

15-1330-cv

United States Court of Appeals for the Second Circuit

RICHARD BRODSKY, New York State Assemblyman, From the 92nd Assembly
District in His Official and Individual Capacities,
Plaintiff-Appellant,

HEALTH AND SUSTAINABLE ENERGY (PHASE), WESTCHESTER'S CITIZENS
AWARENESS NETWORK (WESTCAN), SIERRA CLUB,
Plaintiffs,

– v. –

UNITED STATES NUCLEAR REGULATORY COMMISSION,
Defendant-Appellee,
ENTERGY NUCLEAR OPERATIONS, INC.,
Intervenor.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF FOR *AMICI CURIAE* NEW YORK CITY COUNCIL MEMBERS IN SUPPORT OF PLAINTIFF-APPELLANT

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<i>San Luis Obispo Mothers for Peace v. NRC</i> , 449 F.3d 1016 (9th Cir. 2006).....	15
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72 Fed. Reg. 56,798 (Oct. 4, 2007).....	9, 13
78 Fed. Reg. 52,987 (Aug. 27, 2013).....	10, 13, 14, 15
Akira Ohtsuru, Koichi Tanigawa, et al., <u>Nuclear Disasters and Health: Lessons Learned, Challenges, and Proposals</u> , <i>The Lancet</i> , 386(9992), 489-97 (Aug. 1, 2015).....	23

Edwin S. Lyman, Chernobyl on the Hudson? The Health and Economic Impacts of a Terrorist Attack at the Indian Point Nuclear Plant, Union of Concerned Scientists (Sept. 2004), http://www.ucsusa.org/sites/default/files/legacy/assets/documents/nuclear_power/indianpointhealthstudy.pdf.....19, 20, 21, 22, 25

Environment America Research & Policy Center, Too Close to Home: Nuclear Power and the Threat to Drinking Water (Jan. 2012), <http://environmentamericacenter.org/sites/environment/files/reports/Nukes%20and%20H2O%20vUS.pdf>24

International Atomic Energy Agency, Chernobyl’s Legacy: Health, Environmental and Socio-Economic Impacts, Chernobyl Forum: 2003-2005, 2d revised (Apr. 2006), *available at* <https://www.iaea.org/sites/default/files/chernobyl.pdf>.....23

Japan Ministry of Economy, Trade and Industry, Areas To Which Evacuation Orders Have Been Issued, (Oct. 1, 2014), <http://www.meti.go.jp/english/earthquake/nuclear/roadmap/pdf/141001MapOfAreas.pdf>18

Japan Ministry of Economy, Trade and Industry, Practical Operations for Designating Areas To Which Evacuation Orders Have Been Issued as Newly Designated Areas, http://www.meti.go.jp/english/earthquake/nuclear/roadmap/pdf/20120330_01b.pdf.....18

Kate Kelland, Mental Health Suffers Most in Major Nuclear Accidents, Studies Find, Reuters (July 30, 2015), <http://mobile.reuters.com/article/healthcareSector/idUSL5N10A2KI20150730>23

Kirk Semple, Road Over Kensico Dam Stays Closed, Executive Says, N.Y. Times, Sept. 3, 2004, *available at* <http://www.nytimes.com/2004/09/03/nyregion/road-over-kensico-dam-stays-closed-executive-says.html>24

Lara Kirkham and Alan J. Kuperman, Protecting U.S. Nuclear Facilities from Terrorist Attack: Re-assessing the Current “Design Basis Threat” Approach, Nuclear Proliferation Prevention Project, LBJ School of Public Affairs, University of Texas at Austin (Aug. 15, 2013).....16, 17

Natural Resources Defense Council, Nuclear Accident at Indian Point: Consequences and Costs (Oct. 2011), http://www.nrdc.org/nuclear/indianpoint/files/NRDC-1336_Indian_Point_FSr8medium.pdf.....22, 25

New York City Tourism Hit Record High in 2014, Officials Say, Reuters (Feb. 2, 2015), <http://www.reuters.com/article/2015/02/02/us-usa-newyork-tourism-idUSKBN0L61XM20150202>17

Physicians for Social Responsibility, Lessons from Fukushima and Chernobyl for U.S. Public Health (Spring 2011), <http://www.psr.org/assets/pdfs/fukushima-and-chernobyl.pdf>.....7, 18, 19, 20

Remarks by the President on the Situation in Japan, The White House (Mar. 17, 2011), *available at* <https://www.whitehouse.gov/the-press-office/2011/03/17/remarks-president-situation-japan>.....7

The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States (2004)16

U.S. Food and Drug Administration, Frequently Asked Questions on Potassium Iodide (KI), <http://www.fda.gov/Drugs/EmergencyPreparedness/BioterrorismandDrugPreparedness/ucm072265.htm#KI%20do>22

