threat of air attacks in the final revised [design-basis-threat] rule” and that the Commission violated NEPA “by not considering the risk of an airborne terrorist attack in its [EA].” *Id.* at 917–18. The Ninth Circuit disagreed and upheld the NRC’s actions. *Id.* at 918. The court found that it was not arbitrary and capricious to limit the scope of the design-basis rule to reasonable expectations of private security forces’ capabilities. *Id.* at 929. Similarly, the court asserted the following in support of its finding that the NRC sufficiently considered the threat of airborne attacks:

It is not implausible for the Commission to determine that most attacks will be prevented in the first instance by the coordinated efforts of multiple federal agencies. It is also not implausible, based on the evidence before the Commission, for the NRC to conclude that, in the event that an airplane is able to strike a facility, the mitigative and protective measures imposed through the [design basis threat] Orders and the revised [design-basis-threat] would likely prevent any serious harm from occurring.

Id. at 926. From these conclusions, the Ninth Circuit dismissed the NEPA claim, finding that the NRC had discretion to exclude air-based threats from the scope of the design-threat rule and, consequently, the NRC was not required to consider the impact of that decision in the EA. *Id.* at 928–29.

II. ARGUMENTS FOR AND AGAINST ASSESSING ACTS OF TERRORISM IN AN EIS

The reasons advanced for not including acts of terrorism in a NEPA analysis are threefold. First, a terrorism evaluation as part of the NEPA analysis does not add anything to the decision-making process for the agency. Second, acts of terrorism are beyond the rule of reason applied to determine the events that need to be considered. Third, the NEPA process is not suitable for sensitive security issues. This Part addresses each of these arguments in turn.

A. *The NRC Does Not Benefit from Evaluating Terrorism in a NEPA Analysis.*

The NRC maintained that it would not benefit from further study of these issues under NEPA because it already adequately addressed the matter through current obligations under the AEA and its ongoing efforts to ensure the security of nuclear power plants.¹⁷⁰ The security threat to nuclear facilities is continually evolving, while the force-on-force exercises continue to expose security vulnerabilities.¹⁷¹ In order for the NRC to fulfill its obligations under the AEA to ensure the common defense and security and provide adequate protection to the health and safety of the public,¹⁷² the NRC continually updates the security of nuclear facilities by issuing orders and revising the regulations.¹⁷³ A NEPA review of the security at nuclear facilities would not add to this continuous evaluation. Additionally, the NEPA process lacks the flexibility that providing nuclear security requires.¹⁷⁴ A NEPA evaluation considers only a snapshot of the potential environmental impact at the particular time of the decision.¹⁷⁵ Therefore, evaluating acts of terrorism under

170. *See* Private Fuel Storage, L.L.C., 56 N.R.C. 340, 356–57 (2002) (“Thus, even if terrorism were a matter cognizable under NEPA . . . it would elevate form over substance to insist that [the NRC] supplement [its] ongoing comprehensive review with a duplicative or formalistic NEPA study.”).

171. *Id.* at 342.

172. 42 U.S.C. § 2232(a) (2006).

173. *See, e.g.*, Protection Against Malevolent Use of Vehicles at Nuclear Power Plants, 59 Fed. Reg. 38,889, 38,889 (Aug. 1, 1994) (codified at 10 C.F.R. pt. 73) (promulgating a final rule requiring nuclear facilities to protect against the new threat of attack via land vehicles); *see also* Order Modifying Operating Power Reactor Licenses, 67 Fed. Reg. 9792, 9792 (Mar. 4, 2002) (providing immediate security measures after September 11th).

174. *See, e.g.*, N.J. Dep’t of Env’tl. Prot. v. NRC, 561 F.3d 132, 141 (3d Cir. 2009) (noting how analysis of nuclear security risks implicates decisions broader than those contemplated by NEPA, and how these decisions must be centralized, not made on a site-specific basis).

175. NEPA requires a site-specific analysis of environmental impacts. *See id.* Advocates for including terrorism in the site-specific EIS have focused on the uniqueness of each plant—for example, reactor type and proximity to population centers—when considering the effects of an attack. *See, e.g.*, Amanda Mott, Comment, *Should the Threat of a Terrorist Attack on a Nuclear Power Plant be Considered Under NEPA Review?*, 12 UCLA J. INT’L L. & FOREIGN AFF. 333, 336–37 (2007). However, as the Third Circuit noted in *New Jersey*, a comprehensive terrorism analysis is not manageable under the limited scope of a NEPA review. *N.J. Dep’t of Env’tl. Prot.*, 561 F.3d at 141.

NEPA would violate the “rule of reason” because doing so would not aid in the decision-making process.¹⁷⁶

However, critics of the NRC’s position argue that excluding these actions from the NEPA process would be inconsistent with NEPA’s aim to inform the public that an agency has considered environmental impacts in its decision.¹⁷⁷ This position ignores the fact that the public may already be properly informed of the NRC’s actions to assess terrorist risks outside of the NEPA process without disclosing confidential information.¹⁷⁸ Although the public is not informed of every detail of the NRC’s security requirements or of the design-basis threats for security purposes, the public nature of the rulemaking process offers assurances to the public that the NRC is addressing the threat of terrorism in accordance with their obligations under the AEA.¹⁷⁹

Critics, such as the Ninth Circuit in *San Luis Obispo*, also point out that “compliance with the AEA does not excuse the [NRC] from its NEPA obligations.”¹⁸⁰ However, this statement of law is moot because, as this Comment sets forth, the NRC is not required to consider terrorist acts to meet its NEPA obligations.¹⁸¹ NEPA evaluations are “supplementary” to the NRC’s responsibilities under the AEA, rather than duplicative.¹⁸² As the Supreme Court stated in *Public Citizen*, the “rule of reason” allows agencies to determine if, and to what extent, they are required to perform an EIS based on the utility of any new information the agency might obtain from the EIS for the decision-making process.¹⁸³ Furthermore, because the NRC continually uses the rulemaking process to update and enforce design-basis threats, a NEPA analysis would provide no new information.¹⁸⁴ As a result of the security requirements and enforcement efforts the NRC has undertaken pursuant to the AEA, an additional NEPA review is duplicative and unnecessary.

