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**AVERTING NUCLEAR 9/11: THE NEED TO MOVE
BEYOND NEPA AND TRANSITION TO A HOMELAND
SECURITY-ADMINISTERED INFRASTRUCTURE
SECURITY STATEMENT**

MICHAEL S. MUNSON*

Nuclear power can continue to provide great benefits to the public, but it also has the potential, if mishandled or intentionally misused, to do harm on a scale that dwarfs just about every other energy source. The events of September 11, and the knowledge we have gained since then, form a new prism through which we must view their security henceforth.

–Rep. John D. Dingell, (D-MI), Dec. 5, 2001¹

Weapons of Mass Destruction (WMDs) already litter our landscape; terrorists need not sneak them in

–Charles Perrow²

INTRODUCTION

On September 11, 2001, as the American public watched in horror, and the Federal Aviation Administration feverishly scrambled to ground all remaining flights, officials at the Nuclear Regulatory Commission

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¹ Margaret Kriz, *Hot Rod Targets*, NAT’L J., Dec. 15, 2001, at 3840.

² CHARLES PERROW, *THE NEXT CATASTROPHE: REDUCING OUR VULNERABILITIES TO NATURAL, INDUSTRIAL, AND TERRORIST DISASTERS* 1-2 (2007).

("NRC") contemplated a far more devastating scenario: was an attack on one of the nation's 103 nuclear power plants next?³ NRC regulators knew what many did not—that federal law did not require utility owners to guard against aerial attacks; that the containment buildings housing highly flammable spent nuclear fuel rods were not built to withstand a direct hit by a large airliner of the type they had just seen crash into the World Trade Center and Pentagon; and that intelligence officials had warned them that foreign terrorists have trained operatives to conduct attacks on those very structures.⁴

In the weeks and months that followed, as the federal government began a comprehensive overhaul of its national security apparatus, these realities became part of the national conversation, spurring security reforms by the NRC, litigation by groups concerned about the environmental impact of terrorist attacks on nuclear plants, and a wealth of scholarship debating how best to prevent a catastrophe.⁵ Although much of this well-intentioned analysis and reform has succeeded in increasing the safety at plants across the country, large problems remain.⁶

This note will seek to make an important, additional contribution to a growing field of litigation and legal journal scholarship by answering the following question: what is the proper venue for ensuring the continued safety of our nuclear power plants against the very real threat posed by terrorist attacks? More specifically, what has been done to secure the nation's growing stockpiles of spent nuclear fuel ("SNF") rods, and what procedures not already in place should be implemented to ensure that we harden our SNF facilities? It will argue that in the wake of the political failure to provide for a permanent tomb for such materials in Nevada, and

³ See Kriz, *supra* note 1, at 3838. By 2000, the NRC was in the process of analyzing the vulnerability of both the reactor and the spent fuel ponds, concluding that about half of the airplanes operating at the time were "large enough to penetrate a 5-foot-thick reinforced-concrete wall" at one of the pools. *Id.* at 3839. In addition, the Department of Energy had issued its own request for bids to create dry storage units that could withstand a terrorist bomb. John B. Roberts II, *Will Terrorists Go Nuclear?*, THE AM. SPECTATOR, July–Aug. 2000, at 41.

⁴ See Kriz, *supra* note 1, at 3838–40.

⁵ See Michael Grunwald & Peter Behr, *Are Nation's Nuclear Power Plants Secure?*, WASH. POST, Nov. 4, 2001, at A16 ("[NRC officials] concede that Sept. 11 has caused a sea change in their attitudes about 'reasonably foreseeable' threats, and NRC Chairman Richard A. Meserve has ordered a 'top-to-bottom' review of security rules."); see also *infra* Part IV.A for an analysis of the litigation surrounding nuclear plant security and terrorism in the aftermath of 9/11.

⁶ See Grunwald & Behr, *supra* note 5, at A16.

in the new domestic security ethos imposed by 9/11, the risk posed by housing them in temporary, and often lightly-guarded cooling pools and dry casks, can no longer be ignored or addressed using outdated statutes and piecemeal regulations.

This note will start by reviewing the history of spent nuclear fuel rod disposal in the United States, from the origin of the problem in the 1950s, to the passage of a mandate in the Nuclear Waste Policy Act (“NWPA”) in 1982.⁷ It will cover the current political intransigence surrounding the proposed Yucca Mountain depository, which was certified by Congress in 1987.⁸ It will examine the resulting problem: utility companies are forced to pay for and maintain spent nuclear fuel facilities on site at considerable expense,⁹ creating not just an economic burden, but also an inviting terrorist target.¹⁰ The politically controversial alternative of re-processing spent fuel will be examined in light of America’s international proliferation goals, and rejected.

Part II will discuss the precise nature of the threat, including the array of targets, the hypothetical methods of attack, and the implications of a successful terrorist strike. While several different methods of attack will be mentioned, the focus will be on a ground level, armed group attempting to trigger a radioactive fire by draining a pool, either by using explosives or other means of sabotage.

Part III will discuss pre-9/11 regulations surrounding security at nuclear power plants, initial changes made in the immediate aftermath of the attacks, and the new security regime under the Energy Policy Act of 2005.¹¹ It will examine, from what is publicly available, the extent to which such improvements have increased security at nuclear power plants, and where issues still need to be addressed. It will essentially conclude that the NRC has mostly done a good job in reacting to the changed threat environment after 9/11, and would be better able to accomplish its task absent the cumbersome and ill-suited nature of Environmental Impact Statement (“EIS”) analyses.

Part IV will discuss the National Environmental Policy Act of 1969 (“NEPA”)¹² and the ways in which it has been applied to the new terrorist

⁷ Nuclear Waste Policy Act of 1982, 42 U.S.C. §§ 10101–10270 (1982).

⁸ Richard B. Stewart, *U.S. Nuclear Waste Law and Policy: Fixing a Bankrupt System*, 17 N.Y.U. ENVTL. L. J. 783, 783 (2008).

⁹ *Id.* at 799.

¹⁰ See generally Kriz, *supra* note 1.

¹¹ Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of 42 U.S.C.).

¹² Pub. L. No. 91-190, 83 Stat. 852 (codified as amended at 42 U.S.C. §§ 4321–4370).

threat to spent nuclear fuel with varying success for environmental and community groups who have brought suit against the government. It will survey the ongoing debate as to whether utilities' compliance with such standards should be evaluated via public EIS reviews as required by the NEPA,¹³ whether it should be evaluated in classified addendums to such impact statements, or whether some other form of judicial review or congressional oversight should replace the NEPA ethos.

Part V will argue that an entirely new regulatory system is needed to secure nuclear power plants' storage facilities from the risk of terrorist attack. I will reject the proposals advanced by authors advocating the solutions summarized in Part IV and advocate that nuclear plant security be managed entirely by the Department of Homeland Security. This proposal aims to ensure the security of America's nuclear facilities by putting the agency with counter-terrorism expertise squarely in charge of counter-terror security and first response. Finally, I will recommend that the NEPA be amended to exempt the NRC from having to incorporate terrorism-related precautions into its EISs.

I. THE STOCKPILE GROWS

A. *The Atomic Energy Act of 1946*

After the tremendous success of the Manhattan Project during World War II, the United States government began promoting the development of nuclear technology to meet the country's growing energy needs.¹⁴ In order to facilitate the creation of such an industry, Congress passed the Atomic Energy Act ("AEA") in 1946,¹⁵ which created, amongst other things, the Atomic Energy Commission ("AEC").¹⁶ The AEC's charge was to "control the production, ownership, and use of fissionable material"¹⁷ although it was not given explicit responsibility for waste disposal.¹⁸ After the Commis-

¹³ See U.S. ENVTL. PROT. AGENCY, National Environmental Policy Act (NEPA): Basic Information, <http://www.epa.gov/oecaerth/basics/nepa.html> (last visited Sept. 11, 2010) [hereinafter Basic Information].

¹⁴ See OFFICE OF NUCLEAR ENERGY, SCI., AND TECH., U.S. DEPT. OF ENERGY, DOE/NE-0088, THE HISTORY OF NUCLEAR ENERGY 7-8 (1994), <http://www.ne.doe.gov/pdfFiles/History.pdf> [hereinafter DEPT. OF ENERGY].

¹⁵ Atomic Energy Act of 1946, Pub. L. No. 79-585, 60 Stat. 755 (1948) (prior to 1954 amendment).

¹⁶ *Id.* § 2(a).

¹⁷ *Id.* § 1(b)(4).

¹⁸ See *id.* § 1.

sion oversaw the completion of the Shippingport light-water reactor in 1957, the industry took off, with utility companies aggressively developing an “economical, environmentally clean, and safe” new energy source.¹⁹

The AEA did not, unfortunately, specify what would be done with respect to SNF, the product of nuclear fission within the reactor.²⁰ The assumption at the time was that the spent fuel rods would be reprocessed at other facilities in order to create additional highly-enriched uranium (“HEU”) for fuel.²¹ The development of reprocessing facilities in the United States lagged, however, prompting the National Academy of Sciences (“NAS”) to recommend an underground storage facility in 1957; the AEC was unable to comply.²² Spent fuel began to accumulate on site at the plants.²³

B. The Energy Reorganization Act of 1974 and the Non-Proliferation Problem

In 1974, Congress opted to reorganize the regulatory scheme governing the nuclear industry.²⁴ The Energy Reorganization Act substituted two separate agencies for the AEC: the NRC, consisting of five members and charged with overseeing and licensing civilian nuclear reactors, as well as managing their waste; and the Energy Research and Development Administration (“ERDA”) with a secretary reporting directly to the President.²⁵ The reorganization thus put the ongoing problem of civilian

¹⁹ DEP’T OF ENERGY, *supra* note 14, at 8–9.

²⁰ See Scott R. Helton, *Comment: The Legal Problems of Spent Nuclear Fuel Disposal*, 23 ENERGY L.J. 179, 180 (2002). Helton explains that

SNF is the byproduct of a controlled nuclear reaction that takes place in a nuclear power plant. Nuclear plants operate by splitting atoms, which causes a great deal of heat. Water is pumped through the reactor core to be heated, and then released as steam into a turbine, thus creating electricity. ‘The fresh fuel rod, which emits relatively little radioactivity, contains uranium that has been slightly enriched. . . .’ Eventually, after several years of producing heat, the rods begin to decay and must be removed. By this point, they become very hot and highly radioactive.

Id.

²¹ See Stewart, *supra* note 8, at 788.

