

**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD**

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In re: Docket Nos. 50-247-LR; 50-286-LR  
  
License Renewal Application Submitted by ASLBP No. 07-858-03-LR-BD01  
  
Entergy Nuclear Indian Point 2, LLC, DPR-26, DPR-64  
Entergy Nuclear Indian Point 3, LLC, and  
Entergy Nuclear Operations, Inc. February 22, 2016  
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**STATE OF NEW YORK  
CONTENTION NYS-40**

Office of the Attorney General  
for the State of New York  
The Capitol  
State Street  
Albany, New York 12224

## CONTENTION NYS-40

**THE DECEMBER 2015 NRC STAFF DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT'S ANALYSIS AND CONCLUSIONS CONCERNING SITE-SPECIFIC SEVERE ACCIDENT MITIGATION ALTERNATIVES ("SAMA") DOES NOT COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT ("NEPA") (SECTIONS 102(2)(C)(iii) AND (2)(E)), THE PRESIDENT'S COUNCIL ON ENVIRONMENTAL QUALITY'S REGULATIONS (40 C.F.R. SECTION 1502.14), THE NUCLEAR REGULATORY COMMISSION'S REGULATIONS (10 C.F.R. SECTIONS 51.53 (c)(3)(ii)(L), 51.101. AND 51.103), THE ADMINISTRATIVE PROCEDURE ACT (5 U.S.C. SECTIONS 553(c), 554(d), 557(c), AND 706), OR CONTROLLING FEDERAL COURT PRECEDENT (*Limerick Ecology Action, Inc., v. NRC*, 869 F.2d 719 (3d Cir. 1989)) BECAUSE THE SAMA ANALYSIS, EVEN WITH ENTERGY AND NRC STAFF'S REVISED FINANCIAL INPUTS, IDENTIFIES A NUMBER OF SITE-SPECIFIC MITIGATION ALTERNATIVES AND MODIFICATIONS THAT HAVE GREATER BENEFITS IN EXCESS OF THEIR COSTS BUT WHICH ARE NOT BEING INCLUDED AS CONDITIONS OF THE PROPOSED NEW OPERATING LICENSES FOR THE INDIAN POINT FACILITIES IN THIS PROCEEDING**

### BASES

1. *Overview.* The Nuclear Regulatory Commission's decision to issue a renewed operating license for a nuclear power plant constitutes a "major federal action" under the National Environmental Policy Act. Such an application provides NRC with the opportunity to evaluate the environmental impacts of the proposed action and adopt alternatives to mitigate environmental impacts. The State of New York submits this contention to protect the State's interest in ensuring that the NRC includes, as part of this licensing proceeding, a complete,

thorough, and meaningful review of site-specific severe accident mitigation alternatives to avoid or minimize the environmental impacts to the State and the New York metropolitan area resulting from a severe accident at Indian Point. The State also seeks to ensure that NRC includes cost effective site-specific severe accident mitigation alternatives as conditions to any operating license and decision issued in this proceeding. In December 2015, NRC Staff issued a draft supplement to the site-specific environmental impact statement for the proposed operating licenses in which it again declined to implement cost effective site-specific severe accident mitigation alternatives as part of this licensing proceeding. That same month, Indian Point Unit 3 entered its forty-first year of operation – or period of extended operation. As the Board and the parties are aware, the NRC Commissioners currently are considering appeals by Entergy and NRC Staff from previous Board rulings concerning similar issues.<sup>1</sup> Accordingly, the State presents this contention to preserve and protect the State’s interests in this proceeding.

2. *Background.* In the fall of 2009 in the course of responding to a summary disposition motion filed by the State of New York in this proceeding, staff at Sandia National Laboratories identified a mistake in the site-specific severe accident mitigation alternative (or “SAMA”) analysis presented by Entergy. That mistake resulted in Entergy performing a new SAMA analysis.

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<sup>1</sup> See, e.g., *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), CLI-15-3, 81 N.R.C. 217 (Feb. 18, 2015); LBP-11-17, 74 N.R.C. 11 (July 14, 2011); LBP-10-13, 71 N.R.C. 673 (June 30, 2010).

