
NEPA in the Post-9/11 World

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In New Jersey Department of Environmental Protection v. Nuclear Regulatory Commission, the Third Circuit found that the Nuclear Regulatory Commission is not required under the National Environmental Policy Act (NEPA) to examine the environmental impact of possible terrorist attacks on a nuclear power facility before renewing the facility's license. This Note argues that, contrary to the Third Circuit's holding, NEPA requires an Environmental Impact Statement because the relationship between a terrorist attack and the relicensing of a power plant is not too attenuated.

This Note will first provide background on nuclear power facilities and terrorism concerns. Next, this Note will provide an overview of NEPA and a circuit split over whether the Nuclear Regulatory Commission must consider the environmental impact of a possible terrorist attack against nuclear facilities. Finally, this Note will argue that NEPA does, in fact, require consideration of the environmental impact of such an attack. Contrary to the Third Circuit's decision, the Nuclear Regulatory Commission maintains some control over the extent of the environmental impact of a terrorist attack and is not cleared of responsibility to consider environmental impacts in its licensing decisions simply because a terrorist attack against a nuclear facility is a third-party criminal act.

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INTRODUCTION

Former U.S. President George H.W. Bush announced on January 29, 2002, that diagrams of U.S. nuclear power plants and surveillance maps of American cities were found in caves in Afghanistan.¹ This announcement, along with other intelligence indicating that nuclear plants may serve as potential terrorist targets, raised a concern: will a nuclear power facility be the next terrorist target? If that event is deemed likely, the next pertinent questions become how secure our nuclear plants are and how bad the aftermath may be.

While the extent of environmental harm from a successful terrorist attack is uncertain, many have suggested that the results could be catastrophic.² Possible impacts on the human environment include nuclear meltdown,³ widespread radiation exposure,⁴ and contamination of

1. President George W. Bush, Address before a Joint Session of the Congress on the State of the Union (Jan. 29, 2002), available at <http://www.presidency.ucsb.edu/ws/index.php?pid=29644>.

2. See, e.g., MARK HOLT & ANTHONY ANDREWS, CONG. RESEARCH SERV., NUCLEAR POWER PLANTS: VULNERABILITY TO TERRORIST ATTACK 4 (2007); NATURAL RES. DEF. COUNCIL, NUCLEAR FACTS 3 (2007), available at <http://www.nrdc.org/nuclear/plants/plants.pdf>.

3. HOLT & ANDREWS, *supra* note 2, at 4; NATURAL RES. DEF. COUNCIL, *supra* note 2, at 3.

underground aquifers used for irrigation and drinking water.⁵ Fatalities from these effects could total well over five hundred thousand.⁶

These potential consequences raise concerns over how to ensure that the environmental impacts of a terrorist attack are considered when the federal government makes decisions relating to the licensing and operation of nuclear facilities. The National Environmental Policy Act (NEPA) is one tool to account for the environmental effects mentioned above. NEPA was designed to require federal agencies to consider every significant environmental impact of a proposed federal action⁷ and to provide relevant information to the public so that it may be involved in the decision-making process.⁸ NEPA does so by requiring the completion of an Environmental Impact Statement (EIS) for major federal actions that significantly affect the quality of the human environment.⁹ The EIS must include a detailed analysis of the proposed action's impact on the human environment.¹⁰

Currently, the Ninth and Third Circuits are split as to whether NEPA requires the Nuclear Regulatory Commission (NRC) to consider the environmental impact of terrorist attacks against nuclear power plants in its licensing proceedings. The Ninth Circuit, in *San Luis Obispo Mothers for Peace v. NRC (Mothers for Peace)*, held that NRC's categorical refusal to consider the environmental impact of a terrorist attack on a nuclear plant was wrong.¹¹ The Ninth Circuit found that NRC was unreasonable in its view that terrorist attacks are "too 'remote and highly speculative'" to require NEPA.¹² The Third Circuit, in contrast, held that there is no "reasonably close causal relationship" between a relicensing proceeding and the environmental effects of a terrorist attack on a nuclear facility.¹³ Accordingly, the Third Circuit, in *New Jersey*

4. HOLT & ANDREWS, *supra* note 2, at 4; NATURAL RES. DEF. COUNCIL, *supra* note 2, at 3.

5. See NATURAL RES. DEF. COUNCIL, *supra* note 2, at 3; EDWIN S. LYMAN, UNION OF CONCERNED SCIENTISTS, *CHERNOBYL ON THE HUDSON? THE HEALTH AND ECONOMIC IMPACTS OF A TERROR ATTACK AT THE INDIAN POINT NUCLEAR PLANT 37* (2004), available at http://www.ucsusa.org/assets/documents/nuclear_power/indianpointhealthstudy.pdf.

6. See LYMAN, *supra* note 5, at 6.

7. See *Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983) (quoting *Vermont Yankee Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 553 (1978)).

8. *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)).

9. 42 U.S.C. § 4332(2)(C) (2006).

10. *Id.*

11. *San Luis Obispo Mothers for Peace v. U.S. Nuclear Regulatory Comm'n*, 449 F.3d 1016, 1035 (9th Cir. 2006).

12. *Id.* at 1030.

13. *N.J. Dep't of Env'tl. Prot. v. U.S. Nuclear Regulatory Comm'n*, 561 F.3d 132, 136 (3d Cir. 2009).

Department of Environmental Protection v. NRC (New Jersey), found that NEPA does not require NRC to examine the environmental impact of possible terrorist attacks on a nuclear power facility before renewing the facility's license.¹⁴

This Note argues that, contrary to the Third Circuit's holding in *New Jersey*, NEPA requires an EIS because the relationship between a terrorist attack and the relicensing of a power plant is not too attenuated. The Third Circuit is wrong for two reasons. First, the court applied the incorrect test in determining whether NEPA required an EIS for the relicensing of nuclear plants in light of a potential terrorist attack.¹⁵ Second, even if the court were correct in its selection of which test to apply, the court's analysis fails because its superseding cause analysis is flawed. The court incorrectly found that the relationship is too attenuated because a terrorist attack is a third-party criminal act,¹⁶ and the court failed to properly analyze superseding cause factors that favor requiring an EIS.¹⁷ Further, the court drew incorrect parallels between *Department of Transportation v. Public Citizen* and *New Jersey* when it found that there was no reasonably close causal relationship between a terrorist attack and NRC relicensing proceedings.¹⁸ Last, the Third Circuit's analysis mistakenly assumes that NRC and plant operators have no control over the impact of a terrorist attack. This assumption is inconsistent with NRC and government policies,¹⁹ ignores that NRC can take steps to reduce the environmental impact and risk of an attack, and incorrectly overlooks the role of negligence in creating the opportunity for and minimizing the effects of a potential nuclear plant attack.

Part I of this Note will provide a background on nuclear power facilities and terrorism concerns. Part II will provide an overview of NEPA and the circuit split on whether NRC must consider the environmental impact of a terrorist attack against nuclear facilities. Part III will argue that NEPA does, in fact, require consideration of the environmental impact of such an attack.

14. *Id.*

15. *See id.* at 140–44.

16. *See id.* at 140–41.

17. *See id.*

18. *See* Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 760–62, 766 (2004); *cf.* *N.J. Dep't of Envtl. Prot.*, 561 F.3d at 138–41.

19. *See, e.g.*, Energy Policy Act of 2005, Pub. L. No. 109-58, §§ 651–657, 119 Stat. 694 (2005); General Design Criteria for Nuclear Power Plants, 10 C.F.R. § 50 app. A (2009); MARK HOLT & ANTHONY ANDREWS, CONG. RESEARCH SERV., NUCLEAR POWER PLANT SECURITY AND VULNERABILITIES 2–3 (2009); Dep't of Homeland Sec., Homeland Security Advisory System, http://www.dhs.gov/files/programs/Copy_of_press_release_0046.shtm (last visited Sept. 14, 2009); U.S. Nuclear Regulatory Comm'n, Emergency Preparedness in Response to Terrorism, <http://www.nrc.gov/about-nrc/emerg-preparedness/respond-to-emerg/response-terror.html> (last visited Mar. 7, 2010).