²² See *id.*; see also ANTHONY ANDREWS, CONG. RESEARCH SERV., RS22542, NUCLEAR FUEL REPROCESSING: U.S. POLICY DEVELOPMENT 2 (2008), available at <http://www.fas.org/sgp/crs/nuke/RS22542.pdf> (noting that in 1957 the AEC announced that it would stop providing reprocessing services).

²³ See Stewart, *supra* note 8, at 787.

²⁴ *Id.* at 789.

²⁵ *Id.* The ERDA became the Department of Energy in 1977. *Id.*

SNF disposal squarely within the NRC's purview, while leaving the Defense Department's nuclear infrastructure in the hands of the ERDA.²⁶

The NRC's new task was made vastly more complicated when President Carter announced in 1977 that he would no longer support domestic reprocessing of civilian SNF, citing concerns that the product could be used for the construction of nuclear weapons.²⁷ As a result of the announcement, the NRC immediately had to shut down the one working reprocessing facility in South Carolina.²⁸ Despite additional efforts by the administration to locate and develop a deep geological storage option in Lyons, Kansas, no viable option materialized;²⁹ as a result, numerous states, including California, instituted indefinite bans on the future construction of nuclear power plants.³⁰ In the wake of the Three Mile Island incident in 1979,³¹ the nuclear power industry entered the 1980s with an uncertain future and a growing problem.³²

C. *The Nuclear Waste Policy Act of 1982*

By 1982, pressure for a permanent storage solution had become undeniable, and Congress decided to act. On January 7, 1983, they enacted the NWPA, which set up a procedure to locate and begin approval and construction of a permanent SNF disposal site.³³ Congress provided for additional, interim storage sites pending approval of the ultimate location, and set up a process whereby the Department of Energy ("DOE") would evaluate and recommend at least five potential sites to the President.³⁴ Further, nuclear power utilities would begin paying into a Nuclear Waste Fund ("NWF") that would go toward the costs of construction.³⁵ The Act

²⁶ *Id.*

²⁷ *See* ANDREWS, *supra* note 22, at 4.

²⁸ *Id.* SNF reprocessing has struggled to gain widespread acceptance in the United States since Carter's ban on commercial reprocessing. *See id.* Reagan initially lifted the reprocessing ban. *Id.* at 5. Presidents George H.W. Bush and Bill Clinton reiterated America's opposition to large-scale reprocessing during their administrations. *Id.* at 5-6. The latest trend is to move towards what President Bush called "proliferation resistant" nuclear technologies, although actually developing them has proven to be costly and elusive. *See id.* at 6.

²⁹ Stewart, *supra* note 8, at 791-92.

³⁰ *Id.* at 791.

³¹ DEPT' OF ENERGY, *supra* note 14, at 18.

³² *See* ANDREWS, *supra* note 22, at 5.

³³ *See* Nuclear Waste Policy Act of 1982, 42 U.S.C. §§ 10101-10270 (1982).

³⁴ Helton, *supra* note 20, at 182.

³⁵ *Id.* at 184.

The NWF required Utilities to pay into the fund a one-time fee based

provides that the DOE has the main responsibility for “characterizing, designing, constructing, and managing the facility,” in consultation with the NRC and the Environmental Protection Agency (“EPA”).³⁶ The Act further provided that the federal government would commence elimination of the SNF stockpile by January 31, 1998.³⁷

In 1987, Congress designated Yucca Mountain, in Nevada, as the preferred site.³⁸ Secretary of Energy Spencer Abraham submitted his recommendation of Yucca Mountain to President Bush on February 14, 2002;³⁹ due to a provision in the NWPA, however, the “winning” state could effectively veto the grant establishing the site, subject to Congressional override.⁴⁰ Nevada’s delegation did so, and Congress overrode them in July 2002.⁴¹ In the years since, Nevada has largely used litigation and assistance from environmental groups to tie up the project indefinitely.⁴² Since becoming Senate Majority Leader, Senator Harry Reid has used his power to block any forward movement on the project.⁴³ President Obama has similarly expressed skepticism about it.⁴⁴

The NWPA also provided for another interim storage option in the event that—as has happened—the permanent storage facility encountered delays. The Act provides for the construction of Monitored Retrievable Storage (“MRS”) facilities, which would be designed, constructed, and operated by the DOE.⁴⁵ Despite plans to build one such site in Tennessee, Congress eventually ruled it out due to political pressure.⁴⁶ As such, the MRS option has largely been abandoned.⁴⁷

on the amount of electricity produced before January 7, 1983. It also required every utility to pay one mil per every kilowatt-hour produced since January 7, 1983. . . . Although the Utilities have consistently paid into the Fund since 1983, the DOE has yet to remove any waste.

Id.

³⁶ *Id.* at 183.

³⁷ *Id.* at 184.

³⁸ Stewart, *supra* note 8, at 795–96.

³⁹ Helton, *supra* note 20, at 183.

⁴⁰ *Id.* at 183–84.

⁴¹ Stewart, *supra* note 8, at 797.

⁴² *Id.*

⁴³ *See id.* at 805.

⁴⁴ *Id.*

⁴⁵ *Id.* at 794.

⁴⁶ *Id.* at 798.

⁴⁷ *See* Stewart, *supra* note 8, at 798.

D. *The Deadline Passes*

In addition to causing a continued pile up of SNF at nuclear power plants across America,⁴⁸ Congress's inability to provide for long-term storage has led to another consequence: endless litigation in the form of suits by utility companies against the government.⁴⁹ The DOE alarmed utilities when, in its Notice of Inquiry on the Waste Acceptance Issues in 1994, the department confirmed its original stance that its duty to receive SNF was contingent upon the availability of a storage site,⁵⁰ and projected that the earliest possible date that it could begin accepting SNF was 2010.⁵¹ Arguing that the U.S. government was obligated to start taking possession of SNF on January 31, 1998, the utilities argued in a series of cases that the government was in breach of its contract under the NWPA and sought money damages in compensation for the fees they had paid into the NWF.⁵² They sought either repayment of the fees or an order forcing the DOE to use the money to create interim storage options.⁵³

Political intransigence and a lack of agency action have thus made it highly unlikely that anyone will be able to move SNF from where it is currently situated: on-site at often lightly-guarded nuclear power plants.⁵⁴ While the courts have awarded approximately \$250 million,⁵⁵ the reality is that the mandate of the NWPA—a permanent storage facility in the near future—will likely go unfulfilled.⁵⁶ As such, the regulatory system has attempted to determine the best way to secure the fuel where it is.⁵⁷

⁴⁸ *Id.* at 787.

⁴⁹ Timothy B. Hurst, *Nuclear Waste Issue Persists as New Plants Forge Ahead*, ECOPOLITOLGY (Apr. 28, 2010), <http://ecopolitology.org/2010/04/28/nuclear-waste-issue-persists-as-new-plants-forge-ahead>.

⁵⁰ Helton, *supra* note 20, at 186.

⁵¹ *Id.*

⁵² *See, e.g.*, *Indiana Michigan Power Co. v. Dept. of Energy*, 88 F.3d 1272 (D.C. Cir. 1996) (holding that the DOE did have an obligation to take possession of the SNF starting on January 21, 1998, but declining to award damages); *see also* *Northern States Power Co. v. United States (Northern II)*, 43 Fed. Cl. 374 (Fed. Cl. 1999) (finding that the DOE did have an obligation to take possession of the SNF by the deadline, but also requiring the utility to submit to the statute's dispute resolution procedures).

⁵³ *See Northern II*, 43 Fed. Cl. at 379–81 (detailing the various claims brought).

⁵⁴ For an examination of one power plant's security woes, even in the supposedly heightened security after 9/11, *see* Rene Chun, *China Syndrome 2003*, PLAYBOY, May 2003, at 64.

⁵⁵ Stewart, *supra* note 8, at 799.

⁵⁶ *Id.* at 783.

⁵⁷ *Id.* at 800.

II. THE THREAT EMERGES

A. *The Target*

Utility companies have settled on a hybrid of two on-site systems to store their accumulating SNF rods, each of which is designed to contain the radiation as the rods cool down and decay.⁵⁸ For at least the first five years after removal from the reactor,⁵⁹ SNF rods are stored in “specially designed pools . . . under at least 20 feet of water.”⁶⁰ The rods are approximately “12 feet long and 3/4 inch in diameter,” and are housed in square “fuel assemblies,” with anywhere from a six-by-six to a seventeen-by-seventeen rod configuration.⁶¹ The pools themselves are connected to the reactor building by canals, which enable the transport of the rods entirely under water and prevent exposure of workers to high levels of radiation.⁶²

The pools at most sites were originally designed envisioning that the plant’s responsibility would be to store SNF for only a few years.⁶³ In the wake of the Yucca Mountain failures, plants have had to expand them, limited only by the minimum distance that they must keep between the rods to prevent initiating a reaction.⁶⁴ Despite this potential for disaster, the NRC assures the public that SNF pools are safe, although they require “a greater and more consistent operational vigilance on the part of utilities or other licensees and the satisfactory performance of many mechanical systems using pumps, piping and instrumentation.”⁶⁵

Once the SNF rods have cooled down sufficiently, utilities move them into “dry cask” storage units, also usually located on site at the power plants.⁶⁶ The casks are above-ground containers, usually made of

⁵⁸ See OFFICE OF PUB. AFFAIRS, U.S. NUCLEAR REG. COMM’N, NUREG/BR-0216, RADIOACTIVE WASTE: PRODUCTION, STORAGE, DISPOSAL 9–10 (2002), available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0216/> [hereinafter RADIOACTIVE WASTE].

⁵⁹ COMM. ON THE SAFETY AND SECURITY OF COM. SPENT NUCLEAR FUEL STORAGE, NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., SAFETY AND SECURITY OF COMMERCIAL SPENT NUCLEAR FUEL STORAGE 57 (2006), available at http://www.nap.edu/catalog.php?record_id=11263 [hereinafter NAT’L RESEARCH COUNCIL].

⁶⁰ RADIOACTIVE WASTE, *supra* note 58, at 10.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.* at 12.