3. On December 14, 2009, Entergy submitted a new analysis of severe accident mitigation alternatives in connection with the continued operation of the Indian Point power reactors (“December 2009 SAMA Reanalysis”). The December 2009 SAMA Reanalysis replaced the prior SAMA analysis, substantially altered the benefit calculation for all of the SAMAs for both Indian Point Units 2 and 3 and did additional cost analyses for some of the SAMAs.

4. The December 2009 SAMA Reanalysis identified 22 separate potentially cost beneficial SAMAs – *i.e.*, modifications whose benefits exceeded their costs.

5. As to all of the 22 SAMAs, the December 2009 SAMA Reanalysis stated that Entergy would conduct additional engineering analyses. *See* December 2009 SAMA Reanalysis, at 32 (“consistent with those SAMAs identified previously as cost beneficial, the above potentially cost beneficial SAMAs have been submitted for engineering project cost benefit analysis.”).

6. The State of New York presented two contentions challenging the position that it was not necessary to finalize project costs or implement potentially cost effective site-specific severe accident mitigation alternative modifications. Contentions NYS 25 & 36 (March 2010). The Board admitted the contentions and later granted the State’s motion for summary disposition.<sup>2</sup> The Commission is considering the parties’ appellate briefs on those rulings.

7. In May 2013, Entergy submitted to NRC Staff additional information about the

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<sup>2</sup> LBP-11-17; LBP-10-13.

costs of the 22 potentially cost beneficial SAMA modifications. Entergy Letter NL-13-075 & Attachment 1 (May 6, 2013) (ML13127A459). In that letter, Entergy asserted that it was providing completed engineering cost estimates for the SAMAs that were previously identified as potentially cost beneficial. In addition, Entergy agreed to implement four of the cost beneficial SAMA modifications. *Id.* Thereafter, Entergy and NRC Staff engaged in a dialogue about the engineering cost estimates.

8. In late December 2015, NRC Staff issued a Draft Supplemental Environmental Impact Statement, Draft Report for Comment. NUREG-1437, Supplement 38, Volume 5, Draft Report for Comment (or DSEIS) (Dec. 22, 2015) (ML15351A422). That DSEIS made adjustments to Entergy's NL-13-075 engineering cost estimates and concluded that: four SAMA modifications were not cost beneficial; two SAMAs were marginally not cost beneficial but should be retained for future consideration at an unspecified date; and twelve SAMAs were cost beneficial. *Id.* at § 3.1.5 (p. 21).

9. NRC Staff stated that because the twelve cost beneficial SAMAs and the two marginally non-cost-beneficial SAMAs did not relate to managing the effects of aging during the period of extended operation they did not "need to be implemented as part of license renewal pursuant to 10 CFR Part 54." *Id.*

10. Staff also accepted Entergy's request to defer further SAMA analysis until an unspecified time given the "dynamic nature of a SAMA analysis" and ongoing analysis related to the multi-unit Fukushima Da-chi accident. *Id.*

11. *Legal Framework.* An alternatives analysis conducted pursuant to sections 102(2)(C)(iii) and (2)(E) of NEPA (as implemented by NRC's NEPA regulations (10 C.F.R. § 54.23 and 10 C.F.R. Part 51)) must reflect the “study, develop[ment], and descr[ription of] appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(E)).

12. NEPA's obligation to thoroughly explore alternatives was applied specifically to severe accident alternatives and license renewal by the Court in *Limerick Ecology Action, Inc., v. NRC*, 869 F.2d 719 (3d Cir. 1989), which held that NRC had a duty under NEPA to take a “hard look” at alternatives to the proposed action, including alternatives that would mitigate the impacts of severe accidents.

13. NRC has embodied this obligation in Part 51, which provides in relevant part that: “[i]f the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided.” 10 C.F.R. § 51.53(c)(3)(ii)(L). *See also* 61 Fed. Reg. 28,467, 28,480-81 (June 5, 1996) (acknowledging *Limerick* ruling).

14. NRC regulations require that when it takes an action, such as issuing an operating license as requested in this proceeding, the Commission state whether it has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted. 10 C.F.R. § 51.103(a)(4).