I. NUCLEAR FACILITIES AND TERRORISM BACKGROUND

A. Nuclear Power Facilities in the United States

There are currently 104 operating nuclear reactors in the United States.²⁰ Each facility is regulated by NRC, an independent agency.²¹ A commercial nuclear power facility must obtain an initial license from NRC, valid for forty years, to begin operation.²² NRC may relicense a facility at the end of the forty-year initial license,²³ provided that the facility manages the effects of aging²⁴ and evaluates the environmental impact of plant operation for an additional twenty years.²⁵

As relates to terrorism, the reactor is one of the most vulnerable areas of a nuclear power facility.²⁶ The reactor is where the fission process is initiated to generate electrical power.²⁷ A nuclear reactor's structure may be penetrated by a crashing jetliner, causing an explosion that would release radioactive material.²⁸ However, nuclear reactors may be made less vulnerable to crashing jetliners by lining the inside and outside of the reactor's containment structure with steel plates.²⁹ An additional method of improving nuclear reactor security is constructing aircraft barriers around the plant with steel beams and cables, known as the "beamhenge" concept.³⁰

An area of greater concern for many is a plant's spent fuel pool.³¹ Spent fuel pools store used radioactive fuel assemblies, which have been removed from the reactor core, in a concrete pit under twenty feet of

20. U.S. Nuclear Regulatory Comm'n, Map of the United States Showing Locations of Operating Nuclear Power Reactors, <http://www.nrc.gov/info-finder/reactor/> (last visited Oct. 17, 2009).

21. 42 U.S.C. § 2133 (2006); U.S. Nuclear Regulatory Comm'n, About NRC, <http://www.nrc.gov/about-nrc.html> (last visited Oct. 17, 2009).

22. 42 U.S.C. §§ 2011, 2133.

23. *Id.* § 2133(c).

24. 10 C.F.R. § 54.29 (2009).

25. 10 C.F.R. § 51.20(b)(2).

26. UNION OF CONCERNED SCIENTISTS, NUCLEAR REACTOR SECURITY (2005), available at http://www.ucsusa.org/nuclear_power/nuclear_power_risk/sabotage_and_attacks_on_reactors/nuclear-reactor-security.html.

27. See European Nuclear Soc'y, What is a Nuclear Reactor?, <http://www.euronuclear.org/info/energy-uses.htm> (last visited Feb. 4, 2010).

28. See 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, 340 (2007).

29. See HOLT & ANDREWS, *supra* note 19, at 3–4.

30. See *id.* at 5.

31. Gary Stoller, *Nuclear Plants Near Airports May be at Risk*, USA TODAY, June 10, 2003, available at http://www.usatoday.com/money/biztravel/2003-06-10-nuclear_x.htm.

water.³² The fuel pool water is used to chill the spent fuel assemblies and must be kept cool.³³ If the water is not cooled, it will boil or drain away and result in the spent fuel assemblies melting or catching fire.³⁴ It has been estimated that the radiation emitted from such melting or fire could kill thousands of people.³⁵

Spent fuel pools are seen by some as particularly vulnerable to terrorist attacks.³⁶ Spent fuel pools contain more radioactive fuel than reactor cores.³⁷ In addition, spent fuel pool building roofs are typically constructed from corrugated metal or reinforced concrete,³⁸ whereas reactor core structures are often made of a thicker reinforced concrete and steel lining.³⁹ A crack in the concrete wall or floor of the spent fuel building large enough for water to drain can also cause harm, even if the building is not completely destroyed.⁴⁰ Last, spent fuel pools for plants with boiling water reactors are particularly vulnerable because they are “located above ground in the building surrounding the primary reactor containment structure,” whereas pressurized water reactors tend to have spent fuel pools below ground.⁴¹

Those concerned about the risks of the spent fuel pool system view the dry cask storage system as a safer alternative.⁴² Dry cask storage involves loading spent fuel assemblies that have cooled for a year into

32. Union of Concerned Scientists, Spent Fuel Security, *available at* http://www.ucsusa.org/nuclear_power/nuclear_power_risk/sabotage_and_attacks_on_reactors/spent-reactor-fuel-security.html (last visited Mar. 17, 2010); U.S. Nuclear Regulatory Comm’n, Spent Fuel Pools, <http://www.nrc.gov/waste/spent-fuel-storage/pools.html> (last visited Mar. 7, 2010).

33. Union of Concerned Scientists, *supra* note 32.

34. *Id.*

35. *Id.* (stating that “NRC studies have estimated that many thousands of people living within 50 miles could die from the radiation released when spent fuel assemblies melt or catch on fire”); Richard Webster & Julia LeMense, *Spotlight on Safety at Nuclear Power Plants: The View From Oyster Creek*, 26 PACE ENVTL. L. REV. 365, 374 (2009) (stating that “estimates show that one fuel pool fire could cause 24,000 lung cancers and economic damage that could be ten times that caused by Hurricane Katrina”).

36. *See* Union of Concerned Scientists, *supra* note 33.

37. *See id.*; COMM. ON THE SAFETY & SEC. OF COMMERCIAL SPENT NUCLEAR FUEL STORAGE, NAT’L RESEARCH COUNCIL, SAFETY AND SECURITY OF COMMERCIAL SPENT NUCLEAR FUEL STORAGE 36 (2006) (stating that terrorists might target spent fuel pools because they “typically contain inventories of medium- and long-lived radionuclides that are several times greater than those contained in individual reactor cores”).

38. *See* Stoller, *supra* note 31; COMM. ON THE SAFETY & SEC. OF COMMERCIAL SPENT NUCLEAR FUEL STORAGE, *supra* note 37, at 36 (stating that terrorists might target spent fuel pools because they are “less well protected structurally than reactor cores”).

39. Union of Concerned Scientists, *supra* note 33.

40. *Id.*

41. *Id.*

42. *See* Stoller, *supra* note 31.

steel canisters.⁴³ The canisters are often reinforced with additional layers of concrete and steel.⁴⁴ The canisters are welded or bolted shut and stored above ground at the plant site.⁴⁵ Spent fuel in dry cask storage is less likely to catch fire.⁴⁶ If a plane were to crash into a dry cask storage system, less radiation would be released than if a plane crashed into a spent fuel pool.⁴⁷ However, dry casks still present security concerns. Casks can be penetrated by explosives, weapons available on the black market, and some weapons legally purchased in the United States.⁴⁸ Further, some plants store casks in areas that are visible from unsecured areas.⁴⁹ Other plants leave casks behind unguarded chain-link fences.⁵⁰

B. *Terrorism and Nuclear Power Facilities*

Since the terrorist attacks of September 11, 2001, there have been several indications that U.S. nuclear power plants may serve as targets of future attacks. For example, on January 23, 2002, NRC circulated a confidential memo to all U.S. nuclear power plants warning of terrorist plans to “fly a commercial aircraft into a nuclear power plant.”⁵¹ The memo referred to an interrogation of an Al Qaeda senior operative who had stated that a second airline attack was already planned and that three individuals were in the United States recruiting non-Arabs to help execute the plan.⁵² According to the operative, the target nuclear plant was to be chosen by the team in the United States.⁵³ The threat was “thoroughly vetted,” although it subsequently could not be verified.⁵⁴ While the FBI could not provide an assessment of the threat’s credibility, the inadvertently recirculated memo revealed that FBI agents in Washington State contacted the state’s only nuclear power plant, Columbia Generating Station.⁵⁵ The memo did not elaborate further, however it seems relevant that the intelligence community issued an

43. U.S. Nuclear Regulatory Comm’n, Typical Dry Cask Storage System, <http://www.nrc.gov/waste/spent-fuel-storage/diagram-typical-dry-cask-system.html> (last visited Jan. 11, 2010).

44. *Id.*

45. *Id.*

46. Union of Concerned Scientists, *supra* note 33.

47. Stoller, *supra* note 31.

48. Union of Concerned Scientists, *supra* note 33.

49. *Id.*

50. *Id.*

51. Steve Young, *Nuclear Plants Possible Terror Targets, Memo Warns*, CNN, Feb. 1, 2002, available at <http://www.nci.org/02NCI/02/cnn-02.htm>.