⁶⁶ U.S. NUCLEAR REGULATORY COMM’N, FACT SHEET: DRY CASK STORAGE OF SPENT NUCLEAR FUEL 1–2 (2008), available at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/>

cement and steel, and contain an inert gas that surrounds the fuel rods.⁶⁷ The casks are then either placed horizontally or vertically on a concrete structure at locations around the plant.⁶⁸ The casks, which use an “almost completely passive” cooling system, are considered less susceptible to mechanical failure.⁶⁹ They are also allegedly able to withstand “crashing airplanes, armor piercing rounds, and high-explosives.”⁷⁰ For these reasons, the NAS has suggested that moving rods to these units may be necessary sooner rather than later.⁷¹

At this point, the NRC estimates that there are approximately 54,000 metric tons of SNF rods being stored on site at nuclear power plants across the country,⁷² with 47,000 metric tons—the vast majority—in the concrete-lined cooling pools and the other 7,000 in dry cask storage.⁷³ Even if Yucca Mountain were to open today, the current amount of SNF would more than fill it,⁷⁴ and some estimate that another 47,000 metric tons will be generated by 2048 with existing plants operating at current capacity.⁷⁵

B. Mechanics of an Attack

While much of the focus after 9/11 was on the possibility of an aircraft crashing into a nuclear reactor, the target that really keeps concerned scientists up at night is the cooling pool system.⁷⁶ “The fear,” summarized one author, “is that an explosion, fire or crash that drained or boiled a spent-fuel pool or destroyed its cooling system would create a massive release of radioactive cesium.”⁷⁷ Such an attack could involve a

dry-cask-storage.pdf [hereinafter FACT SHEET].

⁶⁷ RADIOACTIVE WASTE, *supra* note 58, at 10.

⁶⁸ *Id.*

⁶⁹ *See id.* at 12.

⁷⁰ *See* Stewart, *supra* note 8, at 805. *See also* FACT SHEET, *supra* note 66, at 3.

⁷¹ NAT'L RESEARCH COUNCIL, *supra* note 59, at 71.

⁷² Stewart, *supra* note 8, at 787.

⁷³ *Id.* at 805.

⁷⁴ *Id.*

⁷⁵ *See id.* at 787.

⁷⁶ Grunwald & Behr, *supra* note 5, at A17.

⁷⁷ *Id.* *See also* V.L. SAILOR ET AL., BROOKHAVEN NAT'L LAB., NUREG/CR-4982, SEVERE ACCIDENTS IN SPENT FUEL POOLS IN SUPPORT OF GENERIC SAFETY 64–66 (1987), available at <http://www.osti.gov/bridge/servlets/purl/6135335-5voofL/6135335.pdf> [hereinafter SEVERE ACCIDENTS]. The report attempts to predict the effects of the “thermal-hydraulic phenomena occurring when storage racks and spent assemblies become exposed to air,” predicting that “the exothermic oxidation would become self-sustaining with resultant destruction of the cladding and fission product release.” *Id.* at xvii. While the study was commissioned to eval-

truck bomb, infiltration of a group with knowledge of how to drain the pool, or an aerial attack.⁷⁸ As expert Graham Allison explains, cooling pond buildings are

[d]esigned to remain intact in case of an earthquake, [but] these structures are open to the air in some instances and housed in only light-duty buildings in others, which means that a plane attacking from above might drain the pool, destroy backup safety systems, and ignite the fuel. The resulting fire would spew radioactivity into the environment in amounts that could reach three or four Chernobyls.⁷⁹

Some NRC officials have countered that plants would likely have “several hours” to extinguish a fire of that type, but most experts disagree.⁸⁰ Robert Alvarez, a senior advisor to the Secretary of Energy in the Clinton Administration, maintains that such a fire “could rage for days. You’re looking at something that would be a disaster of historic proportions.”⁸¹ But, whatever the feasibility of causing a radioactive blaze, precisely how much radiation and how many casualties would such an attack yield?

In 1987, and again in 1997, Brookhaven National Laboratory conducted a series of studies to determine the long-term health effects of such SNF pool fires.⁸² The 1987 report noted that the “unique character of fuel pool accidents (potentially large releases of long lived isotopes) makes it difficult to compare directly to reactor core melt accidents.”⁸³ The report

uate the possibility of an earthquake rupturing the pool, the report notes that fires could be caused by any “loss of cooling water circulation capability, structural failure of pool[s] due to . . . missiles, [and] partial draindown of pool[s] due to pneumatic seal failure . . .” *Id.* at xix.

⁷⁸ *Keep Building on Three Mile Island*, NEWSWEEK, Nov. 5, 2001, at 32 [hereinafter *Keep Building*].

⁷⁹ GRAHAM ALLISON, NUCLEAR TERRORISM: THE ULTIMATE PREVENTABLE CATASTROPHE 8–9 (2004).

⁸⁰ See Grunwald & Behr, *supra* note 5, at A17.

⁸¹ See Kriz, *supra* note 1, at 3839; see also CHARLES D. FERGUSON & WILLIAM C. POTTER, THE FOUR FACES OF NUCLEAR TERRORISM 205 (2005) (explaining that “[t]he dense packing in most U.S. spent fuel pools restricts cooling flow, increasing the risk that temperatures could climb to high levels in the event that the spent fuel becomes uncovered”).

⁸² See SEVERE ACCIDENTS, *supra* note 77; R.J. TRAVIS ET AL., BROOKHAVEN NAT’L LAB., NUREG/CR-6451, A SAFETY AND REGULATORY ASSESSMENT OF GENERIC BWR AND BWR PERMANENTLY SHUTDOWN NUCLEAR POWER PLANTS (1997), available at <http://www.osti.gov/bridge/servlets/purl/510336-qmwPBP/webviewable/510336.pdf> [hereinafter SAFETY AND REGULATORY ASSESSMENT].

⁸³ *Id.* at xx.

noted that such releases would have “no early health effects,” but that land in a 200 square mile radius would likely be rendered uninhabitable.⁸⁴ The 1997 study concluded that depending on the size of the SNF cache, as well as the distance of the plant from a heavily populated area, a cooling pool fire would eventually lead to approximately 28,800 cancer fatalities, and cause \$59 billion worth of damage to the surrounding area.⁸⁵ Since such a release has never happened before, both studies acknowledge that their conclusions are largely based on speculation.⁸⁶

III. THE DEBATE

A. *Status Quo Before 9/11*

Prior to the events of September 11, 2001, however, the possibility of a cesium fire in a SNF cooling pool was largely discounted, and was only evaluated when a utility first requested a license for a given site.⁸⁷ Plants were designed to “withstand hurricanes, earthquakes, and other extreme events.”⁸⁸ The NRC had no requirement that the plants be able to withstand the impact of a 767 airliner of the type used by the 9/11 hijackers;⁸⁹ nor did the Commission “consider a coordinated attack of the same caliber from a large number of highly trained and suicidal terrorists” as a viable threat to the cooling pools.⁹⁰ While the NRC did conduct regular security assessments of the plants, in the months before the attacks, “it was considering a transition to industry-run self-assessments; it had scaled back its own tests from eight to six a year.”⁹¹

⁸⁴ *Id.*

⁸⁵ SAFETY AND REGULATORY ASSESSMENT, *supra* note 82, at 4-2.

⁸⁶ *See id.* at 4-5; SEVERE ACCIDENTS, *supra* note 77, at 3-5.

⁸⁷ MARK HOLT & ANTHONY ANDREWS, CONG. RESEARCH SERV., RS21131, NUCLEAR POWER PLANTS: VULNERABILITY TO TERRORIST ATTACK 5 (2007), available at <http://fas.org/sgp/crs/terror/RS21131.pdf> [hereinafter TERRORIST ATTACK].

⁸⁸ *Id.*; see also MARK HOLT & ANTHONY ANDREWS, CONG. RESEARCH SERV., RL34331, NUCLEAR POWER PLANT SECURITY AND VULNERABILITIES 1 (2008), available at <http://www.fas.org/sgp/crs/homsec/RL34331.pdf> [hereinafter SECURITY AND VULNERABILITIES] (“Out of Cold War concerns, the Nuclear Regulatory Commission (NRC) in 1967 instituted a provision that nuclear plants are not required to protect against an attack directed by an ‘enemy of the United States.’”).

⁸⁹ ALLISON, *supra* note 79, at 55.

⁹⁰ See Samantha B. Carter, *Comment: Defining Nuclear Threats and Vulnerabilities After September 11, 2001: A Legal Planning Analysis to Establish National Solutions and Standards*, 9 WIDENER L. SYMP. J. 549, 562 (2002).

⁹¹ Grunwald & Behr, *supra* note 5, at A16.

At least one organization was concerned about the lax security requirements at nuclear power plants prior to 9/11, and voiced its concern about the possibility of a terrorist attack on a nuclear power plant.⁹² Georgians Against Nuclear Energy (“GANE”), a non-profit watchdog group, had filed a complaint with the NRC, citing the NRC’s failure to consider a terrorist act in preparing EISs for the plant at Savannah River.⁹³ On the day before the September 11th attacks, the NRC filed its response, acknowledging that it had not taken the possibility of a terrorist attack into account, given that “federal agencies need only address reasonably foreseeable environmental impacts,” and in its view, “GANE does not establish that terrorist acts . . . fall within the realm of ‘reasonably foreseeable’ events.”⁹⁴

B. Initial Changes (2002)

Whatever the conventional wisdom prior to 9/11, the federal government recognized soon after that terrible day that certain immediate changes were in order.⁹⁵ Coast Guard boats were deployed to coastal power plants,⁹⁶ and on the recommendation of Tom Ridge, then-director of the Office of Homeland Security, at least eight governors deployed National Guard troops to plants in their states.⁹⁷ In the jittery weeks and months immediately following the attacks, military jets were scrambled on several occasions when planes strayed too close to several plants.⁹⁸ Ultimately, the Federal Aviation Administration had to institute a permanent ban on flying within twelve miles of a power plant and below 18,000 feet.⁹⁹

In an about-face from its GANE position, the NRC dispatched an emergency message to power plants “to take specific actions to address threats that were not previously considered credible.”¹⁰⁰ It advised plants to go on high alert, and beef up security while the NRC conducted its “top-to-bottom” review of regulations.¹⁰¹ In early 2002, the nation would

⁹² *Id.*

⁹³ *Id.* For more on EISs and post-9/11 litigation against the NRC regarding the absence of terrorist attack considerations in preparing them for nuclear power plants, see discussion *infra* Part IV.C.

⁹⁴ ALLISON, *supra* note 79, at 55 (alteration in original).

⁹⁵ Grunwald & Behr, *supra* note 5, at A16.

⁹⁶ Kriz, *supra* note 1, at 3838.

⁹⁷ Grunwald & Behr, *supra* note 5, at A16.

⁹⁸ See *Keep Building*, *supra* note 78, at 32.

⁹⁹ Grunwald & Behr, *supra* note 5, at A16.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*; see also TERRORIST ATTACK, *supra* note 87, at 1.

learn that the NRC's newfound concern was anything but the product of paranoid imagination brought on by the attacks, as intelligence collected in Afghanistan indicated that Al Qaeda had trained for, and might be planning, attacks on American nuclear plants.¹⁰²

In addition to short term measures, the NRC instituted several other, more permanent changes.¹⁰³ The agency required utilities to "increase[] site access controls for personnel"¹⁰⁴ working at and guarding the plant, to set up vehicle checkpoints at greater distances from the reactor and other sensitive areas, to improve their ability to respond to bombs or fires, and to undergo heightened training regimens for their security forces.¹⁰⁵ At the same time, the NRC sought to increase its communication with local authorities near power plants, as well as its intelligence sharing with the other agencies involved in national security.¹⁰⁶ Ultimately, these initial, voluntary measures would prove unsatisfactory to Congress.