15. The Atomic Energy Act established a 40-year term for initial operating licenses. 42 U.S.C. § 2133(c). As recognized in the 2015 DSEIS (§ 2, p. 3), both IP2 and IP3 are now operating beyond that initial 40-year term. Although they have allowed this extension of operations, the Staff and the Commission have not determined whether all practicable measures have been taken to avoid or minimize environmental harm from the authorized action. The State submits that this is contrary to 10 C.F.R. Part 51.

16. In 2001 the Commission rejected a petition from NEI to eliminate the SAMA analysis from license renewal proceedings. NRC, “Nuclear Energy Institute; Denial of Rulemaking,” PRM 51-7, 66 Fed. Reg. 10,834 (Feb. 20, 2001). Instead, the Commission reinforced the importance of the SAMA analysis in denying that petition:

In the case of license renewal, it is the Commission’s responsibility under NEPA to consider all environmental impacts stemming from its decision to allow the continued operation of the entire plant for an additional 20 years. The fact that the NRC has determined that it is not necessary to consider a specific matter in conducting its safety review under Part 54 does not excuse it from considering the impact in meeting its NEPA obligations.

66 Fed. Reg. at 10,836. In the words of Commissioner McGaffigan, “Perhaps one day we will have nuclear reactor designs so safe that severe accidents will be remote and speculative and their consequences *nihil*, but that is not the case we have today in renewing the licenses of the current generation of reactors.”<sup>3</sup>

17. *Additional Bases.* In addition, both NRC Staff and the Nuclear Energy Institute

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<sup>3</sup> VR-SECY-00-0210, Commission Voting Record, Notation Vote Response Sheet (Commissioner McGaffigan’s Comments on SECY-00-0210 (Oct. 31, 2000) (ML010520240).

(“NEI”) have provided guidance to applicants on how to perform the SAMA analysis with an emphasis on clearly delineating those alternatives that are cost-effective. *See* Severe Accident Mitigation Alternatives (SAMA) Guidance Document (“NEI 05-01(Rev. A)”) at 28; NRC Reg. Guide 4.2, Supplement 1 (September 2000) at 4.2-S-50; NRC Standard Review Plan for Environmental Reviews for Nuclear Power Plants - Supplement 1: Operating License Renewal (Oct. 1999) (“Standard Review Plan”) at 5.1.1-8 to 5.1.1-9; and NRC Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission NUREG/BR-0058, Revision 4 (September 2004) at 4.

18. NRC Staff has previously asserted that cost-effective SAMAS need not be implemented as a condition of license renewal.

Given the potential for cost-beneficial risk reduction, the staff considers that further evaluation of these SAMAs by Entergy is warranted. However, none of the potentially cost-beneficial SAMAs relate to adequately managing the effects of aging during the period of extended operation. Therefore, they need not be implemented as part of the license renewal pursuant to 10 CFR Part 54.

NUREG 1437, Supp. 38, Draft Supplemental Environmental Impact Statement at 5-10 (Dec. 2008) (ML083650594); *see also* NUREG 1437, Supp. 38, Final Supplemental Environmental Impact Statement at 5-11 (Dec. 2010) (ML103350405).<sup>4</sup> In the December 2015 Draft EIS NRC Staff again has taken this position. December 2015 DSEIS at § 3.1.5 (p. 21) (ML15351A422).

19. However, the process of determining which, if any, alternatives to the proposed action should be adopted is subject to the requirements of the Administrative Procedure Act and

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<sup>4</sup> *Accord* Entergy December 2009 SAMA Reanalysis at 32.



particularly the provisions of 5 U.S.C. §§ 553(c), 554(d), 557(c), and 706. Those provisions impose on a federal agency the obligation to provide a rational basis for actions taken by it either in rulemaking or adjudicatory type proceedings. That obligation has been strictly enforced by the federal courts. The United States Supreme Court has held that the “agency must articulate a ‘rational connection between the facts found and the choice made.’” *Bowman Transp., Inc. v. Arkansas-Best Freight System, Inc.* 419 U.S. 281, 285-286 (1974), quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962).

20. The position taken in the December 2015 DSEIS is without legal basis. Part 54 provides no support for the proposition that an applicant may ignore a mitigation measure that is clearly cost-effective - *i.e.*, where the benefit to the public outweighs the cost to the applicant.