52. *Id.*

53. *Id.*

54. *Id.*

55. *Id.*

“assessment of intent” report in January 2002 stating that Al Qaeda had looked at possibly flying an airplane into a Washington power facility.⁵⁶

In February 2002, the FBI stated that law enforcement and intelligence agencies “ha[d] received indications” that Al Qaeda has sought information about computer software used to monitor and control industrial plant status and records.⁵⁷

In June 2002, Al Jazeera reporter Yuri Fouda interviewed two prominent Al Qaeda members.⁵⁸ After being blindfolded and taken to another location in Pakistan, the reporter interviewed the two Al Qaeda operatives over the course of forty-eight hours.⁵⁹ In one of the interviews, top Al Qaeda leader Khalid Shaikh Mohammed stated that when 9/11 was first planned “the first targets considered were nuclear facilities.”⁶⁰ Fouda quoted Mohammed as explaining that the leaders “decided against it for fear it would go out of control,” but warned that the decision to leave out nuclear targets only extended “[f]or now.”⁶¹

On September 10, 2002, Al Jazeera aired a video originating from Al Qaeda.⁶² The video, which included comments from individuals believed to be a 9/11 hijacker and Osama bin Laden, also hinted at future terrorist attacks against nuclear power facilities.⁶³

Relevant to the clear indications of nuclear threat, the Government Accountability Office (GAO) has found NRC’s inspection system to lack proper oversight of nuclear security issues. In a 2003 report, the GAO found that NRC’s oversight of nuclear facilities was weak because NRC’s inspection system minimized the seriousness of some security problems.⁶⁴ For example, NRC’s discovery of a security guard sleeping on duty for over half an hour was treated only as a non-cited violation because there was no actual attack at the time of the incident and the guard had not been found sleeping more than twice that year.⁶⁵ At another plant, a security officer falsely indicated in logs that he had checked vital area

56. *Id.*

57. *Id.*

58. Josh Meyer, *Al Qaeda Tape Hints as Targets*, LOS ANGELES TIMES, Sept. 10, 2002, available at <http://articles.latimes.com/2002/sep/10/nation/na-threats10>.

59. *Id.*

60. *Id.*

61. *Id.*; see also NAT’L COMM’N ON TERRORIST ATTACKS UPON THE U.S., OUTLINE OF THE 9/11 PLOT 12–13 (2004), available at http://govinfo.library.unt.edu/911/staff_statements/staff_statement_16.pdf (stating that the initial 9/11 proposal included nuclear power plants).

62. HOLT & ANDREWS, *supra* note 19, at 4.

63. See Meyer, *supra* note 58.

64. U.S. GOV’T ACCOUNTABILITY OFFICE, REP. NO. GAO-03-752, NUCLEAR REGULATORY COMMISSION: OVERSIGHT OF SECURITY AT COMMERCIAL NUCLEAR POWER PLANTS NEEDS TO BE STRENGTHENED 9 (2003).

65. *Id.* at 12.

doors and barriers.⁶⁶ The security guard, who was actually in another part of the plant at the time of the supposed area check, was the only protection for the area.⁶⁷ Security officers at another plant failed to search individuals who had triggered both walk-through and hand-held metal detectors.⁶⁸ These same individuals were allowed to walk unescorted through protected areas of the plant.⁶⁹ Finally, a GAO inspector discovered that the plant's tamper alarms were disabled on an access door to an area with sensitive equipment.⁷⁰ The limited NRC response to this last incident was to require a guard to check the location once every twelve hours.⁷¹

The GAO found other problems with NRC's inspection system. For example, NRC lacked a "routine, centralized process for collecting, analyzing, and disseminating security inspections."⁷² As a result, NRC would not be able to identify common problems or share useful information to help resolve security problems among the plants.⁷³ Additionally, the GAO found that NRC's force-on-force exercises, or mock intruder attacks, had limited usefulness because exercises were conducted infrequently and against better-than-usual plant defenses, used mock intruders trained in terrorist tactics, and used unrealistic weapons.⁷⁴ Further, exercises did not test the full extent of the "design basis threat,"⁷⁵ which "describes general characteristics of adversaries that nuclear plants and nuclear fuel cycle facilities must defend against to prevent radiological sabotage and theft of strategic special nuclear material."⁷⁶

Additionally, the GAO found that NRC's design basis threat may not adequately represent the terrorist threat reflected in intelligence data.⁷⁷ The GAO noted that NRC's incorporation of stakeholder feedback on the new version of the design basis threat was particularly concerning because this situation "created the appearance that changes were made based on what industry considered reasonable and feasible to defend against, rather than on what an assessment of the actual terrorist

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.* at 13.

73. *Id.*

74. *Id.* at 13–18.

75. *Id.* at 19.

76. HOLT & ANDREWS, *supra* note 19, at 2.

77. U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 64, at 19.

threat called for.”⁷⁸ For example, the Nuclear Energy Institute (NEI), which represents the nuclear power industry, complained about the cost to protect against weapons that NRC’s draft design basis threat listed as possible weapons that could be used in an attack.⁷⁹ In response to such complaints, the NRC staff removed many of the weapons that NEI had objected to from the final draft of recommendations for NRC’s design basis threat.⁸⁰ The GAO found that this feedback process between NRC and NEI created the “appearance of industry influence” and raised the question of how much the design basis threat actually reflected the terrorist threat indicated by intelligence.⁸¹

In 2006, the GAO found that plant security had improved since 2003, but weaknesses still existed.⁸² At one plant site, some or all mock terrorists successfully entered protected areas of the plant in three force-on-force scenarios.⁸³ In two of those scenarios, the attackers successfully reached their targets.⁸⁴ The plant operator of this site subsequently invested \$37 million in security enhancements following these failures.⁸⁵ After these improvements, a second set of force-on-force exercises was conducted, resulting in NRC’s conclusion that the plant was sufficiently prepared to withstand the design basis threat.⁸⁶

C. *The Environmental Repercussions of a Terrorist Attack*

While specific information concerning the extent of the harm is generally classified or uncertain due to the number of unknown variables, a successful terrorist attack will undoubtedly harm the human environment. Some groups suggest that a successful terrorist attack could result in a meltdown,⁸⁷ widespread radiation exposure,⁸⁸ or contamination

78. HOLT & ANDREWS, *supra* note 2, at 5; see U.S. GOV’T ACCOUNTABILITY OFFICE, REP. NO. GAO-06-555T, PLANTS HAVE UPDATED SECURITY, BUT THE NUCLEAR REGULATORY COMMISSION NEEDS TO IMPROVE ITS PROCESS FOR REVISING THE DESIGN BASIS THREAT 1 (2006).

79. *Id.* at 10.

80. *Id.*

81. *Id.* at 9.

82. *Id.* at 13–14.

83. *Id.*

84. *Id.* at 14. However, the outcome of these two scenarios was contested due to “uncertainties regarding whether the attackers had actually been neutralized before reaching the targets.” *Id.*

85. *Id.*

86. *Id.*

87. HOLT & ANDREWS, *supra* note 2, at 5. A core meltdown is the most serious nuclear accident. In a worst-case meltdown, nuclear fuel melts, breaching the containment building walls and releasing large amounts of radiation into the environment. U.S. Nuclear Regulatory Comm’n, Background on the Three Mile Island Accident, <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mile-isle.html> (last visited Feb. 24, 2010).

88. HOLT & ANDREWS, *supra* note 2, at 5.

of underground aquifers used for irrigation and drinking water.⁸⁹ A 1982 study concluded that a meltdown at Indian Point, a nuclear plant located about thirty-five miles from Manhattan, would result in 50,000 near-term deaths and 14,000 long-term deaths.⁹⁰ A recent study also had dire conclusions: a successful aerial attack against Indian Point might result in 44,000 near-term deaths from radiation syndrome and 518,000 long-term cancer deaths within a 50-mile radius, depending on wind patterns.⁹¹ A terrorist attack might result in fatalities not only from direct inhalation and exposure from radiological material, but also from food and water contamination.⁹² The extent of damage will vary on several factors, such as characteristics specific to the nuclear facility, fuel loading and weight of the plane, and angle of attack.⁹³

II. LEGAL FRAMEWORK

A. *The National Environmental Policy Act of 1969*

NEPA creates a “national policy [to] encourage productive and enjoyable harmony between man and his environment.”⁹⁴ NEPA has “twin aims.”⁹⁵ First, NEPA requires federal agencies to consider “every significant aspect of the environmental impact of a proposed action.”⁹⁶ Second, NEPA “ensures that the agency will inform the public that it has indeed considered environmental concerns in its decision-making process.”⁹⁷ The Supreme Court has also characterized this second aim as to ensure that the “relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.”⁹⁸

To achieve these goals, NEPA creates procedures that require consideration of the environmental impact of major federal actions.⁹⁹ One of these procedural requirements is the completion of an EIS, a detailed

89. See NATURAL RES. DEF. COUNCIL, *supra* note 2, at 3.

90. LYMAN, *supra* note 5, at 13.

91. *Id.* at 4.