C. *Energy Policy Act (2005)*

In 2005, Congress passed the Energy Policy Act.¹⁰⁷ "The [A]ct," as the Government Accountability Office ["GAO"] explains, "directed [the]

¹⁰² President George W. Bush, State of the Union Address (Jan. 29, 2002), *available at* <http://archives.cnn.com/2002/ALLPOLITICS/01/29/bush.speech.txt/> ("We have found diagrams of American nuclear power plants and public water facilities . . ."). A confidential January 23, 2002 memo from the NRC to nuclear energy utilities recounted a specific plot gleaned from an Al Qaeda captive in Afghanistan who elaborated a plot to fly an airliner into an American nuclear plant. *See Nuclear Power Plants Possible Terror Targets, Memo Warns*, CNN.COM (Feb. 1, 2002), http://articles.cnn.com/2002-02-01/us/gen.terror.threats_1_nuclear-power-plant-nrc-national-infrastructure-protection-center?_s=PM:US (last visited Sept. 25, 2010); NAT'L COMM'N ON TERRORIST ATTACKS UPON THE UNITED STATES, THE 9/11 COMMISSION REPORT: FINAL REPORT OF THE COMMISSION ON TERRORIST ATTACKS UPON THE UNITED STATES (2004) [hereinafter THE 9/11 COMMISSION REPORT]. The Commission notes that "[d]uring the Spain meeting, [9/11 ringleader Muhammad] Atta also mentioned that he had considered targeting a nuclear facility he had seen during familiarization flights near New York—a target they referred to as 'electrical engineering.'" *Id.* at 245. Ultimately, the target was scrapped because "the other pilots did not like the idea." *Id.*

¹⁰³ *See generally* OFFICE OF NUCLEAR SECURITY AND INCIDENT RESPONSE, U.S. NUCLEAR REGULATORY COMM'N, NUREG/BR-0314, PROTECTING OUR NATION: A REPORT OF THE U.S. NUCLEAR REGULATORY COMMISSION (2009), *available at* <http://www.nrc.gov/reading-rm/doc-collections/nuregs/brochures/br0314/br0314.pdf> [hereinafter PROTECTING OUR NATION].

¹⁰⁴ *Id.* at 10.

¹⁰⁵ *Id.* at 10, 17.

¹⁰⁶ *Id.* at 5.

¹⁰⁷ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of 42 U.S.C.).

NRC to consider the events of September 11, 2001; the potential for an attack on facilities by multiple, coordinated teams of a large number of individuals; the potential for suicide attacks; and other factors.”¹⁰⁸ The standard to which the NRC was expected to raise overall security was called the Design Basis Threat (“DBT”), a “classified document [that] describes general characteristics of adversaries that nuclear power plants and nuclear fuel cycle facilities must defend against”¹⁰⁹ Improvements in the new DBT included new physical protection systems, revised assumptions about terrorist methods and strategies, including the inclusion of suicide missions, an increase in the number of types of vehicles against which plants were required to guard, and finally, an increased number of possible attacker combinations.¹¹⁰

The Energy Policy Act also codified an existing NRC practice that functioned as its enforcement mechanism—the force-on-force (“FOF”) testing program.¹¹¹ FOF procedures are essentially drills for nuclear plant security officers, in which “an adversary force from outside the plant attempts to penetrate the plant’s vital area and damage or destroy key safety components.”¹¹² Their objective is to damage key safety systems that would start in motion events damaging to the reactor’s core or spent fuel pool leading to a radioactive release.¹¹³ Attackers use mock weapons, and each plant is tested over a series of days.¹¹⁴

D. *National Academy of Sciences (2006)*

Soon after the passage of the Energy Policy Act, the NAS came out with a report that was critical of existing NRC efforts to secure spent fuel.¹¹⁵ Congress, in 2004, directed that the NRC and the Department of Homeland Security sponsor the study and that the National Academy undertake a comprehensive review of NRC security measures and provide

¹⁰⁸ U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-06-388, NUCLEAR POWER PLANTS: EFFORTS MADE TO UPGRADE SECURITY, BUT THE NUCLEAR REGULATORY COMMISSION’S DESIGN BASIS THREAT PROCESS SHOULD BE IMPROVED 15 (2006), available at <http://www.gao.gov/products/GAO-06-388> (last visited Sept. 15, 2010).

¹⁰⁹ TERRORIST ATTACK, *supra* note 87, at 1–2.

¹¹⁰ *See id.* at 2–3.

¹¹¹ *See id.* at 3. As the NRC notes, it began the program in the 1980s on its own, but only tested each plant “roughly once every 8 years.” PROTECTING OUR NATION, *supra* note 103, at 16–17.

¹¹² TERRORIST ATTACK, *supra* note 87, at 3.

¹¹³ PROTECTING OUR NATION, *supra* note 103, at 16.

¹¹⁴ *Id.*

¹¹⁵ *See* NAT’L RESEARCH COUNCIL, *supra* note 59, at 6–11.

recommendations for improvement.¹¹⁶ Congress was concerned about the emergence of “conflicting public claims about the safety and security of commercial spent nuclear fuel storage at nuclear power plants.”¹¹⁷ The NAS committee explicitly focused on two major issues in its preparation of the report: “(1) Under what circumstances could pools or casks be breached? And (2) what would be the radioactive releases from such breaches?”¹¹⁸

The report began by noting that fears of terrorist attacks on SNF pools were not necessarily unrealistic: it said that “successful terrorist attacks on spent fuel pools, though difficult, are possible,”¹¹⁹ and that if such an attack succeeded in igniting a zirconium fire, “it could result in the release of large amounts of radioactive material.”¹²⁰ While it found the probability that terrorists would be able to collect enough spent fuel to use in a dirty bomb to be small, the committee nonetheless recommended that security measures at SNF pools be increased and that the security measures implemented after 9/11 be evaluated by an independent organization.¹²¹

Recognizing that spent fuel storage was a requirement at every power plant nationwide, the committee then evaluated how spent fuel storage pools might be changed in order to make them less vulnerable to terrorist attack.¹²² They recognized that some research indicated that “readily implemented measures” might “reduce the likelihood of a zirconium cladding fire”¹²³ and therefore a successful release of radiation.¹²⁴ In particular, the committee recommended that plants examine the possibility of reconfiguring the fuel in the SNF pools, as well as installing “water-spray systems” that would kick on in the event of large-scale cooling pond water loss.¹²⁵

¹¹⁶ *Id.* at 1, 12.

¹¹⁷ *Id.* at 5.

¹¹⁸ *Id.* at 6.

¹¹⁹ *Id.* at 3.

¹²⁰ *Id.*

¹²¹ See NAT'L RESEARCH COUNCIL, *supra* note 59, at 7.

¹²² See *id.* at 7–8. The report notes that “[f]reshly discharged fuel generates too much decay heat to be passively air cooled.” *Id.* at 7.

¹²³ *Id.* at 8.

¹²⁴ See *id.* at 3,8. Amongst other possible remedies:

[The report listed] limiting the frequency of offloads of full reactor cores into spent fuel pools, requiring longer shutdowns of the reactor before any fuel is offloaded, and providing enhanced security when such offloads must be made; and development of a redundant and diverse response system to mitigate loss-of-pool-coolant events that would be capable of operation even if the pool or overlying building were severely damaged.

Id. at 8.

¹²⁵ See NAT'L RESEARCH COUNCIL, *supra* note 59, at 9.

Finally, the committee examined the merits of moving much of the SNF stockpile from cooling ponds to dry cask storage.¹²⁶ While recognizing that “dry cask storage can only be used to store fuel that has been out of the reactor long enough”¹²⁷ the committee nonetheless recommended that the NRC investigate, on a plant-by-plant basis, whether such moves were possible.¹²⁸ The primary advantages of this change would be to place the rods in a container medium that has proven much more resistant to explosives and projectiles, and one that “divides the inventory . . . among a large number of discrete, robust containers.”¹²⁹ While the committee recommended that additional research be conducted to further harden the dry casks, this was one of its strongest recommendations.¹³⁰

E. GAO Review

At the same time, in response to a request from the House Government Reform Subcommittee on National Security, Emerging Threats, and International Relations, the GAO issued its review of the NRC’s post-9/11 DBT reforms.¹³¹ The report acknowledged that there was an ongoing concern that “[t]he nation’s 103 operating commercial nuclear power plants . . . are potential targets for terrorists seeking to cause the release of radioactive material.”¹³² Given the threat, the House subcommittee tasked the GAO with reviewing the changes the NRC made in 2003, responding to the new threat environment following 9/11.¹³³ The subcommittee also asked the GAO to issue recommendations for the ways in which the NRC could improve its efforts to harden power plants against such attacks.¹³⁴

The GAO report began by observing that the DBT revision process was “generally logical and well defined,”¹³⁵ noting its efforts to take the lessons of 9/11—in particular, the probable size of an attacking terrorist cell—into account in its assessment of the threat.¹³⁶ But, the report also raised several concerns. First, it noted that the agency tended to scale

¹²⁶ *Id.* at 10.

¹²⁷ *Id.* “[G]enerally, greater than five years under current practices . . .” *Id.*

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ NAT’L RESEARCH COUNCIL, *supra* note 59, at 3.

¹³¹ U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 108, at highlights.

¹³² *Id.* at 1.

¹³³ *Id.* at 4.

¹³⁴ *Id.*

¹³⁵ *Id.* at 5.

¹³⁶ *Id.* at 6.

back its expectations for nuclear power plant security—such as in the kinds of weapons that terrorists would use, and the size of bombs that they might employ—in response to complaints and feedback from nuclear licensees.¹³⁷ This process, the GAO noted, “created the appearance that changes were made based on what industry considered reasonable and feasible to defend against rather than an assessment of the terrorist threat”¹³⁸ The report thus recommended that the NRC compartmentalize and separate the division that received industry feedback from the Threat Assessment Section.¹³⁹

Second, the report questioned the lack of clearly identifiable criteria for the commission’s determinations of what constituted a “reasonable” degree of security.¹⁴⁰ In several situations, the commissioners removed threats, including weaponry, bomb size, and the like, that the threat assessment team had deemed to be a likely component of any terrorist attack without any reviewable standards.¹⁴¹ The absence of such standards “reduced the transparency of the commissioners’ decisions to make changes to the threat assessment staff’s recommendations.”¹⁴² The GAO recommended that the “NRC develop explicit criteria to guide the commissioners in their deliberations to approve changes to the DBT.”¹⁴³

Third, the report raised concerns about the conduct of the FOF exercises based on its observations at several facilities.¹⁴⁴ While noting that the NRC had made “a number of improvements”¹⁴⁵ in the process, the report observed that the laser equipment used in simulating weapons

¹³⁷ U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 108, at 6.