176. See *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004) (characterizing the “rule of reason” as a limitation on the scope of NEPA review based on the usefulness of potential information).

177. See Michael Hill, Note, *NEPA at the Limits of Risk Assessment: Whether to Discuss a Potential Terrorist Attack on a Nuclear Power Plant Under the National Environmental Policy Act*, 78 *FORDHAM L. REV.* 3007, 3045 (2010) (arguing that taking action outside of NEPA is insufficient until the public has been properly informed through the NEPA process).

178. See *Private Fuel Storage, L.L.C.*, 56 *N.R.C.* 340, 356 (2002) (describing numerous other efforts taken by the NRC to address risks of terrorism).

179. See, e.g., *Protection Against Malevolent Use of Vehicles at Nuclear Power Plants*, 59 *Fed. Reg.* 38,889, 38,889 (Aug. 1, 1994) (codified at 10 *C.F.R.* pt. 73) (discussing numerous public comments submitted during the NRC rulemaking process).

180. *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1020 (9th Cir. 2006).

181. See *infra* Part III.A.

182. See 42 U.S.C. § 4335 (2006).

183. *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004); see also *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 n.7 (1983); *supra* Part I.C.1.

184. See *supra* Part I.H.

B. NEPA's Rule-of-Reason Analysis

As recognized by courts and agencies alike, the rule of reason governs the application of NEPA.¹⁸⁵ Although this rule is susceptible to a number of different formulations,¹⁸⁶ these formulations can be reduced to three categories: (1) the proximate-cause approach from *Metropolitan Edison* and *Public Citizen*, (2) a reasonably foreseeable standard, and (3) the proposition that agencies are not required to prepare a worst-case analysis.¹⁸⁷

1. Applicability of *Metropolitan Edison* and the Proximate-Cause Argument

The Third and Ninth Circuits both argue that their decisions are consistent with the Supreme Court's analysis in *Metropolitan Edison*.¹⁸⁸ According to the Ninth Circuit in *San Luis Obispo*, the proximate-cause analysis in *Metropolitan Edison* only applies to the causal link between a change in the physical environment and a purported effect of that change, which is separate from, and inapplicable to, the causal link between an agency action and the change in the environment.¹⁸⁹ Although the words of *Metropolitan Edison* could be read in this narrower manner,¹⁹⁰ the Supreme Court's application of the proximate-cause test in *Public Citizen*—as the Third Circuit pointed out in *New Jersey*—does not support the Ninth Circuit's limited approach.¹⁹¹

In *Public Citizen*, a unanimous Supreme Court applied the proximate-cause test between the agency action and the change in the environment.¹⁹² The

185. See, e.g., *Pub. Citizen*, 541 U.S. at 767–68; *Davis v. Latschar*, 202 F.3d 359, 367–68 (D.C. Cir. 2000); see also National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,621 (Apr. 25, 1986) (codified at 10 C.F.R. pt. 1502) (“The rule of reason is basically a judicial device to ensure that common sense and reason are not lost in the rubric of regulation.”).

186. See *Private Fuel Storage, L.L.C.*, 56 N.R.C. 340, 348–49 (2002) (discussing the multiple formulations of the rule of reason in the context of NEPA, including a pure analysis of “reasonably foreseeable” impacts, a rule of reasonableness excluding “remote and speculative” impacts or “worst-case” scenarios,” a rule of reasonableness excluding impacts with “a low probability of occurrence,” and an analysis requiring the “federal action to be the ‘proximate cause’ of [the] impact” (footnotes omitted)).

187. See *infra* Part II.A.1–3.

188. Compare *N.J. Dep't of Env'tl. Prot. v. NRC*, 561 F.3d 132, 139–40, 142 n.10 (3d Cir. 2009) (following *Metropolitan Edison*), with *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1029–30 (9th Cir. 2006) (distinguishing *Metropolitan Edison*).

189. *San Luis Obispo*, 449 F.3d at 1029; see *supra* Part I.F.

190. *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 (1983) (“[T]he terms ‘environmental effect’ and ‘environmental impact’ . . . [should] be read to include a requirement of a reasonably close causal relationship between a change in the physical environment and the effect at issue.” (emphasis added)).

191. See *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 139, 142 n.10 (noting that the Ninth Circuit made no reference to *Public Citizen*).