21. Part 54 specifically requires full compliance with the requirements of 10 C.F.R. Part 51 (*see* 10 C.F.R. § 54.29(b)) and the SAMA analysis is conducted pursuant to Part 51, particularly 10 C.F.R. § 51.53(c)(3)(ii)(L).

22. The operating licenses requested by Entergy in this proceeding will, if granted, authorize Entergy to operate two entire nuclear power facilities. Those operating licenses are not limited to only authorizing Entergy to operate non-moving, passive components within the scope of 10 C.F.R. § 54.21(a)(1)(i). Until this licensing proceeding, the Indian Point plants have not performed a site-specific severe accident mitigation alternatives analysis. In the December 2015 DSEIS, NRC Staff now agrees that the engineering cost estimates are complete and that there are twelve cost-effective SAMAs. A requirement to conduct a site-specific SAMA analysis as part

of an operating licensing proceeding that does not result in the implementation of cost-effective SAMAs as part of that proceeding would seem to be a meaningless exercise. Yet, the December 2015 DSEIS fails to commit to implementing any cost-effective SAMAs at any point as part of this licensing proceeding. This failure impedes the rights of the State as a party in this proceeding and as the host state for the Indian Point facilities.

23. Not only does the 2015 DSEIS confirm that there are twelve cost-effective site-specific severe accident mitigation alternatives, there are additional compelling reasons why these cost-effective modifications should be implemented as part of this licensing proceeding.

24. According to AEC and NRC documents, the Consolidated Edison Company of New York, Inc. (“ConEd”) received the following construction permits and operation licenses for the Indian Point facilities on the following dates:

|           | CONSTRUCTION PERMIT ISSUED | OPERATING LICENSE ISSUED |
|-----------|----------------------------|--------------------------|
| IP Unit 1 | May 4, 1956                | March 26, 1962           |
| IP Unit 2 | October 14, 1966           | September 28, 1973       |
| IP Unit 3 | August 13, 1969            | December 12, 1975        |

*See* 21 Fed. Reg. 3,085 (May 9, 1956) (IP1 CP); 31 Fed. Reg. 13,616-17 (Oct. 21, 1966) (IP2 CP); 34 Fed. Reg. 13,437 (Aug. 20, 1969) (IP3 CP); 27 Fed. Reg. 4,844 (May 23, 1962) (IP1

Provisional OL DPR-005)<sup>5</sup>; 38 Fed. Reg. 27,636 (October 5, 1973) (IP2 OL DPR-026); 40 Fed. Reg. 50,263 (Dec. 22, 1975) (IP3 OL DPR-064); *see also* NUREG-1350, Volume 20, 2008 - 2009 *Information Digest*, at 103, 113 (Aug. 2008).

25. The AEA authorizes initial operating licenses to be issued for a maximum term of 40 years. 42 U.S.C. § 2133(c). The 40-year term provided in IP2's DPR-26 operating license and IP3's DPR-64 operating license expired in 2013 and 2015, respectively. Both IP2 and IP3 have entered, and are operating in, the period of extended operations (or "PEO") – the period of time beyond the initial 40-year operating term.

26. Of all the power reactors in the United States, the Indian Point reactors have the highest surrounding population both within a 50-mile radius and a 10-mile radius. *See, e.g.*, AEC, Population Distribution Around Nuclear Power Plant Sites, Figure 2: Typical Site Population Distribution (5-50 Miles) (April 17, 1973); FEMA, Nuclear Facilities & Population Density Within 10 Miles (June 2005). With more than 17 million people live within 50 miles of the Indian Point facilities,<sup>6</sup> no other operating reactor site in the country comes close to Indian Point in terms of surrounding population – and attendant potential risk.

- The Indian Point reactors and spent fuel pools are approximately 24 miles north of the

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<sup>5</sup> In 1980 NRC withdrew authorization to operate the IP1 reactor. *Consolidated Edison Co. of New York, Inc.* (Indian Point Unit 1), Order Revoking Authority to Operate Facility (June 19, 1980) (not published in the NRC Reporter and not available via NRC's public ADAMS).