¹³⁸ *Id.*

¹³⁹ *Id.* at 8. The report explained, in the face of NRC promises to separate the threat assessment and industry feedback portions temporally, that

[W]hether the NRC chooses to use a simultaneous or sequential process, we continue to believe that the best approach would be to insulate the threat assessment staff from interactions with the nuclear industry. . . . This would best separate the fact-based analysis of the threat to commercial nuclear power plants from policy-level considerations regarding what is reasonable for a private security force to defend against.

Id. at 44.

¹⁴⁰ *Id.* at 7.

¹⁴¹ *Id.* at 7, 17.

¹⁴² U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 108, at 7.

¹⁴³ *Id.* at 8. The report further explained that “[t]hese criteria should include setting out the specific factors and how they will be weighed in deciding what characteristics of an attack on a nuclear power plant would constitute an enemy of the United States, or otherwise would not be reasonable for a private security force to defend against.” *Id.* at 43.

¹⁴⁴ *Id.* at 35–37.

¹⁴⁵ *Id.* at 37.

often malfunctioned.¹⁴⁶ The predictable inspection schedules possibly allowed security teams to “anticipate the approximate time that the attack would begin”¹⁴⁷ artificially improving their performance.¹⁴⁸ The simulations stopped when the mock attack was thwarted, rather than continuing at each level of security and testing the full range of capabilities.¹⁴⁹

The GAO report further found that “operational security” was compromised by plant security signaling to others which buildings would be targeted during the pre-attack safety walkthrough.¹⁵⁰ In addition, the report found that the standards for the FOF controllers—the assigned staff person who would direct the exercise—were too lax.¹⁵¹ Finally, the quality of the feedback to the licensees varied too much.¹⁵² The report noted that the NRC generally received these criticisms well, and promised to address them.¹⁵³

Ultimately, the report concluded that the “plants’ response to the revised DBT and other NRC orders following the September 11 terrorist attacks has been substantial, and, in some cases, has gone beyond what is required.”¹⁵⁴ It endorsed the NRC’s preference for keeping some “safeguards information” classified from the public, so as to minimize the possibility that terrorists would gain advantageous information.¹⁵⁵ It also noted, without comment, that the DBT preparation did not consider the threat of an aerial attack as required by NRC regulations.¹⁵⁶

IV. THE NEPA AND THE EIS DEBATE

A. *National Environmental Policy Act*

A major part of the nuclear power plant siting and permitting process is determining the potential environmental impact of the new plant

¹⁴⁶ *Id.* at 38.

¹⁴⁷ U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 108, at 38.

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 39.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 40.

¹⁵² *Id.*

¹⁵³ See U.S. GOV’T ACCOUNTABILITY OFFICE, *supra* note 108, at 41.

¹⁵⁴ *Id.* at 42. Also, according to the report, the industry mouthpiece, the Nuclear Energy Institute, estimates the total cost of such post 9/11 improvements to be over \$1.2 billion. *Id.* at 3.

¹⁵⁵ *Id.* at 4.

¹⁵⁶ *Id.* at 9.

in concert with the EPA.¹⁵⁷ On January 1, 1970, President Nixon signed the NEPA,¹⁵⁸ which “establishes national environmental policies that apply to the federal government and also prescribes certain procedural requirements for federal agency actions.”¹⁵⁹ The main requirement of the law is that “all federal agencies are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment.”¹⁶⁰ The Act created an entity within the Executive Office of the President known as the Council on Environmental Quality (“CEQ”), which promulgates the regulations that give the NEPA force.¹⁶¹

The NEPA mandates that federal agencies comply by preparing one of three levels of environmental review.¹⁶² On one end of the spectrum are federal actions that are unlikely to pose any level of risk or impact to the environment—such as changes to personnel hiring policies—and which are eligible for a “categorical exclusion determination.”¹⁶³ In the middle are federal projects with uncertain environmental impact.¹⁶⁴ In this twilight zone, agencies must conduct an “Environmental Assessment” (“EA”) with a somewhat superficial degree of evaluation.¹⁶⁵ The agency generally involves all relevant federal, state, and local agencies, and should ideally solicit public input to determine potential environmental impacts.¹⁶⁶ Ultimately, the agency will issue either a “Finding of No Significant Impact”

¹⁵⁷ See OFFICE OF ENFORCEMENT & COMPLIANCE, U.S. ENVTL. PROT. AGENCY, § 309 REVIEWERS GUIDANCE FOR NEW NUCLEAR POWER PLANT ENVIRONMENTAL IMPACT STATEMENTS, 1–14 (2008), available at <http://www.epa.gov/compliance/resources/policies/nepa/309-reviewers-guidance-for-new-nuclear-power-plant-EISs-pg.pdf> [hereinafter REVIEWERS GUIDANCE].

¹⁵⁸ Pub. L. No. 91-190, 83 Stat. 852 (codified as amended at 42 U.S.C. §§ 4321–4370).

¹⁵⁹ PAMELA BALDWIN, CONG. RESEARCH SERV., RS 20621, OVERVIEW OF NEPA REQUIREMENTS 1 (2005) available at <http://ncseonline.org/NLE/CRSreports/05Apr/RS20621.pdf>. The official website at the Executive Office of the President further offers that “the law was established to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.” National Environmental Policy Act—Welcome, <http://ceq.hss.doe.gov/welcome.html> (last visited Oct. 3, 2010).

¹⁶⁰ See Basic Information, *supra* note 13.

¹⁶¹ BALDWIN, *supra* note 159, at 2. The regulations passed by the NEPA in 1978 (the bulk of those in force) can be found at 40 C.F.R. §§ 1500–1518 (2009).

¹⁶² See Basic Information, *supra* note 13.

¹⁶³ See *id.*

¹⁶⁴ See *id.*

¹⁶⁵ *Id.*

¹⁶⁶ National Environmental Policy Act—Welcome, *supra* note 159.

(“FONSI”) or decide to proceed to the third—and most stringent—level of review.¹⁶⁷

The highest level of the NEPA review is reserved for federal projects with significant environmental impact.¹⁶⁸ At this level, agencies must prepare an EIS, which is “a more detailed evaluation of the proposed action and [its] alternatives.”¹⁶⁹ The agency first files a “Notice of Intent” in the federal register, and then begins the “scoping” process during which all relevant agencies and the public are encouraged to provide input for an initial draft.¹⁷⁰ After a public comment period of forty-five days during which a draft EIS is discussed, the agency in charge publishes the final EIS,¹⁷¹ which is expected to contain “discussions of the purpose of and need for the action, alternatives, the affected environment, the environmental consequences of the proposed action, lists of preparers, agencies, and organizations and persons to whom the statement is sent, an index, and an appendix (if any).”¹⁷²

These documents are submitted by the agency in charge to the EPA, which is tasked by the CEQ with administering the logistics of the NEPA compliance.¹⁷³ Citizens are generally granted standing to challenge agency action in court when they believe that the agency has failed to comply with the statute.¹⁷⁴

Courts have tended to view the NEPA as imposing procedural, but not substantive, requirements for agencies; that is, so long as the agency

¹⁶⁷ *Id.* at Section G.

¹⁶⁸ See Basic Information, *supra* note 13.

¹⁶⁹ *Id.* It should be noted that the statute does not actually reference an “Environmental Impact Statement” by name, but § 102(2)(c) requires that federal actions of that size “include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on the environmental impact of the proposed action” 42 U.S.C. § 4332(2)(C)(I). In practice, the “detailed statement” described therein has come to be known as the EIS. See LINDA LUTHER, CONG. RESEARCH SERV., RL33267, THE NATIONAL ENVIRONMENTAL POLICY ACT: STREAMLINING NEPA 1 (2007), available at <http://www.nationalaglawcenter.org/assets/crs/RL33267.pdf>.

¹⁷⁰ National Environmental Policy Act—Welcome, *supra* note 159, Section G.

¹⁷¹ *Id.*

¹⁷² See Basic Information, *supra* note 13.

¹⁷³ *Id.* Generally, if the submitting agency has met the criteria for having at least considered all relevant environmental impacts and courses of action, the EPA will defer to the agency’s discretion; if, however, the EPA finds the EIS unsatisfactory, it will refer the EIS to the CEQ for further action. See generally REVIEWERS GUIDANCE, *supra* note 157, at 1-14.

¹⁷⁴ See generally, Lawrence Gerschwer, Note, *Informational Standing Under NEPA: Justiciability and the Environmental Decisionmaking Process*, 93 COLUM. L. REV. 996 (1993).

complies with the requirements, the ultimate decision of whether to proceed with the project will not be judicially reviewable.¹⁷⁵ As it happened, the first test case regarding a procedural challenge to an agency's compliance with the NEPA EIS process involved the nuclear industry.¹⁷⁶ In *Calvert Cliffs' Coordinating Committee, Inc. v. U.S. Atomic Energy Commission*, a group of anti-nuclear protesters challenged the AEC's compliance with the NEPA's requirements.¹⁷⁷ The AEC contended that the NEPA was too vague to create judicially enforceable standards, but the Court of Appeals for the District of Columbia disagreed.¹⁷⁸

The court granted that "the general substantive policy of the Act is a flexible one" and that "[i]t leaves room for the responsible exercise of discretion"¹⁷⁹ The Act nonetheless "mandates a particular sort of careful and informed decisionmaking [sic] process and creates judicially enforceable duties."¹⁸⁰ The court indicated that Congress's intention in crafting the legislation was not to mandate a particular outcome, but to ensure that agencies engage in a sort of "balancing analysis," after which it would be up to agency discretion to recognize that "[i]n some instances environmental costs may outweigh economic and technical benefits and in other instances they may not."¹⁸¹

It was left to the Supreme Court to add substantive flesh to the bare bones procedural analysis of the D.C. Court of Appeals. In *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, the Court did just that.¹⁸² The Court examined a challenge to a construction project devised by the Department of Housing and Urban Development ("HUD") that focused on whether, *after* having evaluated the environmental impacts in compliance with the NEPA,¹⁸³ the agency had made the right call in proceeding with the project.¹⁸⁴ The Court of Appeals noted that HUD should have given the environmental factors determinative weight and scuttled the project.¹⁸⁵ The Supreme Court reversed, holding that

¹⁷⁵ *Id.* at 998–99.