U.S. Government Accountability Office, Emergency Preparedness: NRC Needs to Better Understand Likely Public Response to Radiological Incidents at Nuclear Power Plants, GAO-13-243 (Mar. 11, 2013), *available at* <http://www.gao.gov/products/GAO-13-243>21

STATEMENT OF INTEREST

New York City Council Members Margaret S. Chin, Andrew Cohen, Robert Cornegy, Laurie Cumbo, Julissa Ferreras, Daniel R. Garodnick, Corey Johnson, Ben Kallos, Stephen Levin, Mark Levine, Darlene Mealy, Carlos Menchaca, Rosie Mendez, Antonio Reynoso, Donovan Richards Jr., Deborah Rose, Helen Rosenthal, Mark Treyger, and Eric Ulrich, (hereinafter, the “Council Members”) respectfully submit this amicus brief pursuant to Federal Rule of Appellate Procedure 29(a), in support of Plaintiff-Appellant’s brief and for reversal of the District Court’s grant of summary judgment in its Memorandum and Order dated February 26, 2015, affirming the decision of the Nuclear Regulatory Commission (“NRC”) to grant a fire safety exemption to the Indian Point Energy Center (“Indian Point”).¹ Specifically, the Council Members, as amici, urge this Court to order the NRC to reconsider the exemption granted Indian Point specifically taking into account whether the exemption increases the risk or consequences of a terrorist attack at Indian Point in assessing the environmental impact of the exemption.

¹ Pursuant to Second Circuit Local Rule 29.1(b), amici curiae state that no party’s counsel authored this brief in whole or in part; no party’s counsel contributed money that was intended to fund preparing or submitting the brief; and other than amici curiae and its counsel no person contributed money that was intended to fund preparing or submitting this brief.

Council Member Margaret Chin has represented New York City's 1st District since 2010. Situated in Lower Manhattan, the 1st District includes Chinatown, Battery Park City, Civic Center, Financial District, Greenwich Village, Little Italy, NoHo, SoHo, South Street Seaport, City Hall, and Tribeca. Approximately 167,588 people live in the 1st District, residing roughly between 37 and 40 miles from Indian Point.²

Council Member Andrew Cohen has represented New York City's 11th District since 2014. Situated in the Bronx, the 11th District encompasses Bedford Park, Kingsbridge, Norwood, Riverdale, Van Cortlandt Village, Wakefield, and Woodlawn. It includes approximately 152,762 constituents, who reside roughly between 24 and 28 miles from Indian Point.

Council Member Robert Cornegy has represented New York City's 36th District since 2014. Situated in Brooklyn, the 36th District encompasses Bedford-Stuyvesant and the northern Crown Heights section of the borough. It includes approximately 151,497 constituents, who reside roughly between 39 and 41 miles from Indian Point.

Council Member Laurie Cumbo has represented New York City's 35th District since 2014. Situated in Brooklyn, the 35th District encompasses Clinton

² City Council District populations available at: <http://maps.nyc.gov/doitt/nycitymap/>; Distance calculated with tool available at: <http://www.daftlogic.com/projects-google-maps-distance-calculator.htm>.

Hill, Fort Greene, Crown Heights, and Prospect Heights. It includes approximately 152,017 constituents, who reside roughly between 39 and 42 miles from Indian Point.

Council Member Julissa Ferreras has represented New York City's 21st District since 2009. Located in Queens, the 21st District encompasses Elmhurst, East Elmhurst, Corona and Jackson Heights. It includes approximately 160,845 constituents, who reside roughly between 33 and 37 miles from Indian Point.

Council Member Daniel Garodnick has represented New York City's 4th District since 2006. Situated on Manhattan's East Side, the 4th District encompasses the Upper East Side, Central Park South, Grand Central, Tudor City, Waterside, Peter Cooper Village, Carnegie Hill, Stuyvesant Town, United Nations, and parts of Yorkville, Turtle Bay. It includes approximately 168,370 constituents, who reside roughly between 33 and 37 miles from Indian Point.

Council Member Corey Johnson has represented New York City's 3rd District since 2014. On Manhattan's West Side, the 3rd District encompasses Hell's Kitchen, Chelsea, the West Village, and parts of Flatiron, SoHo, and the Upper West Side. It includes approximately 168,489 constituents, who reside roughly between 34 and 38 miles from Indian Point.

Council Member Ben Kallos has represented New York City's 5th District since 2014. Situated in Manhattan, the 5th District encompasses the Upper East

Side, Yorkville, Lenox Hill, Sutton Place, and Roosevelt Island. It includes approximately 168,325 constituents, who reside roughly between 33 and 36 miles from Indian Point.