192. *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 767–68 (2004). In *Public Citizen*, the FMCSA's issuance of interim rules concerning the safety regulations for Mexican motor carriers was the agency action. *Id.* at 760, 768. The increased volume of Mexican motor carriers in the

Court held that the Agency's issuance of regulations was not the cause of the change in the environment because the Agency lacked the ability to prevent change; rather, the President was the proximate cause because he alone could authorize motor-carrier entry.¹⁹³ Likewise, the NRC's decision to exclude potential airborne attacks from NEPA review could not be the proximate cause of the environmental effects of such an attack because the NRC lacks the ability to prevent an airborne attack.¹⁹⁴ The NRC cannot prevent these types of airborne attacks because of two intervening causes: the extraordinary act of a third-party criminal, and some failure on the part of agencies responsible to prevent terrorism.¹⁹⁵ Therefore, applying the proximate-cause test consistent with *Public Citizen*, no reasonably close causal relationship existed between the NRC's licensing action and the change in the physical environment.¹⁹⁶

United States was the damage to the environment. *Id.* at 761, 768. The environmental effect—increased pollution due to exhaust—was a purported result of this increased presence of Mexican trucks. *Id.*

193. *Id.* at 770.

194. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 139–40. The NRC does not control the airspace above the facilities it regulates; rather, Congress and the Federal Aviation Administration (FAA) hold that responsibility. *Id.* at 137. Additionally, the NRC has specifically explained its limited ability to face an airborne threat. *Id.*

195. *Id.* at 140. The Third Circuit analogized to the tort principle that a superseding cause breaks the causal link between a negligent act and a resulting injury. *Id.* In tort law, a negligent defendant generally will not be held liable for injury caused by an intervening criminal act. *See id.* (citing RESTATEMENT (SECOND) TORTS § 142 (1965)). Therefore, by analogy, a criminal act of terrorism on a nuclear facility would function as a superseding cause, severing any causal link between the NRC's licensing action and the impact of the terrorist attack. *Id.* at 140–41. However, the Third Circuit acknowledged that there are some situations in which a third-party criminal act will not be a superseding cause. *Id.* at 140 (“[A]n actor should *anticipate* third-party criminal conduct [in] . . . situations ‘created at a place where persons of peculiar vicious type are likely to be’ who might yield to the temptation, even though the average individual would not do so.” (emphasis added) (citing RESTATEMENT (SECOND) OF TORTS § 448 cmt. b)). After considering the 1965 *Restatement's* six factors used to determine if an intervening act is a superseding cause, the Third Circuit concluded that an act of terrorism on a nuclear facility is a superseding cause. *Id.* at 140–41 (citing RESTATEMENT (SECOND) OF TORTS § 442).

Two commentators have criticized the Third Circuit's six-factor analysis. *See* Amanda Lopez, Note, *NEPA in the Post-9/11 World*, 37 *ECOLOGY L. Q.* 423, 443 (2010); Ben Schiffman, Note, *The Limits of NEPA: Consideration of the Impacts of Terrorism in Environmental Impact Statements for Nuclear Facilities*, 35 *COLUM. J. ENVTL. L.* 373, 400–01 (2010). Both commentators argue that the NRC already anticipates or should anticipate that terrorists “might avail themselves of the opportunity to attack a nuclear power facility.” Schiffman, *supra*, at 400; *see also* Lopez, *supra*, at 443. However, whether the terrorist will take advantage of the opportunity is not the relevant concern to NEPA; rather, NEPA analysis considers whether—in light of the NRC's actions under the AEA and other government actions—the attack will succeed. *See infra* Part II.B.2.

196. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 140–41. Critics of a proximate-cause approach to NEPA argue that proximate cause in tort law is backward-looking regarding liability, rather than forward-looking as in NEPA; therefore, the tort concept is inapplicable. Hill, *supra* note 177, at 3048; *see also* Schiffman, *supra* note 195, at 400–01.

In addition to ignoring *Public Citizen*,¹⁹⁷ the Ninth Circuit failed to consider the relevant decisions of the other circuit courts of appeal.¹⁹⁸ In a factually similar case, the Eighth Circuit affirmed an agency's refusal to reopen the EIS comment period for consideration of terrorist attacks following September 11th reasoning that any "increased threat was general in nature and did not bear specifically on [the project at issue in the case]."¹⁹⁹ Additionally, the D.C. Circuit, citing the Supreme Court's proximate-cause test in *Metropolitan Edison*, stated that the NEPA analysis should not consider actions of "deranged criminal[s]" when assessing environmental impacts.²⁰⁰ In a similar fashion, the Second Circuit upheld the Department of Transportation's refusal to consider the effects of sabotage on the shipment of large quantities of radioactive material on highways because "the risks of sabotage were too far afield for consideration."²⁰¹ As demonstrated above, these decisions leave the Ninth Circuit alone in holding that the environmental impacts of terrorist, or otherwise criminal actions require consideration under NEPA.

197. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 142 n.10; see *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1028–31 (9th Cir. 2006) (failing to consider the *Public Citizen* decision in its analysis).

198. See *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 142–43 (acknowledging other circuit decisions in which the courts disagreed with the *San Luis Obispo* holding); *PG&E Certiorari Petition*, *supra* note 135, at 22.

199. *Mid States Coal. for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 543–44 (8th Cir. 2003). The Mid States Coalition petitioners challenged the decision of the Surface Transportation Board to approve a new rail line and upgrades to existing rail lines through Minnesota and South Dakota. *Id.* at 532. The petitioners had requested that the Board reopen comments on the draft EIS after the comment period had closed but before the Agency's decision, but the Board concluded that additional proceedings were not warranted. *Id.* at 544. In response, one petitioner contended that the Board had violated NEPA by failing to reopen the commentary period to account for terrorist attacks in the Board's EIS. *Id.* at 543–44.