¹⁷⁶ See *Calvert Cliffs' Coord. Comm., Inc. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109 (D.C. Cir. 1971).

¹⁷⁷ See *id.* at 1111.

¹⁷⁸ *Id.* at 1111–12.

¹⁷⁹ *Id.* at 1112.

¹⁸⁰ *Id.* at 1115.

¹⁸¹ *Id.* at 1113.

¹⁸² See *Strycker's Bay Neigh. Council, Inc. v. Karlen*, 444 U.S. 223 (1980).

¹⁸³ In total, HUD evaluated nine alternative sites for the project, finding them all to be unsatisfactory. *Id.* at 226.

¹⁸⁴ See *id.* at 227–28.

¹⁸⁵ *Id.*

[O]nce an agency has made a decision subject to NEPA's procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot "interject itself within the area of discretion of the executive as to the choice of action to be taken."¹⁸⁶

The Court therefore declined to second-guess the ultimate decision of the agency.¹⁸⁷

B. *EIS and Nuclear Plant Security*

The NEPA compliance process has been vastly simplified since its passage in 1970 by two developments: CEQ regulations and self-imposed agency regulations.¹⁸⁸ In 1978, CEQ created a series of regulations explaining how the NEPA applies to myriad federal agencies, and most federal agencies followed suit, generating their own internal regulations that "generally follow the CEQ procedures but are tailored for the specific mission and activities of the agency."¹⁸⁹ For its part, the NRC passed a series of regulations, including one that explicitly mandates an EIS for all contemplated nuclear power plant construction.¹⁹⁰

When evaluating a new plant proposal, the NRC generally proceeds as follows with respect to the NEPA. First, the applicant utility company submits an Environmental Report, which contains a summary of the expected environmental impact of the plant.¹⁹¹ Second, the NRC sends out a notice of intent to create an EIS and holds a public scoping meeting to receive public input.¹⁹² After the meeting, the NRC prepares a draft EIS, and once additional comments have been received, the final draft is issued.¹⁹³

¹⁸⁶ *Id.* (quoting *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976)).

¹⁸⁷ *Id.* at 228.

¹⁸⁸ See Basic Information, *supra* note 13.

¹⁸⁹ *Id.*

¹⁹⁰ 10 C.F.R. § 51.20(b)(1) (2006). The provision mandates that
(b) The following types of actions require an environmental impact statement or a supplement to an environmental impact statement:
(1) Issuance of a limited work authorization or a permit to construct a nuclear power reactor, testing facility, or fuel reprocessing facility under part 50 of this chapter, or issuance of an early site permit under part 52 of this chapter.

¹⁹¹ See *Frequently Asked Questions About NRC's Role Under the National Environmental Policy Act*, NRC.GOV, <http://www.nrc.gov/about-nrc/regulatory/licensing/nepa.html> (last updated Apr. 7, 2009) [hereinafter *Frequently Asked Questions*].

¹⁹² *Id.*

¹⁹³ *Id.*

The proposal to construct a nuclear power plant generates more controversy, debate, and outright fear than just about any other potential federal project that an agency could announce. With the specters of Chernobyl and Three Mile Island accidents firmly in mind, citizens in the affected area frequently object to NRC approval of new nuclear plant construction, and target the NRC and the NEPA approval processes as their forum for lodging objections.¹⁹⁴ In preparing EIS evaluations for nuclear plants, the NRC adheres to the “reasonably foreseeable” standard¹⁹⁵ applied by most courts when reviewing the NEPA agency decisions,¹⁹⁶ and it includes in its inquiry the likelihood and potential fallout of a variety of accident scenarios.¹⁹⁷ Even in the post-9/11 climate, one scenario that the NRC explicitly refuses to include in its EIS evaluations is the possibility of a terrorist attack on a nuclear power plant.¹⁹⁸

¹⁹⁴ 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, 339–40 (2007) (summarizing the Chernobyl and Three Mile Island disasters and their impact); see, e.g., Alan W. Dowd, *Should the U.S. Counter Global Warming with More Nuclear Power?*, CHARLESTON GAZETTE, Mar. 24, 2009 at P1C (“This NIMBY—not in my back yard—phenomenon has dogged the nuclear industry since the near-disaster at Three Mile Island in 1979.”).

¹⁹⁵ See *Dubois v. U.S. Dep't of Agric.*, 102 F.3d 1273, 1286 (1st Cir. 1996). The Court of Appeals explained that

[within the EIS] context, reasonable foreseeability means that ‘the impact is sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision.’ An environmental effect would be considered ‘too speculative’ for inclusion in the EIS if it cannot be described at the time the EIS is drafted with sufficient specificity to make its consideration useful to a reasonable decision-maker.

Id. (quoting *Sierra Club v. Marsh*, 976 F.2d 763, 767–68 (1st Cir. 1992) (citation omitted)). The court stood on firm precedent here, as the Supreme Court had endorsed a change by the CEQ from a regulation requiring “worst case analysis” to “reasonably foreseeable impacts.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989). In *Robertson v. Methow Valley Citizens Council*, the Court said that the switch “will generate information . . . of greatest concern to the public and of greatest relevance to the agency’s decision, rather than distorting the decisionmaking process by overemphasizing highly speculative harms.” *Id.* (citation omitted).

¹⁹⁶ See, e.g., *Potomac Alliance v. U.S. Nuclear Reg. Comm'n*, 682 F.2d 1030, 1036 (D.C. Cir. 1982) (“It is well recognized that a lack of certainty concerning prospective environmental impacts cannot relieve an agency of responsibility for considering *reasonably foreseeable* contingencies that could lead to environmental damage.”) (emphasis added).

¹⁹⁷ See REVIEWERS GUIDANCE, *supra* note 157, at 6-38 (listing the most common accident scenarios contemplated by the NRC in the average EIS).

¹⁹⁸ See *In the Matter of Private Fuel Storage, L.L.C.*, 56 N.R.C. 340, 343 (2002) (“We hold today that NEPA does not require a terrorism review.”).

C. *The Debate: EIS and Nuclear Terrorism*

In 2002, the NRC heard an appeal from a Licensing Board ruling rejecting a request by the State of Utah to consider terrorism in the EIS it had issued pertaining to a newly-licensed SNF storage facility.¹⁹⁹ The State of Utah argued that the 9/11 attacks altered the climate in which the NRC did its work and that terrorist attacks should thus be seen as “reasonably foreseeable” occurrences for the NEPA purposes.²⁰⁰ The Atomic Safety and Licensing Board had suggested that terrorist attacks were covered under the agency’s previously announced national defense exception to the NEPA process, but nonetheless referred the matter to the full NRC for consideration in light of the new threat environment.²⁰¹

The NRC rejected Utah’s argument that the possibility of terrorist attacks was required to be considered under the NEPA for several reasons. First, the NRC argued that

an EIS is not an appropriate format to address the challenges of terrorism. The purpose of an EIS is to inform the decisionmaking agency and the public of a broad range of environmental impacts that will result, with a fair degree of likelihood, from a proposed project, rather than to speculate about ‘worst case’ scenarios²⁰²

The agency went on to note that two Courts of Appeal had agreed that terrorism and other acts of nuclear sabotage were not within the realm of the “reasonably foreseeable” standard applied to the NEPA review, even with projects implicating national security.²⁰³ The NRC maintained that absent the reasonably foreseeable standard, “the NEPA process becomes truly bottomless, subject only to the ingenuity of those claiming that the agency must evaluate this or that potential adverse effect”²⁰⁴ In its

¹⁹⁹ *Id.* at 342–43.

²⁰⁰ *Id.* at 350.

²⁰¹ *Id.* at 345–46.

²⁰² *Id.* at 347.

²⁰³ See *Limerick Ecology Action, Inc. v. U.S. Nuclear Reg. Comm’n*, 869 F.2d 719, 743 (3d Cir. 1989) (holding that since the interveners had not shown any viable method to predict or analyze the risk of sabotage meaningfully, the NRC was not obliged to consider it); see also *City of New York v. U.S. Dep’t of Transp.*, 715 F.2d 732, 750 (2d Cir. 1982) (holding that sabotage was sufficiently low probability for the agency to disregard it in compiling an EIS regarding transport of nuclear materials).

²⁰⁴ See *In the Matter of Private Fuel Storage, L.L.C.*, 56 N.R.C. at 350.

view, the possibility of a terrorist attack was too far removed from the risks inherent to the construction of the facility to be considered.²⁰⁵

Second, the NRC argued that the public nature of the NEPA process—requiring input and commentary on existing measures—was incompatible with the mandate of securing nuclear facilities against terrorist attack.²⁰⁶ In the post-9/11 climate, the NRC argued that its main focus should be on denying terrorists the very information they would need to mount a successful attack, rather than providing such information at an EIS scoping meeting.²⁰⁷ It further pointed out that the AEA mandated that they not divulge security-related information to the public and that given the NEPA's own language—that EIS processes be undertaken to the extent that they were “consistent with other considerations of national policy”—the NRC had no choice but to exclude terrorism and security measures from the process.²⁰⁸

In conclusion, the NRC rejected the NEPA as the proper method for addressing the serious issue of security at nuclear power plants and the need to prevent terrorist attacks.²⁰⁹ It argued that “even if terrorism were a matter cognizable under the NEPA—and for the reasons given above we believe it is not—it would elevate form over substance to insist that we supplement our ongoing comprehensive review with a duplicative or formalistic NEPA study.”²¹⁰ The NRC therefore ruled out the possibility of a classified EIS regime as a possible compromise position.²¹¹

At least one court of appeal has strongly disagreed with the NRC's interpretation of the NEPA's application to terrorism.²¹² In *San Luis Obispo Mothers For Peace v. Nuclear Regulatory Commission*, the Ninth Circuit Court of Appeals considered whether the NRC properly declined to account for terrorist attacks in an EA of a proposed SNF facility at Diablo Canyon.²¹³ The court rejected the petitioners' claims that the NRC had violated its obligations under the AEA, but also found that the NRC had failed to comply with the NEPA in preparing its EA absent a terrorism analysis.²¹⁴

²⁰⁵ *Id.* at 351.

²⁰⁶ *Id.* at 347.

²⁰⁷ *Id.*

²⁰⁸ *Id.* at 347, 355–56.

²⁰⁹ *Id.* at 357.

²¹⁰ *In the Matter of Private Fuel Storage, L.L.C.*, 56 N.R.C. at 357.

²¹¹ *Id.* at 356–57.