Council Member Stephen Levin has represented New York City's 33rd District since 2010. Located in Brooklyn, the 33rd District encompasses Brooklyn Heights, DUMBO, Williamsburg, Greenpoint, Boerum Hill, Vinegar Hill, Downtown Brooklyn, and Bedford-Stuyvesant. It includes approximately 161,156 constituents, who reside roughly between 36 and 41 miles from Indian Point.

Council Member Mark Levine has represented New York City's 7th District since 2014. The 7th District, in Northern Manhattan, encompasses Washington Heights, Hamilton Heights, Manhattanville, Morningside Heights, Manhattan Valley, and parts of Upper West Side. It includes approximately 167,682 constituents, who reside roughly between 29 and 33 miles from Indian Point.

Council Member Darlene Mealy has represented New York City's 41st District since 2006. Situated in Brooklyn, the 41st District encompasses Bedford-Stuyvesant, Ocean Hill-Brownsville, East Flatbush, and Crown Heights. It includes approximately 151,826 constituents, who reside roughly between 40 and 43 miles from Indian Point.

Council Member Carlos Menchaca has represented New York City's 38th District since 2014. Situated in Brooklyn, the 38th District encompasses Red

Hook, Sunset Park, and Bush Terminal, and parts of Windsor Terrace and Borough Park. It includes approximately 167,967 constituents, who reside roughly between 40 and 45 miles from Indian Point.

Council Member Rosie Mendez has represented New York City's 2nd District since 2006. Situated in Lower Manhattan, the 2nd District encompasses the Lower East Side, East Village, Gramercy Park, Rosehill, Kips Bay, and southern parts of Murray Hill. It includes approximately 167,837 constituents, who reside roughly between 36 and 38 miles from Indian Point.

Council Member Antonio Reynoso has represented New York City's 34th District since 2014. Situated in Brooklyn and Queens, the 34th District encompasses the Brooklyn neighborhoods of Williamsburg and Bushwick, and Ridgewood, Queens. It includes approximately 154,656 constituents, who reside roughly between 37 and 40 miles from Indian Point.

Council Member Donovan Richards has represented New York City's 31st District in Queens since 2013. The 31st District encompasses the communities of Laurelton, Rosedale, parts of Springfield Gardens, Bayswater, Hammels, Arverne, Edgemere, and Far Rockaway. It includes approximately 156,293 residents, who live roughly between 42 and 48 miles from Indian Point.

Council Member Deborah Rose has represented New York City's 49th District since 2010. Situated in Staten Island, the 49th District encompasses

Clifton, Clove Lakes, Concord, Elm Park, Livingston, Mariners Harbor, New Brighton, Port Richmond, Randall Manor, Rosebank, St. George, Snug Harbor, Silver Lake, Stapleton, West Brighton, and Tompkinsville. It includes approximately 158,613 constituents, who reside roughly between 43 and 47 miles from Indian Point.

Council Member Helen Rosenthal has represented New York City's 6th District since 2014. The 6th District encompasses Manhattan's Upper West Side. It includes approximately 168,265 constituents, who reside roughly between 32 and 34 miles from Indian Point.

Council Member Mark Treyger has represented New York City's 47th District since 2014. Situated in Brooklyn, the 47th District encompasses Coney Island, Gravesend, Sea Gate, Bensonhurst, and Brighton Beach. It includes approximately 168,066 constituents, who reside roughly between 45 and 48 miles from Indian Point.

Council Member Eric Ulrich has represented New York City's 32nd District since 2009. Situated in Brooklyn, the 32nd District encompasses Belle Harbor, Breezy Point, Broad Channel, Hamilton Beach, Howard Beach, Lindenwood, Neponsit, Ozone Park, Rockaway Beach, Rockaway Park, South Ozone Park, South Richmond Hill, and Woodhaven. It includes approximately 155,752 constituents, who reside roughly between 39 and 50 miles from Indian Point.

Together, the Council Members represent more than 3 million residents of New York City as well as the thousands of commuters and travelers who come to New York City to work and visit each day. All of the Council Members' districts fall within 50 miles of Indian Point. Some of the Council Members' constituents live as close as 24 miles from Indian Point. After the disaster at the Fukushima Daiichi Nuclear Power Station in Japan in March 2011, the NRC recommended that all U.S. citizens within 50 miles of the Fukushima facility evacuate.³

President Obama remarked that this decision "was based upon a careful scientific evaluation and the guidelines that we would use to keep our citizens safe here in the United States, or anywhere in the world."⁴ The Council Members and their constituents, all of whom live within 50 miles of Indian Point, therefore are particularly vulnerable to the environmental consequences of a radiological release at Indian Point should the systems designed to shut down the reactor fail in the event of a catastrophic fire at the reactor.

The Council Members have a vital interest in protecting the health and safety of their constituents and in giving voice to their constituents' concerns regarding the potential environmental impact of radiological release at the Indian

³ Physicians for Social Responsibility, Lessons from Fukushima and Chernobyl for U.S. Public Health, 5 (Spring 2011), <http://www.psr.org/assets/pdfs/fukushima-and-chernobyl.pdf>.