92. *Id.* at 38.

93. *Id.* at 31. For example, attacks caused by jetliners with large fuel loads might cause “fires that would greatly complicate rescue and recovery efforts.” *Id.* at 30–31.

94. 42 U.S.C. § 4321 (2006).

95. Baltimore Gas & Elec. Co. v. Natural Res. Def. Council, Inc., 462 U.S. 87, 97 (1983).

96. *Id.* (quoting Vermont Yankee Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 553 (1978)).

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

98. Dep’t of Transp. v. Pub. Citizen, 541 U.S. 752, 768 (2004) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989)).

99. See *Robertson*, 490 U.S. at 350; *Pub. Citizen*, 541 U.S. at 752.

statement prepared in advance of major federal actions that will significantly affect the human environment.¹⁰⁰ The EIS must discuss the environmental impact of the action, unavoidable adverse environmental effects if the proposal is implemented, alternatives to the proposal, and any irreversible and irretrievable resources that the proposal would require if implemented.¹⁰¹

An agency must prepare an Environmental Assessment (EA) if the proposed action does not typically require an EIS or is not categorically excluded from the requirement of preparing an EIS.¹⁰² An EA is a public document that provides evidence and analysis sufficient to determine whether it is necessary to prepare an EIS.¹⁰³ After preparing an EA, the agency may determine whether an EIS is required.¹⁰⁴ If the agency determines that an EIS is not required, the agency must explain why the action will not have a significant impact on the environment.¹⁰⁵ If the agency determines an EIS is required, the agency must prepare an EIS.¹⁰⁶

B. *NEPA and Terrorism in Nuclear Power Facility Relicensing*

The Ninth and Third Circuits are split on whether potential terrorist attacks on nuclear power facilities require an EIS under NEPA. While the Third Circuit has found that NEPA does not require the preparation of an EIS, the Ninth Circuit has held that NRC's reasons for categorically refusing to consider the environmental impact of a terrorist attack on a nuclear plant were unreasonable.¹⁰⁷

1. *Ninth Circuit View*

In *Mothers for Peace*, the Ninth Circuit held that NRC failed to comply with NEPA when it refused to consider the environmental impact of a terrorist attack on the Diablo Canyon nuclear facility and a proposed interim spent fuel storage installation.¹⁰⁸ Prior to the suit, NRC determined that NEPA did not apply categorically to the environmental effects of terrorism.¹⁰⁹ NRC presented four reasons that "cut[] against using the NEPA framework" to consider the environmental impact of a

100. 42 U.S.C. § 4332(2)(C) (2006).

101. *Id.*

102. 40 C.F.R. § 1501.4 (2009).

103. *Id.* § 1508.9(a).

104. *Id.* § 1501.4(e).

105. *Id.* §§ 1501.4(e), 1508.13.

106. *Id.* § 1501.4(c).

107. *San Luis Obispo Mothers for Peace v. U.S. Nuclear Regulatory Comm'n*, 449 F.3d 1016, 1035 (9th Cir. 2006).

108. *Id.* at 1023.

109. *Id.* at 1922, 28

terrorist attack.¹¹⁰ First, NRC stated that the possibility of a terrorist attack was “highly speculative” and too “remote” to trigger NEPA’s requirements.¹¹¹ Second, NRC determined that any environmental impact analysis of a terrorist attack would be meaningless because the risk of the attack cannot be calculated.¹¹² Third, NRC stated that NEPA does not require a “worst-case” analysis.¹¹³ Last, NRC determined that consideration of environmental effects of terrorist attacks is not appropriate under NEPA’s public process due to security issues.¹¹⁴

The Ninth Circuit, conversely, found that the possibility of a terrorist attack was not too remote or speculative to trigger NEPA requirements.¹¹⁵ The court first explained that NRC incorrectly relied on *Metropolitan Edison Co. v. People against Nuclear Energy*.¹¹⁶ *Metropolitan Edison* held that when determining whether NEPA requires the review of a particular effect, the relationship between the effect and the change in the environment resulting from a federal action must be a “reasonably close causal relationship,” similar to proximate cause.¹¹⁷ Unlike in *Metropolitan Edison*, where the disputed relationship was between a change in the physical environment and an effect, the disputed relationship in *Mothers for Peace* was between a change in the physical environment and a federal action.¹¹⁸ When the disputed relationship is between a change in the physical environment and a federal action, the appropriate analysis is not whether there is a reasonably close causal relationship between the action and change, but instead whether the change in the physical environment—here, a terrorist attack—is so remote and speculative that NEPA does not require consideration of its

110. *Id.* at 1028 (quoting *Private Fuel Storage L.L.C.*, 56 N.R.C. 349, 348 (2002)).

111. *Id.* at 1030.

112. *Id.* at 1028.

113. *Id.*

114. *Id.*

115. *Id.* at 1030.

116. *Id.* at 1029.

117. *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 (1983). In *Metropolitan Edison*, NRC planned to reopen Three Mile Island, which had been shut down due to an accident. *Id.* at 768. The petitioners argued that NEPA required NRC to consider the potential negative impact on community members’ psychological health resulting from anxiety regarding the risk of another accident after the plant reopened. *Id.* at 769. The Court held that risk and perception of risk by petitioners were “necessary middle links” in the causal chain between plant operation and decline in psychological health, *id.* at 775, thereby making the causal relationship between plant operation and psychological health too attenuated to trigger NEPA. *Id.*

118. *San Luis Obispo Mothers for Peace*, 449 F.3d at 1029–30. Thus, in *Metropolitan Edison*, the disputed relationship was between the risk of another accident due to the renewed operation of Three Mile Island and the effect of decreased psychological health, whereas, the disputed relationship in *Mothers for Peace* was between a terrorist attack and the federal action of licensing an interim spent fuel installation. *Id.*

potential effects on the environment.¹¹⁹ The court noted that NRC's argument that terrorist attacks are too remote and speculative was inconsistent with both government and NRC efforts and expenditures to prevent terrorist attacks against nuclear facilities.¹²⁰

The Ninth Circuit also found that the environmental impact of a terrorist attack is not free from NEPA analysis simply because NRC could not precisely quantify the probability of such an attack occurring.¹²¹ The court reasoned that as long as the risk of a terrorist attack is not insignificant, NEPA requires an agency to take a "hard look" at the environmental effects of that risk.¹²² NRC's preventative measures against terrorist attacks indicate that NRC does not view terrorism as an insignificant risk.¹²³ Thus, the unquantifiable, but not insignificant, risk of a terrorist attack still triggers NEPA requirements.¹²⁴

The Ninth Circuit also found that while NRC is not required to conduct worst-case analysis, NRC incorrectly equated the petitioner's request for an EIS of a terrorist attack with worst-case analysis.¹²⁵ The petitioners did not seek analysis of the most extreme environmental effects of a terrorist attack; rather, they sought analysis of the range of environmental effects likely to result from a terrorist attack on the storage installation.¹²⁶

Last, the court found that the security concerns of revealing sensitive information to the public may justify altering NEPA's procedures, but does not justify refusing to comply with NEPA altogether.¹²⁷ The court noted that there is no "national defense" exception to NEPA.¹²⁸ While sensitive security issues may justify modification of NEPA procedures, it does not support a waiver of NEPA requirements.¹²⁹

Since *Mothers for Peace*, the NRC has required NRC staff to conduct an EA of possible terrorist attacks against nuclear facilities in licensing proceedings within the Ninth Circuit's jurisdiction.¹³⁰ The NRC indicated that "[it] should rely on as much public information as practicable and make public as much of its environmental analysis as

119. *Id.* at 1030.