²¹² *See San Luis Obispo Mothers for Peace v. U.S. Nuclear Reg. Comm'n*, 449 F.3d 1016 (9th Cir. 2006).

²¹³ *Id.* at 1019–20.

²¹⁴ *Id.* at 1024.

The court analyzed each of the four factors used by the NRC in dismissing the petition for terrorism analysis and rejected each in turn.²¹⁵ First, it noted that the NRC's contention that the risk of a terrorist attack was too 'remote and highly speculative' to warrant consideration in an EIS was directly contradicted by the agency's assertions that it had already undertaken a "top-to-bottom" security review regarding terrorist threats.²¹⁶ Second, the court reasoned that given those security reviews, the NRC's position that such risks were unquantifiable was likewise suspect, and it further pointed out that precise probabilities of risks were not required by the NEPA.²¹⁷

Third, the court argued that the NRC's argument—that the petitioners were effectively requesting a "worst case scenario" analysis—was incorrect; the court pointed out that the CEQ itself had pointed out that "worst-case analysis is not defined solely by the low probability of occurrence of the events analyzed, but also by the range of outcomes of those events."²¹⁸ Finally, the court rejected that the NEPA regime was incompatible with national security concerns, arguing that the NRC could undertake to modify the NEPA public participation requirements and take precautions for sensitive information while still complying with the statute's mandate to take the environmental consequences of a successful attack into account.²¹⁹

Despite the Ninth Circuit's ruling, the NRC maintains by and large that it does not have to consider terrorist attacks when preparing EIS assessments.²²⁰ In the absence of Supreme Court or other circuit precedent on point, it has "directed that terrorist attacks do not need to be included as an assessment parameter."²²¹

D. *A Classified EIS?*

In the years since the *San Luis Obispo* decision, some commentators have advocated that an appropriate compromise position between the

²¹⁵ *Id.* at 1028–35.

²¹⁶ *Id.* at 1030–31. The court explained the apparent contradiction, noting that "[t]his 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." *Id.* at 1032.

²¹⁷ *San Luis Obispo Mothers for Peace*, 449 F.3d at 1032.

²¹⁸ *Id.* at 1034.

²¹⁹ *Id.* at 1034–35.

²²⁰ See REVIEWERS GUIDANCE, *supra* note 157, at 6-40. Because the Supreme Court denied certiorari in the *San Luis Obispo* case, the NRC has complied with the decision only insofar as proposed projects are located within the Ninth Circuit's geographical bounds. *Id.*

²²¹ *Id.*

extreme positions of the NRC and the Ninth Circuit would be to have the NRC use classified EIS reports (or classified addenda) to address terrorism-related environmental impact assessments.²²² In a 2007 article, Amanda Mott explained how such a process might work.

Information pertinent to national security may be set out in a classified annex to the EIS, rather than in the EIS itself. Including classified information in an annex would allow for information to be read by a government official who would require clarification on anything that might be of public concern.²²³

She further posited that “[t]he possibility of the threat of a terrorist attack on a nuclear power plant could be considered in an EIS, but how, exactly, this attack would occur would not have to be disclosed.”²²⁴ Mott concluded by arguing that mandating consideration of terrorist attacks under the aegis of the NEPA would be “a small price to pay for the salvation of an exponential number of lives and endless devastation to the environment.”²²⁵

Mott’s proposal is based in solid Supreme Court precedent. In *Weinberger v. Catholic Action of Hawaii*, the Court considered the Department of Defense’s contention that it did not have to prepare an EIS for a proposed nuclear weapons storage facility.²²⁶ In an opinion written by Justice Rehnquist, the Court acknowledged that the Navy had valid national security reasons for not wanting to comply with the NEPA; but it explained that because the Navy was proposing to actually store weapons there, rather than merely considering the possibility, the Navy had a duty to prepare an EIS, even if the existence of that EIS was kept classified.²²⁷ As such, the Court seemed to endorse not only classified addenda, but classified EIS documents in their entirety.²²⁸

Some commentators have criticized the classified EIS concept, however, even if it is supported by the Supreme Court and the Ninth Circuit.²²⁹ In his 2007 article, Joseph Farris worried first about the precedent created

²²² See Mott, *supra* note 194, at 356–57.

²²³ *Id.*

²²⁴ *Id.* at 357.

²²⁵ *Id.* at 358.

²²⁶ See *Weinberger v. Catholic Action of Hawaii*, 454 U.S. 139, 141 (1981).

²²⁷ *Id.* at 144–46.

²²⁸ See *id.*

²²⁹ See, e.g., Joseph Farris, *Mothers for Peace and the Need to Develop Classified NEPA Procedures*, 34 *ECOLOGY L.Q.* 955, 967–68 (2007).

in allowing a civilian agency to have the ability to classify the NEPA procedures and the possibility that others would follow suit.²³⁰ Second, he questioned whether a classified EIS regime would accomplish the NEPA's goal of forcing "agencies [to] take a 'hard look' at [the] environmental consequences" of their actions, absent some oversight process.²³¹ And finally, he expressed his skepticism that the NEPA's public transparency and participation goal could be met when the information on which the public was supposed to be commenting was inevitably kept from their view.²³²

E. Congressional Oversight of EIS Compliance?

Proceeding under the premise that the NEPA compliance and national security interests could coexist in the post-9/11 world, Farris evaluated several alternatives to the purely classified EIS regime.²³³ Discarding such options as a "partial-disclosure" system and setting up a FISA-esque court, Farris settled on a hybrid system, involving congressional oversight committees in the model of the intelligence committees, which would give the green light or not to proposed projects based on the quality of the EIS, combined with judicial in camera review of EIS compliance.²³⁴ He argued that the in camera review component would ensure that the oversight of agency compliance goal was met, and that the congressional oversight component would provide a method by which a public "proxy" could effectively comment on the full, classified EIS.²³⁵

Farris acknowledged that his proposal would likely meet with criticism.²³⁶ First, he noted that some might question adding more bureaucracy and slowing down NRC's compliance with the NEPA; he argued, however, that additional bureaucratic red tape "must be weighed against the benefit of carrying out Congress' intent to ensure that federal agencies consider the environmental consequences of their decisions and involve the public in those decisions."²³⁷

In response to the expected objection that his proposal would rob the NRC of long-established discretion to proceed with a project, even in

²³⁰ *Id.* at 957.

²³¹ *Id.* at 967.

²³² *Id.* at 967–68.

²³³ *Id.* at 968–73.

²³⁴ *Id.* at 970–77.

²³⁵ Farris, *supra* note 229, at 973–75.

²³⁶ *Id.* at 975.

²³⁷ *Id.*

the face of huge environmental consequences, Farris argued that the proposal would not have that effect.²³⁸ Ultimately, he recognized “the agency makes the final decision, implementing its favored plan.”²³⁹

V. THE INFRASTRUCTURE SECURITY STATEMENT (“ISS”) REGIME

This note advocates for the abandonment of NRC responsibility for antiterrorist security testing at nuclear power plants in the United States and the amendment of the NEPA to explicitly exempt proposals for the construction of critical infrastructure from having to consider the environmental impact of potential terrorist attacks. In place of the NRC’s FOF testing and the NEPA, this note proposes that the Department of Homeland Security take on the responsibility of verifying the capability of nuclear plant security systems and that it oversee classified assessments of the environmental effects of possible terrorist attacks in concert with the Homeland Security Congressional Committees already in place.

A. *Plant Security Testing*

The Department of Homeland Security (“DHS”), created in the aftermath of the 9/11 attacks, has always had as one of its central missions the protection of so-called “critical infrastructure.”²⁴⁰ The Department defines such critical infrastructure as “the assets, systems, and networks, whether physical or virtual, so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, public health or safety, or any combination thereof.”²⁴¹

The Undersecretary of Homeland Security for Information Analysis and Infrastructure Protection has, among his many duties, the responsibility “[t]o integrate relevant information, analyses, and vulnerability assessments”²⁴² as well as to “develop a comprehensive national plan for securing the key resources and critical infrastructure of the United States, including power production, generation, and distribution systems.”²⁴³

²³⁸ *Id.* at 977.

²³⁹ *Id.*

²⁴⁰ See *Critical Infrastructure and Key Resources*, DHS.GOV, http://www.dhs.gov/files/programs/gc_1189168948944.shtm (last visited Oct. 2, 2010).

²⁴¹ *Id.*

²⁴² 6 U.S.C. § 121(d)(3) (2006).

²⁴³ *Id.* § 121(d)(5).

Pursuant to its explicit, statutory responsibility for the security of nuclear power plants and spent fuel storage, the DHS has instituted its own independent security assessment program for such facilities called the “Comprehensive Review.”²⁴⁴ Its objective in instituting this policy is to “determine the security and response capabilities of the facilities and their surrounding community.”²⁴⁵ Additionally, the DHS has instituted a “Buffer Zone Plans” program, which seeks to “identify and recommend security measures and local law enforcement coordination for the area surrounding the facility”²⁴⁶

Given this clear congressional mandate, it seems worth asking why the NRC is involved in nuclear plant security at all. If the chief security threat to nuclear power facilities is a terrorist attack, and if the DHS has been given the ultimate responsibility for protecting those plants against such attacks, why not give the agency that is the expert in counter-terrorism the ability to truly test and implement its recommendations?

Moving the DBT and FOF testing program to the DHS would accomplish two things. First, it would remove the appearance and the reality of impropriety that currently permeates relations between the NRC and private sector utility companies.²⁴⁷ Rather than removing certain scenarios or weapons from the FOF table in response to industry complaints, the DHS could use its knowledge about the actual capabilities and intentions of terrorists to create a realistic testing regime. It could work in concert with the NRC to approve licenses and continue to test facilities in light of new terrorist threat information.

Second, the transfer of DBT and FOF programs to the DHS would arguably increase bureaucratic efficiency by removing an additional step in the process. It would allow the agency with the most expertise and comprehensive intelligence to directly implement testing in response to the changing realities of the terrorist threat.²⁴⁸ Meanwhile, the NRC could focus on what it does best—reviewing and approving power plant proposals

²⁴⁴ DEP’T OF HOMELAND SEC., NATIONAL INFRASTRUCTURE PROTECTION PLAN: NUCLEAR REACTORS, MATERIALS, AND WASTE SECTOR 2, *available at* http://www.dhs.gov/xlibrary/assets/nipp_nuclear.pdf (last visited Oct. 2, 2010) [hereinafter NATIONAL INFRASTRUCTURE PLAN].

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *See supra* notes 136–37 and accompanying text.