⁴ Remarks by the President on the Situation in Japan, The White House (Mar. 17, 2011), *available at* <https://www.whitehouse.gov/the-press-office/2011/03/17/remarks-president-situation-japan>.

Point nuclear facility. The Council Members seek to ensure that the NRC enforces the strict safety guidelines it has put in place to guard against unintended radiological releases at Indian Point and that it grant exceptions to those guidelines only after a thorough consideration of all relevant factors. The NRC's determination that it has "no legal duty" to consider the threat of terrorism at Indian Point in considering an exemption to its regulations is particularly troubling to the amici. A terrorist attack at Indian Point could have devastating short and long term effects on the New York City environment, endangering the safety and health of those who live, work, and travel there, contaminating drinking water and food supplies, and rendering land in and around New York City uninhabitable. Amici have a direct interest in ensuring that the NRC has considered whether the fire regulation exemption granted to Indian Point increases these risks.

Pursuant to Fed. R. App. P. 29(a), all parties have consented to the filing of this brief.

SUMMARY OF ARGUMENT

The amici join in and support the arguments made by Plaintiff-Appellant, but write separately to emphasize the potential consequences to New York City of a nuclear catastrophe at Indian Point and argue that the NRC must reconsider the fire safety exemption granted Indian Point and take into account whether that exemption increases the risk and environmental consequences of a terrorist attack.

Indian Point is a nuclear power plant located on the Hudson River in Buchanan, New York, just 34 miles north of the center of Manhattan. In October 2007, the NRC granted Indian Point an exemption from certain fire safety regulations requiring that power cables designed to ensure the safe shutdown of a nuclear reactor be able to withstand a fire for one hour. 72 Fed. Reg. 56,798 (Oct. 4, 2007). These insulated cables are a critical component of the backup system for shutting down a reactor should a fire incapacitate other, non-fire-proof, shut-down mechanisms. Indian Point sought an exemption from this regulation because the insulation on its power cables falls far short of the one hour requirement: Indian Point's own testing showed that the insulation on its cables in one location would last a mere 24 minutes in a fire – less than half the time mandated by the fire safety regulations. 72 Fed. Reg. 56,798 (Oct. 4, 2007).

The NRC granted the requested exemption, initially without accepting public comment. After litigation challenging the NRC's exemption, this Court

remanded the case for an order directing the NRC to explain its failure to entertain public comment or “take other such action as it may deem appropriate to resolve this issue.” Brodsky v. U.S. Nuclear Regulatory Comm’n, 704 F.3d 113, 124 (2d Cir. 2013). The NRC subsequently reconsidered the exemption and invited public comment. During the comment period, numerous commenters expressed concern that the exemption increased the risks and consequences of a terrorist attack at Indian Point. 78 Fed. Reg. 52,989 (Aug. 27, 2013).

The NRC concluded that the fire safety exemption granted to Indian Point should remain in place. Characterizing the risk of a terrorist attack as a “low-probability, high consequence event[],” the NRC expressly declined to consider the risks of a terrorist attack at Indian Point. 78 Fed. Reg. 52,989 (Aug. 27, 2013). Indeed, the NRC asserted that it had “no legal duty . . . to consider intentional malevolent acts” in assessing the environmental impact of the exemption it granted to Indian Point. Id. Plaintiffs, including Plaintiff-Appellant, challenged the NRC’s process and its ultimate decision, but the District Court granted summary judgment for the NRC as a matter of law. Brodsky v. U.S. Nuclear Regulatory Comm’n, No. 09 Civ. 10594, 2015 WL 1623824, at *8 (S.D.N.Y. Feb. 26, 2015).

For all the reasons argued by Plaintiff-Appellant, the District Court judgment should be reversed. The NRC’s refusal to consider the possibility of an intentional attack on the Indian Point reactor violates the National Environmental

Policy Act (“NEPA”), which requires that agencies “consider every significant aspect” of a proposed action’s environmental impact. Baltimore Gas & Elec. Co. v. Natural Resources Defense Council, Inc., 462 U.S. 87, 97 (1983). Rather than follow this directive, the NRC’s decision to keep the exemption in effect without taking into account the risk of terrorism at the facility turns a blind eye to environmental consequences that residents of New York cannot afford to have ignored.

New Yorkers have a direct and immediate interest in having the NRC evaluate whether the fire safety exemption it has now twice approved for Indian Point increases the risk or environmental consequences of a terrorist attack directed at the reactors. The risk of such a “low-probability, high consequence event,” is all too real for many New Yorkers who have already experienced it firsthand. A meltdown or other major radiological release from Indian Point could result in catastrophic loss of life from short-term radiation exposure as well as increased long-term cancer risks, poisoning of the food chain and drinking water supply, and potentially rendering land up to 50 miles from Indian Point uninhabitable.