120. *Id.*

121. *Id.* at 1031–32.

122. *Id.* at 1032.

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.* at 1034.

127. *Id.*

128. *Id.* at 1035 (quoting *No GWEN Alliance of Lane County, Inc. v. Aldridge*, 855 F.2d 1380, 1384 (9th Cir. 1988)).

129. *Id.* at 1034.

130. See *In re Areva Enrichment Services, LLC (Eagle Rock Enrichment Facility)*, No. 70-7015, 2009 WL 2218195, at *3 (N.R.C. 2009).

feasible recognizing, however, that it may prove necessary to withhold some facts underlying the staff's findings and conclusions" if such facts are classified, restricted, sensitive, or involve national security.¹³¹ The NRC also noted that the EIS should be made available to the public, but portions of the report may be withheld from the public pursuant to a federal regulation¹³² exempting the release of various types of information to the public, including classified information impacting national security.¹³³

2. *Third Circuit View*

In contrast to the Ninth Circuit, the Third Circuit held in *New Jersey* that NRC is not required under NEPA to examine the environmental impact of possible terrorist attacks on a nuclear power facility before renewing the facility's license.¹³⁴ The New Jersey Department of Environmental Protection (NJDEP) petitioned the court for review of NRC's denial of its request to intervene in relicensing proceedings for the Oyster Creek Nuclear Generating Station.¹³⁵ NJDEP argued that NEPA requires an assessment of the environmental impacts of a possible terrorist attack.¹³⁶ NJDEP claimed that the EIS should have included a design basis threat analysis, which is used to create safeguards against radiological sabotage, to prevent theft of nuclear material, and to "analy[ze] mitigation alternatives for core melt sequences likely to result from an aircraft attack."¹³⁷ NRC denied the request, finding a design basis threat analysis unnecessary because terrorist attacks are "too far removed from the natural or expected consequences of agency action."¹³⁸ Additionally, NRC ruled that it already addressed the environmental impact of a terrorist attack when it concluded that the impact of such an attack would be no worse than internally initiated events.¹³⁹

131. *Id.*

132. *Id.*; see also 10 C.F.R. § 2.390 (2009).

133. 10 C.F.R. § 2.390(a)(1).

134. *N.J. Dep't of Env'tl. Prot. v. U.S. Nuclear Regulatory Comm'n*, 561 F.3d 132, 133 (3d Cir. 2009).

135. *Id.* at 133.

136. *Id.*

137. *Id.* at 135.

138. *Id.* at 133.

139. *Id.* at 135–36. However, this holding did not address the fact that a mitigating factors included in an EIS for terrorism might differ from an EIS for an accident mitigating alternatives. See U.S. Nuclear Regulatory Comm'n, Hostile Action Based Emergency Preparedness (EP) Drills, <http://www.nrc.gov/about-nrc/emerg-preparedness/respond-to-emerg/hostile-action.html> (last visited Mar. 26, 2010) (stating that "[e]ven though the radiological consequences will be the same whether caused by a Hostile Action or a plant event, Hostile Actions would provide unique challenges for emergency responders").

The Third Circuit agreed with NRC, holding that NEPA does not require an assessment of the environmental effects of a potential terrorist attack on a nuclear facility.¹⁴⁰ The court reasoned that NJDEP had not demonstrated a “reasonably close causal relationship” between the relicensing proceeding and the environmental impact of a terrorist attack.¹⁴¹ Additionally, the court noted that even if NEPA required an EIS of such an attack, NRC already considered the environmental impacts of a terrorist attack and NJDEP failed to demonstrate that NRC could provide a more meaningful analysis of the associated risks.¹⁴²

In determining when an EIS is required under NEPA, the court referred to *Metropolitan Edison*¹⁴³ and *Public Citizen*.¹⁴⁴ The Third Circuit cited *Metropolitan Edison* for the proposition that “NEPA attaches only when there is a ‘reasonably close casual relationship between a change in the physical environment and the effect at issue.’”¹⁴⁵ The court also noted that the Supreme Court likened the causation required for NEPA to tort law’s theory of proximate cause.¹⁴⁶

The Third Circuit also relied on *Public Citizen* for the proposition that an EIS is not necessary when it would serve no purpose under NEPA, such as when the agency has no control over whether a certain action is taken and therefore cannot alter the action in light of its environmental impact or public response.¹⁴⁷ The court noted that NEPA applies only to major federal actions with potentially major effects that may be subject to federal control.¹⁴⁸ While the term “effect” includes reasonably foreseeable indirect effects that occur later in time, the indirect effects must be caused by the federal action.¹⁴⁹ Further, the court noted the Supreme Court’s instruction that courts “draw a manageable line between those causal changes that may make an actor responsible for an effect and those that do not.”¹⁵⁰ Based on *Metropolitan Edison* and *Public Citizen*, the court interpreted this line to mean the “limits of an agency’s area of control.”¹⁵¹

140. *N.J. Dep’t of Env’tl. Prot.*, 561 F.3d at 133.

141. *Id.* at 136.

142. *Id.* at 136–37.

143. *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766 (1983).

144. *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752 (2004).

145. *N.J. Dep’t of Env’tl. Prot.*, 561 F.3d at 137 (quoting *Metro. Edison Co.*, 460 U.S. at 774).

146. *Id.*

147. *Id.* at 139.

148. *Id.* at 138.

149. *Id.*

150. *Id.* at 139 (quoting *Dep’t of Transp. v. Public Citizen*, 541 U.S. 752, 767 (2004)).

151. *Id.*

The court ultimately held that a terrorist aircraft attack did not have a reasonably close causal relationship to NRC's relicensing decision.¹⁵² A terrorist attack is out of NRC's control because it does not control airspace.¹⁵³ An airborne attack on a nuclear facility would require two intervening events: the actions of a criminal and the failure of all agencies responsible for preventing terrorist attacks.¹⁵⁴ The court stated that this conclusion was supported by a traditional tort law causation analysis.¹⁵⁵ However, the court also distinguished traditional tort law causation from NEPA causation analysis on one significant point.¹⁵⁶ Although "relevant tort law concepts are premised on the idea that the actor, NRC in this case, engages in underlying negligent conduct," the court assumed that causation analysis under NEPA differs from tort law in this respect since cases that have analyzed NEPA did not focus on the negligence of a federal actor.¹⁵⁷

In making its decision, the court also referred to the discussion in the Restatement of Torts of the role of criminal conduct in causation analysis. The court noted that the Restatement acknowledges that an actor should anticipate criminal conduct when the actor creates a situation that tempts "peculiarly vicious" persons.¹⁵⁸ However, the court found that NJDEP failed to demonstrate that such a situation had been created.¹⁵⁹

The court also considered the six Restatement factors for determining superseding causes: (1) whether the harm resulting from third party action differs from the harm that results from the actor's negligence; (2) whether the event is extraordinary in light of the circumstances; (3) whether the intervening force operates independently of a situation that is created by an actor's negligence; (4) whether the intervening act is a result of a third party act; (5) whether the third party act is wrongful and subjects him to liability; and (6) the degree of the third party's culpability.¹⁶⁰ The court found that the first factor did not favor NRC because a successful terrorist attack would have similar consequences to any severe accident.¹⁶¹ However, the other five factors supported NRC's position.¹⁶²

152. *Id.* at 136.

153. *Id.* at 140-41.

154. *Id.* at 140.

155. *Id.*

156. *See id.* at 140 n.8.

157. *Id.*

158. *Id.* at 140.