²⁴⁸ *See* DEP’T OF HOMELAND SEC., ONE TEAM, ONE MISSION, SECURING OUR HOMELAND: U.S. DEPARTMENT OF HOMELAND SECURITY STRATEGIC PLAN FISCAL YEARS 2008–2013 23 (2008), *available at* http://www.dhs.gov/xlibrary/assets/DHS_StratPlan_FINAL_spread.pdf.

based on inherent design characteristics, safety features, and environmental impacts.²⁴⁹ The DHS would be able to settle more definitively what constitutes a “reasonable” degree of security and set criteria that the industry could meet²⁵⁰ without the worry of real features of potential attacks being lost or “dumbed down” in interagency translation.

There is no reason to think that the DHS would be incompetent to execute this kind of a testing program, given their announced policies thus far.²⁵¹ And, as the 9/11 Commission pointed out, the DHS is no stranger to private sector coordination: “[t]he mandate of the Department of Homeland Security does not end with government; the department is also responsible for working with the private sector to ensure preparedness. This is entirely appropriate, for the private sector controls eighty-five percent of the critical infrastructure in the nation.”²⁵²

The DHS is unlikely to avoid entirely the problems of the revolving public-private sector door that has hampered the NRC’s administration of the security testing program; additionally, it might be argued that the NRC has special expertise in the area of nuclear plant security.²⁵³ But, it seems clear that by shifting responsibility to the chief agency responsible for counter-terrorism, the industry captive problem would at least be reduced, the quality of testing would improve, and the program’s responsiveness to the changing threat environment would increase.

B. *The NEPA Exemption*

The NEPA provides an important environmental protection, and this note argues that in its current nuclear plant approval process, the NRC largely complies with it.²⁵⁴ The Ninth Circuit was correct in pointing out that in failing to consider terrorism in its EIS preparation, the NRC failed to honor the two goals of the NEPA.²⁵⁵ But, it is worth pointing out, first, that the NEPA’s goals of public participation and transparency are inapposite to the counter-terrorism context.²⁵⁶ Second, it seems logical that

²⁴⁹ See *About NRC*, NRC.GOV, <http://www.nrc.gov/about-nrc.html> (last visited Oct. 2, 2010).

²⁵⁰ See *supra* notes 140–41 and accompanying text.

²⁵¹ See *supra* notes 239–44 and accompanying text.

²⁵² THE 9/11 COMMISSION REPORT, *supra* note 102, at 397–98.

²⁵³ See NATIONAL INFRASTRUCTURE PLAN, *supra* note 244, at 2.

²⁵⁴ See, e.g., REVIEWERS GUIDANCE, *supra* note 157, at 6-37 to 6-38.

²⁵⁵ See *San Luis Obispo Mothers for Peace v. U.S. Nuclear Reg. Comm’n*, 449 F.3d 1016, 1020, 1028 (9th Cir. 2006).

²⁵⁶ See *Weinberger v. Catholic Action of Hawaii*, 454 U.S. 139, 141 (1981).

its other goal—due consideration of environmental impact²⁵⁷—would best be addressed by the DHS in a different forum.

The NEPA envisions an open, collaborative give-and-take between the lead agency for the project in question and the public stakeholders, including at least one public meeting per project during the scoping process.²⁵⁸ This admirable goal presumes a measure of public expertise and puts a premium on agency response to suggestions from the public.²⁵⁹ That assumption certainly seems reasonable when applied to relatively innocuous discussions about watersheds, re-zoning, and aesthetic concerns with blight, but in the national security context, the degree of public expertise, and value of public discourse should be, at best, suspect.²⁶⁰ As the NRC argues,

In our view, the public interest would not be served by inquiries at NRC hearings and public meetings into where and how nuclear facilities are vulnerable, how they are protected and secured, and what consequences would ensue if security measures failed at a particular facility. Such NEPA reviews may well have the perverse effect of assisting terrorists seeking effective means to cause a release of radioactivity with potential health and safety consequences.²⁶¹

In this context, it strains credibility to argue that Congress intended for the NEPA to mandate a public discourse about the details of counter-terrorism measures, whatever its benevolent reasons for passing the bill in 1969. The public discourse requirement is simply incompatible with the need to protect critical infrastructure.

The NEPA's application to terrorist attacks is also unnecessary because its second goal—ensuring that agencies take a “hard look” at the environmental consequences of their proposals²⁶²—can just as easily be accomplished by the DHS under its current procedures. While the inherent environmental consequences of nuclear plant construction are properly encompassed in the EIS process, the DHS is already set up to project and analyze the environmental consequences of a terrorist attack on a

²⁵⁷ See BALDWIN, *supra* note 159, at 1–2.

²⁵⁸ *Id.* at 6.

²⁵⁹ *Id.*

²⁶⁰ In the Matter of Private Fuel Storage, L.L.C., 56 N.R.C. 340, 354–55 (2002).

²⁶¹ *Id.*

²⁶² See Farris, *supra* note 229, at 967.

nuclear power plant.²⁶³ Through the Federal Emergency Management Agency (“FEMA”),²⁶⁴ the DHS implements a “Radiological Emergency Preparedness (“REP”) Program,” which has as its operating mission the “oversight of radiological emergency planning and preparedness activities. REP leads offsite emergency planning and reviews, and evaluates radiological emergency response plans and procedures developed by State and local governments.”²⁶⁵

The program serves to address many of the concerns raised by the plaintiff groups objecting to NRC’s refusal to consider the impact of terrorist attacks on the environment, striving to “(1) ensure the health and safety of citizens living around commercial nuclear power plants would be adequately protected in the event of a nuclear power plant accident; and (2) inform and educate the public about radiological emergency preparedness.”²⁶⁶

Given these programs, it seems unnecessary to force the NRC to cover the same territory in an outmoded venue—the NEPA. It would make much more sense to ensure that FEMA’s first responder analysis be folded into the nuclear plant approval process by statute, possibly in the form of an ISS program.²⁶⁷

Before such a program could be implemented, however, Congress would need to pass a statutory exemption, explicitly removing the requirement to consider the environmental impacts of terrorist attacks in the NEPA compliance procedures. Absent such an explicit exemption, the NRC could still be compelled to create classified EIS reports, even if it did not have to release them to the public.²⁶⁸ And, in any case, the exemption makes sense. An environmental protection statute crafted forty years ago hardly seems the appropriate venue to discuss the issue of twenty-first century terrorism.

C. *Congressional Oversight*

Joseph Farris’s suggestion that congressional oversight become a proxy for the public debate envisioned by the NEPA is a good one, and

²⁶³ See NATIONAL INFRASTRUCTURE PLAN, *supra* note 244, at 2.

²⁶⁴ FEMA is a subordinate agency within the DHS. See *Department Subcomponents and Agencies*, DHS.GOV, <http://www.dhs.gov/xabout/structure> (last visited Aug. 28, 2010).

²⁶⁵ See NATIONAL INFRASTRUCTURE PLAN, *supra* note 244, at 2.

²⁶⁶ *Radiological Emergency Preparedness Program*, FEMA.GOV, http://www.fema.gov/about/divisions/thd_repp.shtm (last visited Aug. 28, 2010).

²⁶⁷ *Critical Infrastructure Vulnerability Assessments*, DHS.GOV, http://www.dhs.gov/files/programs/gc_1265660667069.shtm (last visited Oct. 2, 2010).

²⁶⁸ See *Weinberger v. Catholic Action of Hawaii*, 454 U.S. 139, 146 (1981).

it could easily be integrated with this note's DHS-centric approach.²⁶⁹ The House of Representatives and Senate each have Homeland Security Committees,²⁷⁰ and could easily incorporate nuclear power plant security and first response environmental impacts into their portfolios. In fact, each committee has a subcommittee with specific authority over infrastructure protection.²⁷¹ As much as the House and Senate intelligence committees have done, these committees could transform into effective oversight mechanisms for a new, DHS-managed security and environmental impacts regime in the spirit of the NEPA.

CONCLUSION

As Senator Bob Bennett has stated, "Nuclear power is here to stay."²⁷² Despite falling into disfavor following the Three Mile Island incident, and although a Democrat now occupies the White House, nuclear power is back in a major way.²⁷³ In the push to roll back climate change and increase the amount of "pollution free" sources in our energy mix, President Obama has recently embraced federal funding for additional nuclear plant construction.²⁷⁴ And, in the wake of his administration's decision to cut funding for Yucca Mountain in its 2011 budget request,²⁷⁵ it seems likely that SNF will continue to pile up at nuclear reactors around the country.²⁷⁶

²⁶⁹ See Farris, *supra* note 229, at 956; see also *supra* notes 230–36 and accompanying text.

²⁷⁰ See *Committee on Homeland Security*, <http://homeland.house.gov/> (last visited on Aug. 28, 2010); *United States Senate Committee on Homeland Security and Governmental Affairs*, <http://hsgac.senate.gov/public/> (last visited Aug. 28, 2010).

²⁷¹ See *Subcommittee on Transportation Security and Infrastructure Protection*, <http://homeland.house.gov/about/subcommittees.asp?subcommittee=10> (last visited Aug. 28, 2010); *Ad Hoc Subcommittee on State, Local, and Private Sector Preparedness and Integration*, <http://hsgac.senate.gov/public/index.cfm?FuseAction=Subcommittees.SLPSPI> (last visited Aug. 28, 2010).

²⁷² 151 CONG. REC. S10222 (daily ed. Sept. 20, 2005) (statement of Sen. Bob Bennett).

²⁷³ See Dina Cappiello & Matthew Daly, *Obama Pushes Nuclear Energy to Boost Climate Bill*, ABC NEWS (Jan. 31, 2010), <http://abcnews.go.com/Business/wirestory?id=9709897>. Cappiello notes that "Obama singled out nuclear power in his State of the Union address, and his spending plan for the next budget year is expected to include billions of more dollars in federal guarantees for new nuclear reactors." *Id.*

²⁷⁴ *Id.*

²⁷⁵ See *Obama Dumps Yucca Mountain*, WORLD NUCLEAR NEWS (Feb. 27, 2009), <http://www.world-nuclear-news.org/print.aspx?id=24743>; see also *Mountain of Trouble: Mr. Obama Defends the Nuclear Repository at Yucca Mountain. Now What?*, WASH. POST, Mar. 8, 2009, at A18, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/03/07/AR2009030701666.html>.

²⁷⁶ See Stewart, *supra* note 8, at 787.

That leaves America with the question of how best to secure its nuclear waste stockpile against the continuing threat of terrorism. We can either continue to apply the status quo, in which the nuclear industry names the terms of its own security compliance, and an outdated environmental statute is used to force our infrastructural weaknesses into the public square; or, we can change. We can recognize that after we were attacked, we gave authority for this kind of problem to a specific department for good reason, and we can let it do its job.