Approximately 17.2 million people – including almost the entire population of New York City – live within 50 miles of Indian Point, well within the zone of risk from an unplanned radiological release. The NRC must consider whether the fire

safety exemption it granted Indian Point increases the risk of such a catastrophic event.

ARGUMENT

I. IN GRANTING THE FIRE SAFETY EXEMPTION, THE NRC WRONGLY CONCLUDED THAT IT DID NOT NEED TO CONSIDER THE RISKS OF TERRORISM

In July 2006, Entergy Nuclear Operations, Inc. (“Entergy”), the owner of Indian Point, requested an exemption from the fire safety regulations that are designed to ensure the safe shutdown of nuclear power plants in the event of an emergency. See 78 Fed. Reg. 52,987 (Aug. 27, 2013). Federal safety regulations require that a nuclear plant “provide protection . . . so that a fire that is not promptly extinguished . . . will not prevent the safe shutdown of the plant.” 10 C.F.R. § pt. 50, App. R, II.A. These regulations may be satisfied if a redundant safety shutdown system is enclosed by a barrier that can withstand a fire for at least one hour. 10 C.F.R. § Pt. 50, App. R, III.G.2. However, by Entergy’s own admission, the barrier protecting the backup shutdown system at Indian Point can withstand fire for only 24 minutes – less than half the time ordinarily required. 72 Fed. Reg. 56,798 (Oct. 4, 2007).

Nevertheless, on October 4, 2007, without seeking public comment, the NRC granted Entergy an exemption from the fire safety regulations, finding that the exemption “will not present an undue risk to the public health and safety.” 72 Fed. Reg. 56,801 (Oct. 4, 2007). This followed the NRC’s conclusion in its September 2007 Environmental Assessment (“EA”) that the exemption “will not

have a significant effect on the quality of the human environment.” 72 Fed. Reg. 55,254 (Sept. 28, 2007).

Following the Second Circuit’s order on remand that the NRC explain its decision not to solicit public comment under NEPA or take other appropriate action, the NRC solicited public comment on the exemption. After receiving 135 comments, the NRC decided that the fire safety exemption “will not be modified” and concluded that “existing fire protection features are adequate.” 78 Fed. Reg. 52,987-52,988 (Aug. 27, 2013). This decision was based on, among other factors, the presence of “redundant safe-shutdown trains, minimal fire hazards and combustibles, . . . manual fire suppression features, . . . and the installed smoke detection system.” 78 Fed. Reg. 52,988 (Aug. 27, 2013). Acknowledging that “[m]any comments raised the specter of a terrorist attack or other event that would defeat the Indian Point . . . fire protection measures . . . [and] result in a loss of reactor safe shutdown capability and serious offsite consequences,” 78 Fed. Reg. 52,989 (Aug. 27, 2013), the NRC declined to consider the risk of terrorism. Characterizing acts of terrorism as “inherently unpredictable and stochastic,” it reasoned that such “low-probability, high-consequence events are beyond the scope of the EA and [the Finding of No Significant Impact].” *Id.* The NRC concluded that it had “no legal duty . . . to consider intentional malevolent acts” in assessing the environmental impact of granting the exemption because “those acts

are too far removed from the natural or expected consequences of agency action.”

Id. (quotation marks and citation omitted).

The NRC wrongly concluded that it need not consider the risk of terrorism under NEPA. As Plaintiff-Appellant argues, NEPA requires federal agencies “to consider *every* significant aspect of the environmental impact of a proposed action.” Baltimore Gas & Elec., 462 U.S. at 97 (emphasis added); Plaintiff-Appellant’s Br. 26. The agency is not entitled to ignore potential environmental impacts merely because the cause may be “unpredictable and stochastic.” See San Luis Obispo Mothers for Peace v. NRC, 449 F.3d 1016, 1031 (9th Cir. 2006) (holding that “the possibility of a terrorist attack is not so remote and highly speculative as to be beyond NEPA’s requirements”) (quotations omitted). The fact that a terrorist attack cannot be reliably predicted underscores, rather than eliminates, the need to ensure that Indian Point can safely shut down under unexpected and potentially uncontrolled fire conditions.

The NRC’s refusal to consider this scenario is inconsistent with its reliance on the presence of “minimal . . . combustibles” and “manual fire suppression features” in determining that the exemption would not have an appreciable impact on the human environment. 78 Fed. Reg. 52,988 (Aug. 27, 2013). The NRC should have considered whether these factors would be affected by a terrorist attack. It should have evaluated whether a terrorist attack might introduce

combustibles not otherwise present, or whether a manual response by Indian Point personnel and other first responders might be impaired or altogether impossible in the immediate aftermath of a large-scale attack. The other conditions relied on by the NRC—the existence of “redundant safe-shutdown trains” and the “installed smoke detection system”—may be similarly compromised in the event of a terrorist attack. Indeed, the NRC’s safety regulations require that nuclear power plants prepare to defend themselves against well-armed terrorists working in conjunction with an insider who could compromise internal safety systems.⁵ At the very least the NRC should have considered whether these systems present a reliable alternative in the event of a terrorist attack.