<sup>6</sup> Entergy projects that the population living within 50 miles of the plant will grow to 19.2 million people by 2035. *See* Environmental Report for License Renewal of Indian Point Unit 2 and Unit 3 (2007) at 2-35 ("The total population (including transient populations) within a 50-mile radius of the site is projected to be 19,228,712 in 2035.").

New York City line, 35 miles from Times Square, and approximately 38 miles north of Wall Street, in lower Manhattan. The U.S. Census Bureau estimated that New York City had a population of 8,214,426 in 2006. The Indian Point nuclear facilities are approximately 3 miles southwest of Peekskill, with a population of 22,441; 5 miles northeast of Haverstraw, with a population of 33,811, 16 miles southeast of Newburgh, with a population of 31,400, and 17 miles northwest of White Plains, with a population of 52,802. Indian Point is also 23 miles northwest of Greenwich, Connecticut, 37 miles west of Bridgeport, Connecticut and 37-39 miles north northeast of Jersey City and Newark, New Jersey. Portions of four New York counties - Westchester, Rockland, Orange, and Putnam - fall within the inner 10-mile Emergency Planning Zone. Additional population centers in New York, such as New York City's five boroughs and Nassau County, lie within the 50-mile Emergency Planning Zone, as do significant population centers in Connecticut and New Jersey.

- Furthermore, the Indian Point facilities are also 6 miles northwest of the New Croton Reservoir in Westchester County, which is part of the New York City reservoir system and provides drinking water to New York City residents. They are also in close proximity to other reservoirs in the New York metropolitan area.
- The communities within the 50-mile radius around Indian Point also contain some of the most densely-developed and expensive real estate in the country, critical natural resources, centers of national and international commerce, transportation arteries and

hubs, and historic sites. Certain of these unique sites are identified on the accompanying list. *See* List of Various Site-Specific Improvements, Including Landmarks, Parks, Arenas, Universities, and Transportation Facilities Within 50 Miles of Indian Point Power Reactors and Spent Fuel Pool Facilities. Many of the historic sites are on the national historic preservation list and are protected under the National Historic Preservation Act. For example, Indian Point is approximately 3 miles to the north of the Revolutionary War's Stony Point Battlefield.<sup>7</sup> By way of further example, Wall Street, the Nation's financial center, is approximately 38 miles away, and many corporations have their headquarters or offices within 50 miles of the Indian Point site.

Under NRC's current siting regulations, which were not in place when AEC approved the Indian Point site in 1956, it is highly unlikely that the Indian Point reactors could be located today in this hyper-developed, densely populated area that serves as the one of the Nation's economic and transportation centers. *See* 10 C.F.R. § 100.21(h).

27. Moreover, the Indian Point site was selected by the Consolidated Edison Company in 1955 and approved by AEC in 1956, before the AEC had implemented siting design criteria that would likely have made this heavily populated and earthquake active site

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<sup>7</sup> *See, e.g.*, Letter from Thomas Lyons, New York State Office of Parks, Recreation, and Historic Preservation, to David Wrona, NRC (Oct. 26, 2010) (ML103060210) (as part of NEPA and SAMA review, discussing the Revolutionary War Stony Point Battlefield site, which has been designated a National Historical Landmark by the U.S. Department of the Interior, and stating that "the Stony Point Battlefield is an irreplaceable asset to the people of New York State and the Nation.").

unacceptable for a nuclear facility. It was approved before the Windscale (1957), Three Mile Island (1979), and Chernobyl (1986) events. In addition, AEC approved the construction of the first Indian Point facility before Congress enacted in the Price Anderson Act (1957). The 1955 selection of Indian Point also came before the enactment of NEPA (1970), the promulgation of CEQ regulations (1978), the Third Circuit's *Limerick* decision (1989), and NRC promulgation of the 10 C.F.R. § 51.53 regulation (1996) that requires an analysis of ways to mitigate the impacts of severe accidents during license renewal proceedings. The fact that a commitment was made to the Indian Point site before these statutes and regulations were enacted does not excuse Entergy or NRC from the fullest possible compliance with the statutes and regulations when seeking permission to undertake or authorizing a major federal action related to Indian Point. *Calvert Cliffs' Coordinating Comm. v. AEC*, 449 F.2d 1109, 1128-29 (D.C. Cir.1971).