200. *Glass Packaging Inst. v. Regan*, 737 F.2d 1083, 1091 (D.C. Cir. 1984). The Glass Packaging Institute challenged a decision by the Bureau of Alcohol, Tobacco, and Firearms (ATF) to allow the packaging and sale of liquor in plastic bottles. *Id.* at 1084. The Glass Packaging Institute contended that, as a part of the EIS, ATF should have considered potential criminal acts involving the injection of poison into the plastic bottles. *Id.* at 1091. The D.C. Circuit rejected this claim for two reasons. *Id.* at 1091–92. First, the harmful ingestion of liquor that has been criminally injected with poison is beyond the scope of an environmental-impact assessment. *Id.* at 1091. Second, the criminal act of a third party does not create an obligation to assess an environmental effect thereof merely because the act was reasonably foreseeable; rather, the scope of the causal relationship "must be defined by the policies and legislative intent behind NEPA." *Id.* at 1091–92 (citing *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 n.7 (1983)).

201. *New York v. U.S. Dep't of Transp.*, 715 F.2d 732, 750 (2d Cir. 1983). The Department of Transportation adopted a final rule governing the shipment of large quantities of radioactive material on federal highways, which New York challenged. *Id.* at 737–38. The Second Circuit, disagreeing with the district court's conclusion that the Department should have stated its position on the possibility of a sabotage or terrorist act, deferred to the Department's judgment that "the risks of sabotage were too far afield for consideration." *Id.* at 750.

2. Determining the Risk of a Terrorist Attack: Is it Mere Speculation?

In an EIS, the agency is required to evaluate “reasonably foreseeable” events,²⁰² but “NEPA does not require consideration of remote and speculative events.”²⁰³ The Ninth Circuit purported to apply this standard in *San Luis Obispo*.²⁰⁴ The NRC determined that the risk of a terrorist attack, such as those on September 11th, is unquantifiable and so “[a]ny attempt at quantification . . . would be highly speculative.”²⁰⁵ As a result, an act of terrorism is not reasonably foreseeable and warrants no consideration in the NEPA analysis.²⁰⁶

The Ninth Circuit and other commentators have disagreed with this argument, contending that the NRC is able to effectively consider an act of terrorism in an EIS because it has done so in other instances.²⁰⁷ The NRC has taken significant measures to address nuclear security in other contexts, including a “top to bottom” review of terrorism threats.²⁰⁸ The Ninth Circuit found that the NRC could not claim a risk is unquantifiable in one context, and then, in another, take credit for assessing that risk.²⁰⁹ Furthermore, the Ninth Circuit asserted that the NRC could take a *qualitative* approach to terrorism assessments in an EIS as already done in other contexts, such as for severe accident assessments.²¹⁰

202. 40 C.F.R. § 1508.8(a) (2010) (defining “indirect effects,” which must be considered in an EIS under 40 C.F.R. § 1502.15(b), as effects that are “reasonably foreseeable”).

203. *Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719, 739 (3d Cir. 1989).

204. *See San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1030–31 (9th Cir. 2006). According to the Ninth Circuit, an EIS “need not discuss remote and highly speculative consequences.” *Id.* at 1030 (quoting *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1026 (9th Cir. 1980)) (internal quotation marks omitted). The Third Circuit in *New Jersey* analyzed the issue under the proximate-cause test and did not address the whether an act of terrorism is too remote and speculative. *See N.J. Dep’t of Envtl. Prot. v. NRC*, 561 F.3d 132, 142 (3d Cir. 2009).

205. *Private Fuel Storage, L.L.C.*, 56 N.R.C. 340, 350 (2002); *see also N.J. Dep’t of Envtl. Prot.*, 561 F.3d at 143 (citing GEIS FOR LICENSE RENEWAL, *supra* note 137, § 5.3.3.1) (equating terrorist attacks to sabotage and citing to the NRC’s GEIS, which determined that the risk of sabotage is unquantifiable and not reasonably expected).

206. *See, e.g., Private Fuel Storage*, 56 N.R.C. at 351

207. *San Luis Obispo*, 449 F.3d at 1031–32 (“Thus, we conclude that precise quantification of a risk is not necessary to trigger NEPA’s requirements, and even if it were, the NRC has not established that the risk of a terrorist attack is quantifiable.”); *see also Mott*, *supra* note 175, at 352 (explaining that quantifiability is not the sole factor used to assess risk); *Schifman*, *supra* note 195, at 398–99 (identifying other areas in which the NRC exercises control over nuclear-facility security to address concerns with potential airborne attacks, and arguing that such control therefore extends to environmental-impact reviews).

208. *San Luis Obispo*, 449 F.3d at 1032; *see supra* Part I.H (describing new licensing requirements designed to address terrorism concerns, which the NRC imposed in the wake of September 11th).

209. *San Luis Obispo*, 449 F.3d at 1032.

210. *Id.* at 1031–32. The NRC requires that applicants for reactor licenses perform a probabilistic risk assessment of severe accidents in the final safety-analysis report. 10 C.F.R.