Although the risk of terrorism may not be predictable, that risk should not be ignored. The 9/11 Commission Report disclosed that one of the September 11, 2001 attackers, Mohamed Atta, considered targeting Indian Point.⁶ Atta’s fellow attackers rejected the idea because they mistakenly believed that the airspace around U.S. nuclear facilities was restricted.⁷ Indeed, terrorists have repeatedly threatened nuclear power plants around the world. Threats against, or attempts to

⁵ Lara Kirkham and Alan J. Kuperman, Protecting U.S. Nuclear Facilities from Terrorist Attack: Re-assessing the Current “Design Basis Threat” Approach, Nuclear Proliferation Prevention Project, LBJ School of Public Affairs, University of Texas at Austin, 17-18 (Aug. 15, 2013).

⁶ The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States, 245 (2004).

⁷ Id.

penetrate or destroy nuclear reactors have been reported in Argentina, Russia, Lithuania, Western Europe, South Africa, and South Korea.⁸ The NRC's refusal to consider the threat of terrorism exposes New York City, its residents, commuters, and visitors, to unacceptable risk.⁹

II. A RADIOLOGICAL RELEASE AT INDIAN POINT WOULD SUBJECT THE CITY AND ITS RESIDENTS TO ENVIRONMENTAL HARM

The NRC's refusal to consider whether the fire safety exemption increases the risk or consequences of a terrorist attack abdicates the Commission's responsibility to consider the impact of its decisions on the human environment. A terrorist attack causing a radioactive release from Indian Point would have devastating short and long-term consequences for the people of New York City.

a. New York City is at high risk of contamination in the event of an uncontrolled radiological release from Indian Point

If Indian Point's shutdown system fails during a terrorist attack, and radiation is released into the atmosphere, New York City is at high risk of contamination. Some New York residents live within 25 miles of Indian Point and nearly all of New York City lies within 50 miles of the facility.

⁸ Kirkham and Kuperman at 8.

⁹ In addition to the residents of New York City, the City received 56 million visitors last year. New York City Tourism Hit Record High in 2014, Officials Say, Reuters (Feb. 2, 2015), <http://www.reuters.com/article/2015/02/02/us-usa-newyork-tourism-idUSKBN0L61XM20150202>.

Although there have been relatively few nuclear disasters, those events demonstrate that the environmental devastation from a radiological release at Indian Point could well extend significantly beyond the 10-mile mandated evacuation or emergency planning zone (“EPZ”). In March 2011, the nuclear reactors at Fukushima failed to shut down properly after an earthquake and tsunami hit the facility. Five days after the incident began, “the U.S. [NRC] recommended a 50-mile (80.5 km) evacuation zone for U.S. citizens who might be near Fukushima.”¹⁰ The Japanese government still heavily restricts access to areas surrounding the Fukushima nuclear facility by prohibiting overnight stays in areas as far away as 29 miles from the accident site and requiring protective gear and radiation screening in certain areas within 21 miles of the facility.¹¹ The 1986 nuclear disaster at Chernobyl released far more radiation than the accident at Fukushima and has had much more enduring consequences. Almost thirty years after the Chernobyl disaster, there is still a 19-mile exclusion zone surrounding the reactors, and land up to 249 miles away remains uninhabitable.¹² Roughly 1,100

¹⁰ Physicians for Social Responsibility at 5.

¹¹ Japan Ministry of Economy, Trade and Industry, Areas To Which Evacuation Orders Have Been Issued, (Oct. 1, 2014), <http://www.meti.go.jp/english/earthquake/nuclear/roadmap/pdf/141001MapOfAreas.pdf>; Japan Ministry of Economy, Trade and Industry, Practical Operations for Designating Areas To Which Evacuation Orders Have Been Issued as Newly Designated Areas,

http://www.meti.go.jp/english/earthquake/nuclear/roadmap/pdf/20120330_01b.pdf.