159. *Id.*

160. *Id.*

161. *Id.*

162. *Id.*

The court also briefly mentioned other reasons that an EIS was unnecessary. The Third Circuit reasoned that if an EIS of terrorist attacks were required, NRC would have to spend its limited time and resources evaluating security risks that the agency has little control over. Such evaluations would not aid NRC in its duties to assure nuclear facility safety and security.¹⁶³ The court also pointed to the fact that NEPA requires public participation and transparency, while a security review would require the use of sensitive information not available to the public.¹⁶⁴ The court also stated that NRC's efforts to prevent terrorist attacks against nuclear facilities did not impact its decision because an agency's acknowledgement of a particular risk, evidenced by the taking of precautions, does not trigger NEPA requirements.¹⁶⁵

The Third Circuit noted its departure from the Ninth Circuit's decision in *Mothers for Peace*.¹⁶⁶ First, the court distinguished its case from the Ninth Circuit opinion on the grounds that *Mothers for Peace* involved the construction of a new facility, which "arguably" has a closer causal relationship to a terrorist attack than the "mere" relicensing of a facility.¹⁶⁷ Second, the court also criticized the Ninth Circuit's decision, stating that it rejected the "'reasonably close causal relationship' test set forth by the Supreme Court."¹⁶⁸ The court stated that the Ninth Circuit created the "remote and too speculative" test and failed to mention *Public Citizen* in its opinion.¹⁶⁹ The Third Circuit also stated that the Ninth Circuit unsuccessfully distinguished *Mothers for Peace* from *Metropolitan Edison* when it "characterized" *Metropolitan Edison* as involving a three part causal chain involving a federal action, change in environment, and an effect.¹⁷⁰ The Ninth Circuit described *Metropolitan Edison* as concerning the relationship between a change in the physical environment and an effect, whereas, the Ninth Circuit "characterized" *Mothers for Peace* as involving the relationship between a change in the physical environment and a major federal action.¹⁷¹ The Third Circuit

163. *Id.* at 141 (citing the *Metropolitan Edison* Court's warning that federal resources are limited and the scope of an agency's inquiry must be manageable in order to accomplish NEPA's goal of informed and well-considered decisions).

164. *Id.* at 142.

165. *Id.* at 143.

166. *Id.* at 142.

167. *Id.* However, the court did not explain how it determined that the construction of a new facility had a closer causal relationship to a potential terrorist attack than the relicensing of an existing facility.

168. *Id.*

169. *Id.*

170. *Id.* at 143 n.10.

171. *Id.*; *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 771 (1983); *San Luis Obispo Mothers for Peace v. U.S. Nuclear Regulatory Comm'n*, 449 F.3d 1016, 1029-30 (9th Cir. 2006).

criticized this distinction, finding that as a result the Ninth Circuit disregarded the “reasonably close causal relationship” test from *Metropolitan Edison*, and instead created a requirement that agencies must provide NEPA analysis for all events that are not too “remote or highly speculative.”

III. THE ENVIRONMENTAL IMPACTS OF A TERRORIST ATTACK SHOULD BE CONSIDERED UNDER NEPA

An EIS should be required when a nuclear power facility is built or relicensed, most fundamentally, because the relationship between the environmental impact of a terrorist attack and the agency action is not too attenuated. The Third Circuit’s inquiry to establish a reasonably close causal relationship was the incorrect test to determine whether environmental impact analysis of a potential terrorist attack is required.¹⁷² Rather, the court should have applied the “remote and too speculative” test the Ninth Circuit used in *Mothers for Peace*.¹⁷³ However, even if the Third Circuit were correct in its selection of causation tests, the court nevertheless should have found a reasonably close causal relationship.

A. *The Third Circuit Applied the Wrong Test*

The court first failed to require an EIS by inappropriately applying the reasonably close causal relationship test from *Metropolitan Edison*.¹⁷⁴ In *Metropolitan Edison*, NRC sought to reopen Three Mile Island following its shutdown after a nuclear accident.¹⁷⁵ The petitioners argued that NEPA required NRC to consider the potential decline in the psychological health of people living near Three Mile Island who worried that the plant might have another accident as a result of renewed plant operation.¹⁷⁶ The Court held that risk and perception of risk by petitioners were “necessary middle links” in the causal chain between plant operation and decline in psychological health.¹⁷⁷ Thus, the causal relationship between plant operation and psychological health was too attenuated to trigger NEPA.¹⁷⁸ However, the *Metropolitan Edison* Court specifically noted that its holding related to effects caused by the risk of an accident, not effects related to the accident itself.¹⁷⁹ In fact, the Court

172. *Contra N.J. Dep’t of Env’tl. Prot.*, 561 F.3d at 140–41.

173. *See San Luis Obispo Mothers for Peace*, 449 F.3d at 1031.

174. *Contra New Jersey Dep’t of Env’tl. Prot.*, 561 F.3d at 140–41.

175. *Metro. Edison Co.*, 460 U.S. at 768.

176. *Id.* at 769.

177. *Id.* at 775.

178. *Id.*

179. *Id.* at 775 n.9.

described the issue of whether an agency must consider the environmental impacts of a realized risk as “an entirely different case.”¹⁸⁰

The court’s reliance on *Metropolitan Edison* is inappropriate because NJDEP sought consideration of the environmental impact of a realized risk, a terrorist attack.¹⁸¹ NJDEP did not seek the consideration of the environmental impact of effects caused by the risk of an accident, such as stress or sleepless nights from worrying about the possibility of a terrorist attack on the plant.¹⁸² The Third Circuit, in *New Jersey*, brushed aside this distinction by acknowledging it in a footnote, yet continued to use *Metropolitan Edison* to support its proximate cause requirement.¹⁸³ The distinction made in *Metropolitan Edison*, however, indicates that the Supreme Court did not intend for the reasonably close causal relationship inquiry to apply to situations like *New Jersey*, where an EIS regarding the effects of a realized risk is sought.¹⁸⁴

B. Under the Reasonably Close Causal Relationship Test, an EIS Is Nevertheless Required

Even if the Third Circuit’s selection of the reasonably close causal relationship test were correct, the relationship between the federal action and the terrorist attack is not too attenuated such that an EIS is not required. This conclusion is based on six primary reasons, discussed in turn below.

First, the Third Circuit was incorrect when it found that a terrorist attack is a superseding cause of harm because an attack is a third party criminal act.¹⁸⁵ As the court noted, the Restatement states that third party criminal conduct is not a superseding cause of harm if the original actor “realized or should have realized the likelihood that [an opportunity for third party criminal activity] might be created, and that a third person might avail himself of the opportunity.”¹⁸⁶ The original actor should anticipate third party criminal activity in situations “created at a place where persons of peculiarly vicious type are likely to” take the opportunity for criminal conduct, even when an average person would not do so.¹⁸⁷

180. *Id.*

181. *Contra* N.J. Dep’t of Env’tl. Prot. v. U.S. Nuclear Regulatory Comm’n, 561 F.3d 132, 133 (3d Cir. 2009).

182. *See id.*

183. *Id.* at 138 n.7 (quoting *Metro. Edison Co.*, 460 U.S. at 775 n.9).

184. *See Metro. Edison Co.*, 460 U.S. at 775 n.9.; *N.J. Dep’t of Env’tl. Prot.*, 561 F.3d at 133.

185. *N.J. Dep’t of Env’tl. Prot.*, 561 F.3d at 140.

186. RESTATEMENT (SECOND) OF TORTS § 448 (1965).

187. *Id.* § 448 cmt. b.

The court found that NJDEP failed to demonstrate that nuclear facilities might tempt peculiarly vicious persons.¹⁸⁸ However, this argument seems unfounded given that NRC has already acknowledged the threat of terrorist attacks on facilities by implementing programs in response to potential terrorist attacks.¹⁸⁹ Such programs show that NRC realizes that its plants are tempting to peculiarly vicious persons. According to the Restatement, the mere fact that a terrorist attack is a third-party criminal act does not create a superseding cause of harm because NRC anticipates that its plants will tempt peculiarly vicious persons. As a result, the causal chain between NRC's relicensing decision and a terrorist attack is not broken and an EIS should be required.

Second, the court's superseding cause analysis fails to analyze properly the Restatement factors that favor requiring an EIS.¹⁹⁰ The court argued that only one of the factors of determining a superseding cause favored NJDEP.¹⁹¹ However, there is evidence to demonstrate that four of the six factors could point against a determination that a terrorist attack is a superseding cause. The court found that the first factor, whether the harm resulting from third party action differs from the harm that results from the actor's negligence, supported a close causal relationship because a successful terrorist attack would be similar to consequences resulting from a severe accident.¹⁹² The court found that the second factor, whether the event is extraordinary in light of the circumstances, favored NRC because there has never been an airborne attack on a nuclear facility.¹⁹³ However, it seems that an attack, while horrific, would not be extraordinary in light of the 9/11 attacks on the World Trade Center and intelligence of previous threats of aerial attacks on nuclear facilities.¹⁹⁴ The court also found that the third factor, whether the intervening force operates independently of a situation that is created

188. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 140.