In *Weinberger*, the Supreme Court noted that the first of NEPA's twin aims is to require an agency to consider environmental effects during the decision-making process.²¹¹ Expanding on this, the First Circuit in *Sierra Club* identified three factors to consider when determining what environmental impacts are "too speculative to warrant consideration"²¹²: (1) How likely are the impacts to occur? (2) Can the impacts be described with "sufficient specificity" to make consideration of the impacts useful? (3) Would the agency's failure to consider the impacts now, foreclose the possibility of considering them later?²¹³ Subsequently, CEQ has modified the likelihood factor by requiring agencies to consider "impacts which have catastrophic consequences, even if their probability of occurrence is low."²¹⁴

The likelihood factor, when coupled with CEQ's regulations, requires an environmental risk assessment.²¹⁵ The Ninth Circuit and other commentators have noted that the probability of a terrorist attack is significant enough to warrant agency expenditure of resources on appropriate action to protect against such an attack.²¹⁶ However, the Ninth Circuit and these commentators have failed to consider the effectiveness of these actions.²¹⁷ For example, the NRC's post-September 11th design requirements and security measures have reduced the probability of a successful terrorist attack on a nuclear facility.²¹⁸

§ 52.47(a)(27) (2010). A probabilistic risk assessment is a methodology to quantify the risk of a particular hazard by identifying initiating events that would contribute to the hazard, assigning an estimate frequency of each initiating event, and stochastically combining the initiating events to determine a total risk. See *NRC: Fact Sheet on Probabilistic Risk Assessment*, U.S. NRC, <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/probabilistic-risk-asses.html> (last updated Feb. 4, 2011). Performing these analyses is a complex task involving event trees, fault trees, human-reliability analysis, and Monte Carlo statistical methods. *Id.* However, the Ninth Circuit observed that the NRC has permitted a qualitative, rather than quantitative, probabilistic assessment when the quantity of risk is uncertain. *San Luis Obispo*, 445 F.3d at 1031 (citing Proposed Policy Settlement on Severe Accidents and Related Views on Nuclear Reactor Regulation, 48 Fed. Reg. 16,014, 16,020 (Apr. 13, 1983)).

211. *Weinberger v. Catholic Action of Haw./Peace Educ. Project*, 454 U.S. 139, 143 (1981).

212. *Sierra Club v. Marsh*, 769 F.2d 868, 878 (1st Cir. 1985).

213. *Id.*

214. 40 C.F.R. § 1502.22(b)(4) (2009). The regulations governing this section were amended in 1986, subsequent to the First Circuit decision. National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,625–26 (Apr. 25, 1986) (codified at 40 C.F.R. § 1502.22).

215. *Sierra Club*, 769 F.2d at 878; 40 C.F.R. § 1502.22(b)(4). Risk is equal to the probability of occurrence multiplied by the consequences. See BARRY W. BOEHM, TUTORIAL: SOFTWARE RISK MANAGEMENT 6 (1989) (providing a detailed explanation of risk analysis).

216. *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1029 (9th Cir. 2006); see Hill, *supra* note 177, at 3009–11 (describing some of the NRC's post-September 11th security measures and arguing for inclusion of terrorist attacks in NEPA analysis).

217. See, e.g., *San Luis Obispo*, 449 F.3d at 1030–31 (describing the NRC's actions in response to heightened terrorism concerns, but not the successful effects of such measures).

218. See, e.g., Lopez, *supra* note 195, at 446 (describing the new measures enacted in the Energy Policy Act of 2005, as well as the NRC's increased security requirements).

Rather than serving as an independent device, the EIS supplements agency actions in the decision-making process.²¹⁹ Therefore, the efforts of the NRC and the other agencies to prevent a *successful* terrorist attack should inform the NRC's, or any agency's, determination of the likelihood of a potential attack succeeding when deciding whether to include such an attack in an EIS.

As required by the CEQ regulations, reasonably foreseeable risks cannot be ruled out on probability alone because even a small risk could have extreme consequences.²²⁰ When considering these consequences, an agency is required to consider existing "credible scientific evidence."²²¹ Although there are conflicting views, scientific evidence generally supports the conclusion that a breach in reactor containment²²² is unlikely to occur as a result of a terrorist attack, particularly an airplane attack, thus resulting in little environmental consequence.²²³ As a result, the overall risk of radioactive release to the environment (the probability of a *successful* attack multiplied by the likelihood of containment breach) is small, which weighs in favor of the argument that a successful act of terrorism is not reasonably foreseeable.

219. 40 C.F.R. § 1562.4(b) (2010); *see also* N.J. Dep't of Env'tl. Prot. v. NRC, 561 F.3d 132, 139–40 (3d Cir. 2009).

220. 40 C.F.R. § 1502.22(b)(4) (2009).

221. *Id.*

222. Reactors use "defense in depth" and redundancy systems to prevent the release of radioactive material into the environment. NUCLEAR ENGINEERING HANDBOOK, *supra* note 1, at 47. The reactor containment, a hardened building surrounding the reactor and other systems designed to be leak tight, is one barrier to radioactive release. *Id.*

223. *See* BACKGROUND: NUCLEAR SECURITY, *supra* note 10, at 3 ("[T]he NRC initiated a security and engineering review based on the September 11th events. The review looked at what might happen if terrorists used an aircraft to attack a nuclear power plant. The NRC also assessed the potential consequences of other types of terrorist attacks. National experts from Department of Energy (DOE) laboratories used state-of-the-art experiments and structural and fire analyses to assist the NRC. While the details are classified, the studies confirm that the plants are robust, and the likelihood of a radioactive release affecting public health and safety is low."); *see also* HOLT & ANDREWS, *supra* note 155, at 5. However, the Union of Concerned Scientists, which has been a proponent of increased actions to protect against air attacks, concluded that a terrorist attack at the Indian Point power plant in New York would have wide spread and significant consequences. LYMAN, *supra* note 11, at 4. Yet, the Nuclear Energy Institute, a nuclear industry group, has concluded that the impact of an aircraft on *any* nuclear-power-plant containment type in the United States would not breach the containment. NUCLEAR ENERGY INST., DETERRING TERRORISM: AIRCRAFT CRASH IMPACT ANALYSES DEMONSTRATE NUCLEAR POWER PLANT'S STRUCTURAL STRENGTH 1–4 (2002), *available at* <http://www.nei.org/resourcesandstats/documentlibrary/safetyandsecurity/reports/epriplantstructuralstudy> (follow "DOWNLOAD" hyperlink). For new plants, the NRC and the nuclear industry have both considered design changes and modifications to resist a plane attack. Westinghouse has modified its principle reactor design, the AP1000, to resist aircraft penetration by lining the concrete containment structure with steel plates. HOLT & ANDREWS, *supra* note 155, at 6. Additionally, the NRC has issued a rule requiring applicants for new nuclear power plants to perform analysis beyond design-basis threats and to consider the effects of an impact by a large, commercial aircraft. Consideration of Aircraft Impacts for New Nuclear Power Reactors, 74 Fed. Reg. 28,112, 28,112 (June 12, 2009) (codified at 10 C.F.R. pts. 50 & 52).