¹² Physicians for Social Responsibility at 5.

square miles of territory was ultimately declared uninhabitable and, between 1986 and 2000, over 350,000 people had to be evacuated.¹³

Likewise, the consequences of a radiological release at Indian Point could extend beyond the 10-mile EPZ. Consistent with the U.S. Government warning after Fukushima, multiple scientific studies have shown that acute risk from radiation exposure may extend 50 miles or more from the source of the release. One study by the Union of Concerned Scientists suggests that a terrorist attack could result in short-term deaths from acute radiation exposure as far as 60 miles away from Indian Point—an area that encompasses all of New York City.¹⁴ A terrorist attack at just one of Indian Point's two nuclear reactors could cause 3,460 early fatalities—2,440 within the 10-mile EPZ and 1,020 between 10 and 50 miles from Indian Point.¹⁵ Long-term fatalities caused by cancer and the latent effects of radiation exposure could total 99,400, including 31,600 fatalities within the 10-mile EPZ and 67,800 between 10 and 50 miles away.¹⁶ In the less likely, worst case scenario, in which weather conditions direct the radioactive plume from Indian Point into the heart of New York City, 43,700 could die from acute

¹³ Id. at 9.

¹⁴ Edwin S. Lyman, Chernobyl on the Hudson? The Health and Economic Impacts of a Terrorist Attack at the Indian Point Nuclear Plant, Union of Concerned Scientists, 5 (Sept. 2004), http://www.ucsusa.org/sites/default/files/legacy/assets/documents/nuclear_power/indianpointhealthstudy.pdf.

¹⁵ Id. at 40.

¹⁶ Id. at 40.

radiation syndrome (26,200 inside the EPZ plus 17,500 between 10 and 50 miles from Indian Point) and 518,000 could die from long-term cancer exposure (89,500 inside the EPZ plus 428,500 between 10 and 50 miles from Indian Point).¹⁷ If both of Indian Point's reactors were attacked, the projections become even more dire. Up to 78,400 people could die from acute radiation exposure and 701,000 could suffer long-term fatal effects from radiation exposure.¹⁸

Despite the fact that historical experience and scientific projections suggest that those within 50 miles of a nuclear facility are at risk in the event of an unplanned radiological release, federal, state, and local governments do not have a specific plan to evacuate or treat people beyond the 10-mile EPZ in an emergency.¹⁹ New York City has no evacuation plan specifically designed to deal with a nuclear disaster at Indian Point, and some have suggested that “[t]here is no conceivable way that these people could be evacuated in the case of a serious accident at the plant.”²⁰ While the NRC and FEMA require that information on emergency preparedness be provided to those within the 10-mile EPZ, these

¹⁷ *Id.* at 40.

¹⁸ *Id.* at 53.

¹⁹ The Japanese government similarly underestimated the size of the evacuation zone after the Fukushima disaster in 2011. In the wake of the disaster, “the Japanese government rapidly increased the emergency evacuation zone from 3 km [1.9 miles] to 10 km [6.2 miles], and then to 20 km [12.4 miles] with a stay-indoors warning from 20-30 km [12.4-18.6 miles].” Physicians for Social Responsibility at 5.

²⁰ Physicians for Social Responsibility at 5.

agencies do not require such information be shared with those outside the 10-mile zone. Therefore, “it is unknown to what extent the public in these areas is aware of these emergency preparedness procedures, and how they would respond in the event of a radiological emergency.”²¹ New Yorkers are thus vulnerable in the event of a terrorist attack, and have an acute interest in ensuring that maximum protection exists not just to prevent such an attack but to minimize the consequences should one occur.

b. Environmental contamination from a radiological release at Indian Point would be devastating to New Yorkers

A radiological release from Indian Point could expose New Yorkers to unhealthy levels of radiation, either directly or through contamination of the food chain and drinking water supply.

i. Physical and Mental Health Risks

In addition to potential deaths and serious injury from acute radiation exposure for those within 60 miles of the reactor, a significant radiological release at Indian Point would expose residents of New York City to an increased risk of cancer.²² A terrorist attack at Indian Point could expose people in midtown

²¹ U.S. Government Accountability Office, Emergency Preparedness: NRC Needs to Better Understand Likely Public Response to Radiological Incidents at Nuclear Power Plants, GAO-13-243 (Mar. 11, 2013), *available at* <http://www.gao.gov/products/GAO-13-243>.

²² Lyman at 5.

Manhattan to 77 rem in radiation, according to one study.²³ Exposure to 77 rem increases a person's risk of premature death from cancer by 8%, corresponding to a 40% increase in an individual's lifetime risk of developing a fatal cancer.²⁴ A separate estimate suggests that a core meltdown at one of Indian Point's reactors on the scale of Chernobyl could expose New Yorkers to radiation doses in excess of 25 rem, resulting in a 7% increase in the average individual's absolute risk of premature death from cancer.²⁵ These levels of radiation exposure far exceed the 1 rem threshold at which the Environmental Protection Agency recommends evacuation,²⁶ as well as the 10 rem threshold above which the Food and Drug Administration recommends that adults aged 18 to 40 take potassium iodide to reduce the risk of thyroid cancer.²⁷

In addition to physical harm, nuclear disasters have profound psychological effects on the people living, working, and traveling in the affected areas. As multiple studies suggest, people in proximity to a nuclear disaster are more likely

²³ Id. at 48.