28. By way of further example, the Indian Point facilities continue to rely on the 1950's era systems, structures, and components within the Indian Point Unit 1 facility. AEC approved the construction of IPI before the promulgation of seismic regulations. As the Atomic Licensing Appeal Board ruled in 1977: "This plant [Unit 1] was built prior to any specific requirement for earthquake protection and is not designed to withstand a 0.15g acceleration." *In re Consolidated Edison Co.*, (Indian Point Units 1, 2 and 3), 6 N.R.C. 547, 585 (ALAB 1977). In a submission to NRC about a spent fuel crane, Entergy stated: "No response spectra were specifically generated for the Unit 1 site during original design." Entergy Reply to Request for Additional Information (RAI) Regarding Indian Point 1 License Amendment Request for Fuel

Handling Building Crane, p. 12 of 24 (Oct. 3, 2007), Indian Point, Unit No.1, Docket No. 50-003, ML073050247.

29. As a result of all these factors and events, identified in Paragraphs 24 to 28, Indian Point has a higher risk of a severe accident than plants whose siting, construction, or operation were approved after the promulgation and revision of siting and design criteria, or whose design was more compatible with various backfit requirements implemented as a result of those events. In addition, because of the greater population concentration in the vicinity of the plant, a percentage reduction in the population dose risk or the offsite economic cost risk at Indian Point has a profoundly larger impact than the same percentage reduction at other facilities. In the case of Indian Point, such reductions literally impact millions of people and hundreds of billions of dollars of economic investment. Thus, there is even less of a rational basis to refuse to implement a mitigation measure, such as installing a flood alarm in the 480V switchgear room (SAMA 054 for IP 2), which was estimated to reduce population dose risk by almost 40% and off-site economic cost risk by almost 29% (December 2009 SAMA Reanalysis at 17) than if that same mitigation measure were available at any other plant even with the same risk reduction.

### **SUPPORTING EVIDENCE**

30. The December 2015 NRC Staff Draft Supplemental Environmental Impact Statement, Draft Report for Comment. NUREG-1437, Supplement 38, Volume 5, Draft Report for Comment (or DSEIS) ML15351A422 concludes that Entergy has completed its engineering

cost estimates for SAMAs previously identified as potentially cost-beneficial.

31. The December 2015 DSEIS concludes that the following site-specific SAMA modifications are cost beneficial:

**COST BENEFICIAL SAMA IP2 AND IP3 SAMA MODIFICATIONS  
 (BASED ON TABLE 3-1, DECEMBER 2015 NRC DSEIS, AT P. 10-11)**

| <b>SAMAs Previously Determined To Be Cost Beneficial</b>   | <b>Benefit with Uncertainty</b> | <b>Estimated Cost (2009)</b> | <b>Corrected Estimated Cost (2014)</b> |
|--|---------------------------------|------------------------------|--|
| IP2-009 – Create a reactor cavity flooding system – Deferred   | \$13,363,217                    | \$4,1000,000                 | \$1,741,724                            |
| IP2-028 – Provide a portable diesel-driven battery charger   | \$2,856,939                     | \$938,000                    | \$2,154,767                            |
| IP2-044 – Use fire water system as backup for steam generator inventory  | \$4,948,485                     | \$1,656,000                  | \$3,073,130                            |
| IP2-054 – Install flood alarm in the 480 V switchgear room   | \$11,772,170                    | \$200,000                    | \$458,843                              |
| IP2-060 – Provide added protection against flood propagation from stairwell 4 into the 480 V switchgear room     | \$2,684,920                     | \$216,000                    | \$721,303                              |
| IP2-061 – Provide added protection against flood propagation from the deluge room into the 480 V switchgear room | \$5,799,982                     | \$192,000                    | \$943,792                              |