The second factor from *Sierra Club*—whether the impacts can be described with “sufficient specificity” to make their consideration useful²²⁴—lends some support to the conclusion that a terrorist attack is reasonably foreseeable under NEPA; however, closer examination reveals just the opposite. The NRC could perform numerous engineering evaluations to describe a terrorist attack and its consequences with a high level of specificity.²²⁵ However, these evaluations would not be particularly useful because a terrorist attack could take on a variety of forms, with each permutation presenting a different set of consequences.²²⁶ These numerous permutations could lead the NRC to expend significant resources evaluating the credibility and potential consequences of endless scenarios with sufficient specificity.²²⁷ Furthermore, the NRC and other agencies have already taken action to prevent successful terrorist attacks against nuclear facilities.²²⁸ Although the engineering capability to evaluate these different attack scenarios exists, the evaluations would not be useful if the results were merely hypothetical, rather than based on some likelihood of occurrence.²²⁹ When considered in conjunction with the large range of possible attacks, and the uncertainty associated with the success rate of any given attack, the second factor supports a finding of not reasonably foreseeable.

The third factor from *Sierra Club* also supports the conclusion that a terrorist attack is not reasonably foreseeable under a NEPA analysis when the NRC is licensing a nuclear facility.²³⁰ Failing to consider terrorist attacks at the time of licensing does not foreclose the possibility of considering terrorist threats later.²³¹ In fact, the NRC approach to nuclear security demonstrates the

224. *Sierra Club v. Marsh*, 769 F.2d 868, 878 (1st Cir. 1985).

225. *See e.g., supra* note 224 and accompanying text.

226. *See, e.g., HIRSCH ET AL., supra* note 35, at 90 (describing possible attack scenarios—such as air attacks, water attacks, shelling the facility from a distance—and their possible consequences). A cyber attack is another possible scenario. *See* David E. Sanger, *Iran Fights Malware Attacking Computers*, N.Y. TIMES, Sept. 25, 2010, at 4 (reporting on the Stuxnet worm, which is a computer virus aimed solely at industrial computer equipment, such as equipment used by nuclear facilities).

227. *See infra* Part II.A.3 (discussing worst-case analysis).

228. *See supra* Part I.H.

229. *See supra* note 227 and accompanying text.

230. *Sierra Club v. Marsh*, 769 F.2d 868, 878 (1st Cir. 1985) (explaining the third factor as to whether the agency’s failure to consider the impacts at a certain time will make later consideration of them irrelevant). In *Sierra Club*, the federal government, in conjunction with the State of Maine, decided to build a causeway and seaport. *Id.* at 870. The court found that failing to consider the effects of subsequent development of the area when making the decision to build the causeway would foreclose future consideration of the environmental effects of that development because after the causeway was built the development would be inevitable. *Id.* at 879.

231. *See, e.g., HOLT & ANDREWS, supra* note 155, at 4–6 (discussing how the NRC has modified its licensing regime in the wake of September 11th).

Agency's ability to assess changes after the initial licensing decision.²³² The reactors currently in use were designed before September 11th and not designed to protect against today's terrorist threats.²³³ However, the design-basis-threat regulations were designed to adapt to new threats and are applicable to both new and existing facilities.²³⁴ Therefore, each of *Sierra Club's* three factors supports the conclusion that a terrorist attack on a nuclear facility and a potential radioactive release to the environment is not reasonably foreseeable under NEPA.

3. "Worst-Case" Analysis

One commentator has asserted that "the risk of a terrorist attack on a nuclear power plant is based on numerous feasible scenarios."²³⁵ This illustrates the challenge that the NRC would be faced with if it had to evaluate a terrorist attack in its EISs.²³⁶ Evaluating the various permutations of possible attack scenarios ultimately would drive an agency to conduct a worst-case analysis.²³⁷ It is impractical for the NRC to expend resources generating multiple evaluations of conceivable, but highly speculative, hypothetical situations.²³⁸ Instead, the NRC would be driven to group the possible permutations into a few categories; then perform one bounding analysis for each category using simplified and conservative assumptions. This process is essentially a worst-case analysis, which is no longer required under NEPA.²³⁹

C. The NEPA Process for Sensitive Security Issues

The second aim of NEPA is to provide assurance to the public that an agency has appropriately considered the impacts on the environment as part of the decision-making process.²⁴⁰ NEPA analysis is a largely public process.²⁴¹

232. See *id.* at 5 (noting the flexibility in the NRC's response to September 11th in amending its regulations for obtaining licenses).

233. *Id.* at 4.