²⁴ Id.

²⁵ Natural Resources Defense Council, Nuclear Accident at Indian Point: Consequences and Costs (Oct. 2011), http://www.nrdc.org/nuclear/indianpoint/files/NRDC-1336_Indian_Point_FSr8medium.pdf.

²⁶ Lyman at 47-48.

²⁷ U.S. Food and Drug Administration, Frequently Asked Questions on Potassium Iodide (KI), <http://www.fda.gov/Drugs/EmergencyPreparedness/BioterrorismandDrugPreparedness/ucm072265.htm#KI%20do>.

to suffer from severe psychological disorders such as depression and post-traumatic stress disorder (“PTSD”). An August 2015 study of those evacuated from Fukushima found that these evacuees suffer from psychological distress at a rate nearly five times higher than the general population.²⁸ The UN Chernobyl Forum similarly found that one of the Chernobyl accident’s most enduring public health consequences was the adverse effect it had on the mental health of evacuees and residents of affected areas.²⁹ Even decades after the event, those affected by Chernobyl suffer from depression and PTSD, as well as anxiety levels twice as high as the general population.³⁰

ii. Food and Water Supply Risks

A radiological release from Indian Point would threaten New York City’s food chain and drinking water supply. The NRC itself recognizes this threat. The NRC characterizes the 50-mile radius around nuclear plants as the “Ingestion EPZ”—a region in which it believes radiological exposure will come mainly through the ingestion of food and water. In the event of a radiological release,

²⁸ Akira Ohtsuru, Koichi Tanigawa, et al., Nuclear Disasters and Health: Lessons Learned, Challenges, and Proposals, *The Lancet*, 386(9992), 489-97 (Aug. 1, 2015); see also Kate Kelland, Mental Health Suffers Most in Major Nuclear Accidents, Studies Find, *Reuters* (July 30, 2015), <http://mobile.reuters.com/article/healthcareSector/idUSL5N10A2KI20150730>.

²⁹ International Atomic Energy Agency, Chernobyl’s Legacy: Health, Environmental and Socio-Economic Impacts, *Chernobyl Forum: 2003-2005*, 2d revised (Apr. 2006), *available at* <https://www.iaea.org/sites/default/files/chernobyl.pdf>.

³⁰ Id. at 20.

airborne radioactive materials would compromise the primary sources of New York City's drinking water. Ninety percent of New York City's drinking water flows through the Kensico Reservoir, which is only 16 miles from Indian Point.³¹ Other important drinking water sources include the West Branch Reservoir (16.7 miles from Indian Point) and the Chelsea pumping station (12.4 miles from Indian Point).³² Indeed, Indian Point is within 50 miles of drinking water sources serving at least 11 million people, more than any other nuclear plant in the country.³³ After the nuclear disaster at Fukushima, airborne radiation contaminated Tokyo's drinking water supplies located 130 miles away.³⁴

iii. Land Contamination Risks

A successful terrorist attack at Indian Point that interfered with the controlled shutdown of the reactor could also render land in and around New York City uninhabitable. A disaster on the scale of Fukushima could contaminate land as far south as the George Washington Bridge, leaving this vast and densely

³¹ Kirk Semple, Road Over Kensico Dam Stays Closed, Executive Says, N.Y. Times, Sept. 3, 2004, *available at* <http://www.nytimes.com/2004/09/03/nyregion/road-over-kensico-dam-stays-closed-executive-says.html>; see also Environment America Research & Policy Center, Too Close to Home: Nuclear Power and the Threat to Drinking Water, 2 (Jan. 2012), <http://environmentamericacenter.org/sites/environment/files/reports/Nukes%20and%20H2O%20vUS.pdf>.

³² Environment America Research & Policy Center at 16.

³³ Id.

³⁴ Id. at 11.

populated area uninhabitable for generations.³⁵ If New York City fell within the radioactive plume from Indian Point, a Chernobyl-scale release could render Manhattan itself uninhabitable.³⁶ In the worst case scenario, millions of people would have to be permanently relocated.³⁷

CONCLUSION

Administrative action predicated on the assumption that a terrorist attack is too remote to warrant consideration – as the NRC has done in granting the requested fire safety exemption to Indian Point – falls short of NEPA’s requirements and the level of vigilance that New Yorkers rightfully expect and deserve. For the reasons stated above, this Court should reverse the decision

³⁵ Natural Resources Defense Council at 1.

³⁶ Id.

³⁷ Lyman at 6.

below, vacate the District Court's order dismissing Plaintiffs' claims, and remand with instructions that the NRC consider the risk of terrorism in assessing Indian Point's request for an exemption to the fire safety regulations.

Date: New York, New York
September 22, 2015

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH RULE 32(A)

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Date: New York, New York By:
September 22, 2015

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