189. See U.S. Nuclear Regulatory Comm'n, Emergency Preparedness in Response to Terrorism, <http://www.nrc.gov/about-nrc/emerg-preparedness/respond-to-emerg/response-terroris.html> (last visited Mar. 7, 2010) (stating that "in response [to 9/11], NRC took immediate action by advising nuclear power plants to go the highest level of security[,] . . . reevaluated the physical security at the nation's nuclear power plants[,] . . . issued Interim Compensatory Measures (ICMs) requiring all U.S. nuclear power plants to perform specific plant design studies, add additional security personnel, enhance physical protection features, improve EP, and provide additional training." NRC also noted that "emergency preparedness at nuclear power plants . . . could be improved in a few areas, such as communications, resource management, drill programs, and NRC guidance. The NRC is drafting new requirements that will include these improvements.").

190. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 140.

191. *Id.* at 140–41.

192. *Id.*

193. *Id.*

194. See Meyer, *supra* note 58; Young, *supra* note 51.

by an actor's negligence, favored NRC because "the intervening force would be due to a third-party terrorist."¹⁹⁵ However, this view ignores NRC's potential negligence in not ensuring that plants have safeguards in place to minimize vulnerability to terrorism.¹⁹⁶ Last, the court found that the sixth factor, the degree of the third party's culpability, favored NRC because the degree of the terrorists' culpability would far exceed that of NRC.¹⁹⁷ While it is true that the terrorist would be significantly more culpable than NRC, the court's view again overlooks the potential role of agency negligence in allowing facilities to remain vulnerable and tempting to peculiarly vicious persons. Because four of the six factors point against considering a terrorist attack as a superseding cause of harm, the causal chain between NRC's decision and an attack is not broken, thereby requiring an EIS.

Third, the court's assumption that an EIS is not required because NRC has no control over potential attacks is inconsistent with NRC and government policies. For example, NRC requires that nuclear plants be designed to withstand forces outside of NRC or plant operator's control.¹⁹⁸ Plants must be designed to withstand earthquakes, hurricanes, and missiles.¹⁹⁹ The requirement that plants be designed to withstand missiles is particularly significant because, short of a military mishap, a missile shot at a nuclear plant is an act of terrorism. Additionally, NEPA requires an EIS in relicensing to cover plant-specific vulnerabilities and severe accident mitigation for external events that are outside of the plant operator's control, such as earthquakes and wind.²⁰⁰ Congress's passage of anti-terrorism measures for nuclear power plants indicates its belief that it can minimize the impact or likelihood of an attack.²⁰¹ The Homeland Security Advisory System²⁰² also indicates that the executive branch believes that the public and the government can work to prevent

195. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 140–41.

196. *See infra* Part I.A–B.

197. *N.J. Dep't of Env'tl. Prot.*, 561 F.3d at 141.

198. *See* General Design Criteria for Nuclear Power Plants, 10 C.F.R. § 50 app. A (2009).

199. *Id.*

200. *See* U.S. Nuclear Regulatory Comm'n, Supplement 1 to Regulatory Guide 4.2 Preparation of Supplemental Environmental Reports for Applications to Renew Energy Power Plant Operating Licenses, http://www.nrc.gov/reading-rm/doc-collections/reg-guides/environmental-siting/active/04-002/index.html#_1_31 (last visited Mar. 7, 2010).

201. *See, e.g.*, Energy Policy Act of 2005, Pub. L. No. 109-58, §§ 651–657, 119 Stat. 594 (2005).

202. The Homeland Security Advisory System "combines threat information with vulnerability assessments and provides communications to public safety officials and the public." Dep't of Homeland Sec., About Homeland Security Advisory System, http://www.dhs.gov/files/programs/Copy_of_press_release_0046.shtm (last visited Feb. 4, 2010).

terrorism.²⁰³ This sentiment mirrors NRC's recent anti-terrorism measures, such as strengthening design basis threat requirements,²⁰⁴ establishing the Office of Nuclear Security and Incident Response,²⁰⁵ and increasing force-on-force exercises.²⁰⁶ These measures indicate that both the government generally and NRC specifically believe that preventing terrorism and minimizing effects of attacks are within their control. As an environmental consequence at least partially within the control of the agency, an EIS should be required.

Fourth, in finding that there was not a reasonably close causal relationship between a terrorist attack and NRC relicensing proceedings because NRC cannot control airspace above nuclear facilities, the Third Circuit drew incorrect parallels between *Public Citizen* and *New Jersey*.²⁰⁷ In *Public Citizen*, the United States President lifted a moratorium against truck traffic between Mexico and the United States as part of the North American Free Trade Agreement. The Federal Motor Carrier Safety Administration (FMSCA) proposed safety regulations for the certification of Mexican trucks.²⁰⁸ FMSCA prepared an EA on the effects of the regulations, but did not consider the environmental impact of increased Mexican truck traffic.²⁰⁹ The Court found that NEPA did not require an EIS for the increased Mexican truck traffic because the traffic was not an effect of FMSCA's actions, but the President's.²¹⁰

However, the causation relationship between terrorist attacks and NRC licensing proceedings is distinguishable from the causation relationship in *Public Citizen*. In *Public Citizen*, the Department of Transportation had no authority to change the President's decision to lift the moratorium on Mexican trucks operating in the United States.²¹¹ In *New Jersey*, however, NRC is charged with regulating all commercial nuclear facilities in the country.²¹² Further, while the court's observation that NRC does not have authority over airspace above nuclear facilities is

203. See Dep't of Homeland Sec., Homeland Security Advisory System, http://www.dhs.gov/files/programs/Copy_of_press_release_0046.shtm (last visited Sept. 14, 2009).

204. HOLT & ANDREWS, *supra* note 19, at 2-3.

205. U.S. Nuclear Regulatory Comm'n, Emergency Preparedness in Response to Terrorism, <http://www.nrc.gov/about-nrc/emerg-preparedness/respond-to-emerg/response-terrorism.html> (last visited Mar. 7, 2010).

206. HOLT & ANDREWS, *supra* note 19, at 5-7. Force-on-force exercises are security exercises to test if a plant can defend against the design basis threat. *Id.* at 5-6.

207. See N.J. Dep't of Env'tl. Prot. v. U.S. Nuclear Regulatory Comm'n, 561 F.3d 132, 139-40 (3d Cir. 2009).

208. Dep't of Transp. v. Public Citizen, 541 U.S. 752, 760-62 (2004).

209. *Id.* at 761.

210. *Id.* at 766.

211. *Id.*

212. See U.S. Nuclear Regulatory Comm'n, How We Regulate, <http://www.nrc.gov/about-nrc/regulatory.html> (last visited Mar. 7, 2010).

correct, NRC's lack of authority over airspace does not prevent the agency from mandating structural or operational requirements to minimize the impact to the environment of an aerial attack.²¹³ Additionally, the Third Circuit noted NRC's opinion that "security from terrorist attacks on nuclear facilities is best approached by enhancing aviation security."²¹⁴ However, aviation security's status as the "best" approach does not mean that it is the *only* means to address the impact of terrorist attacks. Just because NRC cannot employ the best method does not mean NRC is foreclosed from employing effective approaches to reducing the environmental impact of a terrorist attack.

Similarly, *Public Citizen* held that FMCSA did not need to prepare an EIS because it would not serve either of NEPA's twin aims.²¹⁵ First, an EIS would not force FMCSA to consider the environmental impact of its decision because FMCSA could not prevent Mexican trucks from entering the country, and second, an EIS would not further public involvement because FMCSA could not react to public response on the issue.²¹⁶ However, requiring an EIS in a nuclear relicensing proceeding could serve both of NEPA's twin goals. NRC can both control its relicensing decision and respond to public input since NRC has authority to regulate plants. Thus, the causation relationship in *Public Citizen* is distinguishable from the causation relationship in *New Jersey*. Because the causation relationship in *New Jersey* is distinguishable from both *Public Citizen* and *Metropolitan Edison*, the holdings in the latter cases cannot be applied to find that no environmental impact analysis is required in the situation of terrorist attacks against nuclear facilities.