234. See *supra* Part I.H.

235. Mott, *supra* note 175, at 352 (using this point to argue that the risk of a terrorist attack should be considered in an EIS).

236. See *supra* notes 225–30 and accompanying text.

237. Cf. National Environmental Policy Act Regulations; Incomplete or Unavailable Information, 51 Fed. Reg. 15,618, 15,621 (Apr. 25, 1986) (codified at 40 C.F.R. pts. 1502) ("[O]ne can always conjure up a worse 'worst case' by adding an additional variable to a hypothetical scenario.").

238. See *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1988) (citing 51 Fed. Reg. at 15,620).

239. 51 Fed. Reg. at 15,620. When it removed the "worst case analysis" requirement from NEPA regulations, CEQ stated that the "requirement is an unproductive and ineffective method of achieving [the original regulation's goals]; one which can breed endless hypothesis and speculation." *Id.*; see also *Robertson*, 490 U.S. at 355–56 (recognizing that the "worst case" regulation was removed).

240. *Weinberger v. Catholic Action of Haw./ Peace Educ. Project*, 454 U.S. 139, 143 (1981).

However, this public aspect conflicts with the “need to protect certain sensitive information.”²⁴² Those advocating inclusion of terrorist attacks in an EIS argue that this challenge is surmountable and should not be used as a basis for their exclusion.²⁴³ Additionally, the Supreme Court held that a NEPA review may be required even though public disclosure of the results would be forbidden by a FOIA exemption, such as the exemption for properly classified documents.²⁴⁴ Therefore, security considerations alone do not preclude a NEPA review.²⁴⁵

III. ACTS OF TERRORISM SHOULD NOT BE CONSIDERED UNDER NEPA

Addressing the problem of terrorism requires a coordinated governmental effort that approaches security in a comprehensive manner. NEPA is not the appropriate vehicle for the level of threat assessment and risk management needed to properly address terrorism.

A. Aspects of NEPA Render It Incapable of Adequately Addressing the Threat of Terrorism

The NRC should not address acts of terrorism in an EIS for several reasons. First, it is unnecessary and redundant. The rule-of-reason analysis articulated by the Supreme Court in *Public Citizen*²⁴⁶ obviates any need to consider terrorism in an EIS. Furthermore, the NRC already addresses acts of terrorism under its statutory obligations in the AEA.²⁴⁷ Repeated analysis in an EIS would spread existing and limited resources unnecessarily, in opposition to the Supreme Court’s “manageable line” approach set forth in *Metropolitan Edison*.²⁴⁸ Notably, the Ninth Circuit in *San Luis Obispo* neither addressed these concerns, nor recognized the controlling precedent of *Public Citizen*.²⁴⁹

Second, as set forth in *Metropolitan Edison*, a “reasonably close causal relationship” between agency action and a potential change in the physical environment is the relevant standard for determining whether terrorism should be addressed in an EIS.²⁵⁰ As the Third Circuit demonstrated in *New Jersey*,

241. Private Fuel Storage, L.L.C., 56 N.R.C. 340, 354 (2002).

242. *Id.* at 354.

243. See *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1034 (9th Cir. 2006); Hill, *supra* note 177, at 3045–46.

244. *Weinberger*, 454 U.S. at 143–46.

245. *San Luis Obispo*, 449 F.3d at 1034 (citing *Weinberger*, 454 U.S. at 143–46).

246. *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 767–68 (2004).

247. See *supra* Parts I.A., I.H.

248. *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 n.7 (1983); see also *supra* Part I.C.1.

249. See *supra* Part II.A.1–3; see also *supra* Parts I.C.2, I.F.

250. *Metro. Edison Co.*, 460 U.S. at 774; see also Part II.A.1.

the relationship between the NRC's action and the effects of a terrorist attack do not fit under this standard as a matter of law.²⁵¹

Finally, even if the Ninth Circuit was correct in finding that the standard in *Metropolitan Edison* does not apply to this relationship,²⁵² the NRC's actions taken to address terrorist attacks at nuclear facilities, combined with actions of other federal agencies and local governments, has significantly reduced the probability of a successful terrorist attack on all facilities.²⁵³ Therefore, the government interaction and the criminal notion of a terrorist attack interrupt any causal connection between the NRC's licensing action and make the efforts of a successful attack "so remote and highly speculative"²⁵⁴ that such efforts are "not reasonably foreseeable."²⁵⁵

B. Terrorism Demands a Holistic Approach

Terrorism is not limited to just one agency, or even just to the purview of the federal government.²⁵⁶ Because of the limited resources at the government's disposal, agencies must be efficient in addressing issues within their scope of authority.²⁵⁷ Agencies must be smart when allocating their funds. Therefore, resources should be spent in the most effective way possible to prevent terrorist attacks.²⁵⁸ For example, the NRC requires private security forces at nuclear facilities to protect against a motorized bomb through various means such as physical barriers and access controls.²⁵⁹ These are practical and effective means for stopping this type of attack.²⁶⁰ But an aircraft attack is different.²⁶¹ Airport security, secured cockpit doors, and foreign intelligence are the appropriate means for addressing such attacks.²⁶² Coordination among governmental entities is required to address terrorism efficiently and effectively.

251. N.J. Dep't of Env'tl. Prot. v. NRC, 561 F.3d 132, 136–43 (3d Cir. 2009).

252. See *supra* Part I.F.

253. See *supra* Parts I.H, II.A.2.

254. After the Ninth Circuit determined that the standard in *Metropolitan Edison* was inapplicable, the court concluded that "so remote and highly speculative" was the appropriate standard. *San Luis Obispo Mothers for Peace v. NRC*, 449 F.3d 1016, 1030–31 (9th Cir. 2006).