Fifth, while it is true that NRC cannot prevent terrorist attacks completely, it can reduce the extent of environmental impacts from a terrorist attack. For example, nuclear plants may be designed to make them less susceptible to damage.²¹⁷ Most existing nuclear power facilities were not designed to withstand jetliner crashes.²¹⁸ NRC voted on February 17, 2009, to mandate that new reactors be designed to withstand airline crashes, but did not require existing reactors to be retrofitted to withstand such crashes.²¹⁹ As a result, pre-existing reactors are more vulnerable to attack and will likely have a greater environmental impact in the case of a realized attack than new reactors. To respond to this

213. See *N.J. Dep't of Env'tl. Prot. v. U.S. Nuclear Regulatory Comm'n*, 561 F.3d 132, 139 (3d Cir. 2009).

214. *Id.* at 140 (quoting *Riverkeeper, Inc. v. Collins*, 359 F.3d 156, 161 (2d Cir. 2004)).

215. *Public Citizen*, 541 U.S. at 768.

216. *Id.* at 768–69.

217. See *HOLT & ANDREWS*, *supra* note 19, at 3–4.

218. See *id.* at 1.

219. See *id.*

issue, NRC could require pre-existing reactors to line the inside and outside of the reactor's containment structure with steel plates or implement the "beamhenge" concept by constructing aircraft barriers around the plant with steel beams and cables.²²⁰ Further, NRC could make spent fuel dry casks less vulnerable by requiring plant operators to store casks in enclosed buildings, to use earthen beams, or to build other barriers.²²¹

Nuclear plants can also be operated in ways that make them less vulnerable to attacks. The Energy Policy Act of 2005 strengthened and created measures relating to safety and security interface, mixed-oxide fuel, cyber security, aircraft mitigating strategies and response, plant access authorization, security personnel training and qualification, and physical security enhancements.²²² Other precautions could include creating or strengthening requirements for background checks, emergency cooling, cooperation between the Federal Aviation Agency, the Department of Homeland Security, the Coast Guard, and the Air Force, higher pay and physical standards, security training, expansion of no-man's land, and increased distances between nuclear plants and homes. NRC can ensure that its plants are less vulnerable by reviewing how well plant operators follow these new requirements, if they have taken extra precautions, and if there are recorded violations of these requirements. While NRC does not have direct control over terrorists' decisions to attack nuclear facilities, NRC can minimize the environmental impact if such an attack occurs through its relicensing and general facility requirements. Since the environmental impact of an attack is not completely out of NRC's control, NEPA's goal of providing agencies with information necessary to make well-informed decisions will be achieved by requiring environmental impact analysis of a terrorist attack.

Sixth, the Third Circuit incorrectly overlooked the possibility of NRC's negligence in the court's causation analysis. The court did not consider negligence because NEPA cases traditionally have not focused on negligence.²²³ However, this argument is not convincing, especially as the court only pointed to *Metropolitan Edison* and *Public Citizen*, neither of which had appropriate fact patterns to consider negligence in their causation analyses.²²⁴ In contrast, the extent of the environmental impact

220. *See id* at 5.

221. Union of Concerned Scientists, *supra* note 32.

222. HOLT & ANDREWS, *supra* note 19, at 9.

223. N.J. Dep't of Env'tl. Prot. v. U.S. Nuclear Regulatory Comm'n, 561 F.3d 132, 140 n.7 (3d Cir. 2009).

224. *See* Pub. Citizen, 541 U.S. 752 (2004); Metro. Edison Co. v. People Against Nuclear Energy, 460 U.S. 766 (1983).

of a terrorist attack relates greatly to NRC negligence. NRC and plant managers know that plants are tempting to terrorists.²²⁵ The extent of negative environmental impacts and the scope of a terrorist attack can be mitigated by the means suggested above. Therefore, if a terrorist attack occurred, the extent of the environmental impact possibly could be minimized if NRC ensured that certain steps were followed by plant operators. In such a scenario, NRC's negligence in failing to require certain precautions or safeguards would have a close causal relationship to the environmental impact of a terrorist attack. Because NRC can choose take steps to minimize the environmental impact, NEPA's goal of providing a basis for well-informed agency decisions will be achieved by requiring environmental impact analysis of a terrorist attack.

CONCLUSION

While the Third Circuit refused to require an EIS on the primary basis that it believed NRC cannot control the occurrence of a terrorist attack, the court failed to account for the fact that we already require an EIS for several other risks outside of NRC's control.²²⁶ The Third Circuit frames the split between it and the Ninth Circuit as one reflecting differing views of the causation relationship between terrorist attacks and licensing proceedings.²²⁷ However, the split may be more accurately described as a difference of opinion on whether the precautionary principle should be extended to terrorism.²²⁸ The Ninth Circuit's opinion might be seen as representing the application of the precautionary principle, while the Third Circuit opinion and NRC's stance may be seen as declining to do so.²²⁹ Extending the precautionary principle to concerns over terrorist attacks against nuclear facilities is the correct choice.

There are many unknowns concerning terrorism. It is unknown if we can prevent a terrorist attack against a nuclear facility or if we can

225. See Young, *supra* note 51 (reporting that an internal NRC memo distributed to all U.S. nuclear facilities warned of terrorist attacks against nuclear facilities).

226. See U.S. Nuclear Regulatory Comm'n, *supra* note 200.

227. *N.J. Dep't of Envtl. Prot.*, 561 F.3d at 142.

228. The precautionary principle requires that "[w]hen information about potential is incomplete, basing decisions about the best ways to manage or reduce risks on a preference for avoiding unnecessary health risks instead of on unnecessary economic expenditures." MATTHEW BENDER & COMPANY, INC., TREATISE ON ENVIRONMENTAL LAW 7-GLOSS (2009).

229. In re Amergen Energy Co., 65 N.R.C. 124, 129 (N.R.C. 2007) (explaining that the Commission "disagree[s] with the Ninth Circuit's view. We of course will follow it, as we must, in the *Diablo Canyon* proceeding itself. But the NRC is not obliged to adhere, in all of its proceedings, to the first court of appeals decision to address a controversial question. Such an obligation would defeat any possibility of a conflict between the Circuits on important issues . . . [W]e continue to believe that NEPA does not require the NRC to consider the environmental consequences of hypothetical terrorist attacks on NRC-licensed facilities").

minimize its environmental impact. We certainly do not know whether requiring an EIS will actually impact agency decision making, plant operator practices, plant designs, or the extent of damage if an attack is ever successful.

However, some facts are certain. For example, we know an attack against a nuclear facility is a realistic concern,²³⁰ and if a successful attack should occur, the consequences will be catastrophic.²³¹ We also know that if we do not consider the impact of terrorist attacks when making decisions related to nuclear facilities, we will squander opportunities to try to minimize the effects of a terrorist attack.

An EIS might minimize the impact of an attack in several ways. First, it would provide more information for NRC to consider when making licensing decisions. Second, the analysis contained in the EIS would provide the public with more information for effective advocacy. As it stands now, citizens in non-EIS regions can piece together information from various Congressional Research Service reports, media coverage, and NRC's website, but the general public is not equipped to meaningfully analyze the information. Requiring an EIS would serve the public because it would provide the average citizen and watchdog groups with analysis of the range of environmental effects of an attack and mitigating measures. Last, NEPA's public information aim may encourage plant operators to take more preventative measures. Even if the public proves powerless or too unorganized actually to advocate for change, plant operators might take more precaution because of the threat of negative media attention relating to information contained in an EIS.

In the end, whether requiring an EIS will actually achieve anything useful is unknown. But given the real possibility of an attack and the fact that the consequences will be dire, why not require one? It might cost both time and money, but it might also prevent a terrorist attack or minimize the magnitude of a successful attack. Given the stakes, it is at least worth a try.

230. See *supra* text accompanying notes 2, 34–42.

231. See *supra* Part I.C.

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