255. See *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 140–41 (describing the intervening events between the NRC EIS action and a successful terrorist attack).

256. See, e.g., *id.* at 139 (observing that NRC regulates the security of nuclear facilities while Congress and the FAA are responsible for securing airspace).

257. See *supra* Part I.C.1.

258. See *supra* Part I.C.1.

259. 10 C.F.R. §§ 73.1(a)(1)(iii), 73.1(a)(2)(iii), 73.45 (2010).

260. See *HOLT & ANDREWS*, *supra* note 155, at 1.

261. See *supra* notes 167–69 and accompanying text.

262. See *supra* notes 167–69 and accompanying text.

C. Resolution of the Circuit Split

There are three ways to resolve the circuit split regarding the inclusion of terrorism in an EIS. First, the Supreme Court could address this issue. Second, Congress could create a specific exception to NEPA. Third, the CEQ could issue a rule clarifying that assessments of terrorism attacks are not necessary in an EIS.²⁶³

Legislation and regulation are better options than a judicial ruling for a number of reasons. First, they both directly involve the public, either through communicating with the public during rulemaking or public comment, hearings, and lobbying a legislator during legislation. Second, they both set generally applicable rules rather than deciding a case based on a certain specific set of facts. Although this Comment has particularly focused on the actions of the NRC, the problem of addressing terrorism in an EIS is not unique to the NRC.²⁶⁴ Finally, providing direction through legislation or guidance to *all* agencies through regulation would be more efficient than having individual litigants bring an action against each *individual* agency, each of which has a different approach to protecting against terrorism.²⁶⁵

263. Rulemaking has an additional hurdle that legislative action does not have because rulemaking is likely to be challenged on the same basis as the two principal cases discussed herein. However, a different result is possible because a CEQ rulemaking is entitled to *Chevron* deference. Jeremy Suttner et al., *Unresolved Conflicts: How Revisiting NEPA Section 102(2)(E) Could Increase Efficiency, Simplify Government, and Save Taxpayers Money*, 18 N.Y.U. ENVTL. L.J. 156, 180–81 (2010) (“Outside of CEQ, agency interpretations of NEPA are not entitled to *Chevron* deference . . . [i]nstead, the court will subject an agency’s interpretation . . . to de novo review.”). *Chevron* deference is a three-step process. First, CEQ must be acting within the authority granted to it by Congress. *Gonzales v. Oregon*, 546 U.S. 243, 255–56 (2006) (noting that *Chevron* deference is only appropriate where Congress has properly delegated rulemaking authority to the agency, and that the agency’s challenged interpretation then relies on that authority). Second, Congress must not have expressly spoken on the matter—meaning that the statute is silent or ambiguous. *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837, 842–43 (1984). Third, the court should defer to the agency’s interpretation if it is a permissible construction of the statute. *Id.* CEQ rulemaking would pass all three steps: CEQ is the agency responsible for overseeing the implementation of NEPA, 42 U.S.C. § 4344 (2006); NEPA is silent on the issue of terrorism; and an interpretation that NEPA does not require federal agencies to consider the environmental effects of terrorism would be a permissible reading of the statute, 42 U.S.C. § 4332(2)(C). Therefore, the CEQ action would be subject to *Chevron* deference.

264. For example, the Department of Transportation shares aspects of responsibility for other portions of our nation’s energy infrastructure that may be targets for a terrorist attack. *See, e.g., Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 756 (2004) (involving the issue of whether a sub-agency of the Department of Transportation was required to assess terrorism in the EIS).

265. *See, e.g., Pub. Citizen*, 541 U.S. at 752 (deciding the case brought about the validity of their rules governing Mexican motor carriers by an anonymous individual against the Department of Transportation); *Pub. Citizen v. NRC*, 583 F.3d 916 (9th Cir. 2009) (discussing the NRC’s modifications of a rule governing nuclear power reactors).

IV. CONCLUSION

Although government agencies should address terrorism and its effects directly, the NEPA process is not the appropriate vehicle to do so. Protecting against terrorism demands a holistic approach that uses the coordinated efforts of the federal government and includes all critical infrastructure²⁶⁶ so that relative risk can be considered and resources can be devoted appropriately to different potential targets. As a result, terrorism is not suited for a decision-by-decision analysis as required by the NEPA process. Furthermore, acts of terrorism are beyond the scope of the NEPA process for three reasons. First, evaluating terrorism in NEPA is duplicative with the obligations of the NRC under the AEA; therefore, because it goes beyond the manageable line the Supreme Court has admonished, terrorism is not required to be assessed by NEPA. Second, the proximate-cause argument relied on by the Third Circuit is the appropriate application of Supreme Court precedent. Third, the actions being taken outside of NEPA by the NRC and other government agencies reduce the likelihood of occurrence and success to levels that make an act of terrorism “remote and speculative.” The uncertainty that this circuit split creates is harmful to the effective operation of government agencies. This split should be resolved and, in the absence of resolution by the Supreme Court, the appropriate mechanism to bring about resolution is a public rulemaking process on the issue by CEQ or legislative action.

266. See, e.g., *Pub. Citizen*, 541 U.S. at 752 (involving the FMCSA, which regulates, inter alia, motor carriers on federal highways); *New York v. NRC*, 573 F.3d 916, 917–18 (9th Cir. 2009) (involving the NRC’s modification of its design-basis-threat rule regulating the security of licensed nuclear facilities).