State of New York  
 Supplemental Contention Concerning December 2015  
 NRC Staff Draft Supplemental Environmental Impact Statement  
 Position Concerning Severe Accident Mitigation Alternatives  
 NRC Docket Nos. 50-247-LR and 50-286-LR

| <b>SAMAs Previously Determined To Be Cost Beneficial</b>  | <b>Benefit with Uncertainty</b> | <b>Estimated Cost (2009)</b> | <b>Corrected Estimated Cost (2014)</b> |
|---|---------------------------------|------------------------------|--|
| IP2-062 – Provide a hard-wired connection to a safety injection (SI) pump from alternate safe shutdown system (ASSS) power supply | \$1,789,822                     | \$1,500,000                  | \$1,662,692                            |
| IP2-065 – Upgrade the ASSS to allow timely restoration of seal injection and cooling  | \$11,772,170                    | \$560,000                    | \$1,859,587                            |
| IP3-007 – Create a reactor cavity flooding system   | \$7,301,000                     | \$4,100,000                  | \$1,874,933                            |
| IP3-055 – Provide hard-wired connection to an SI or RHR pump from the Appendix R bus (MCC 312A)                                   | \$5,903,118                     | \$1,288,000                  | \$1,601,888                            |
| IP3-061 – Upgrade the ASSS to allow timely restoration of seal injection and cooling  | \$6,317,929                     | \$560,000                    | \$2,282,668                            |
| IP3-062 – Install flood alarm in the 480 V switchgear room  | \$6,317,929                     | \$196,800                    | \$496,071                              |

## CONCLUSION

The December 2015 NRC Staff Draft Supplemental Environmental Impact Statement, is deficient because it fails to include a commitment to implement the cost-beneficial site-specific severe accident mitigation alternative modifications as part of this proceeding. For all the reasons stated, the State of New York requests that this supplemental contention be admitted.

Respectfully submitted,

*Signed (electronically) by*

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February 22, 2016

List of Various Site Specific Improvements,  
Including Landmarks, Parks, Arenas, Universities, and Transportation Facilities  
Within 50 Miles of Indian Point Power Reactors and Spent Fuel Facilities

**National Historic Landmarks:**

- Brooklyn Bridge
- Carnegie Hall
- Central Synagogue
- Central Park
- Cooper Union
- New York Stock Exchange
- Grand Central Terminal
- Guggenheim Museum
- Metropolitan Museum of Art
- New York Public Library
- New York Botanical Garden
- Governors Island
- New York City Hall
- Union Square
- St Patrick's Cathedral
- Trinity Church
- Stony Point Battlefield

**National Parks:**

- Statue of Liberty National Monument
- Saint Paul's Church National Historic Site
- Appalachian National Scenic Trail
- General Ulysses S. Grant National Memorial
- Home of Franklin D. Roosevelt National Historic Site
- Vanderbilt Mansion National Historic Site
- African Burial Ground National Monument
- Castle Clinton National Monument
- Governors Island National Monument
- Federal Hall National Memorial
- Hamilton Grange National Memorial
- Gateway National Recreation Area
- Sagamore Hill National Historic Site

**Other**

- One World Trade Center (under construction)
- Brooklyn Navy Yard
- Jacob K Javits Convention Center
- Flushing Meadows–Corona Park
- Lincoln Center for the Performing Arts
- Manhattan Municipal Building

**Outdoor Sports Venues**

- Yankee Stadium
- Citi Field
- USTA Billie Jean King National Tennis Center
- Icahn Stadium
- Aviator Arena
- Barclay's Center (under construction)
- Hamilton-Metz Field
- MCU Park
- Arnold and Marie Schwartz Athletic Center
- Aqueduct Racetrack
- Metropolitan Oval

**Universities**

- United States Military Academy (West Point)
- US Merchant Marine Academy
- Columbia University
- New York University
- Fordham University
- The Julliard School
- Culinary Institute of America
- St. John's University
- Yeshiva University
- Brooklyn Law School
- Brooklyn College
- CUNY (all campuses)
- Vassar College
- Pace University
- Pratt Institute
- Yeshiva University

**Transportation**

- South Ferry Terminal
  - Howland Hook Marine Terminal
  - Red Hook Container Terminal
  - Brooklyn Marine Terminal
  - New York Passenger Ship Terminal
  - Brooklyn Cruise Terminal
  - Newburgh-Beacon Bridge
  - Bear Mountain Bridge
  - Mid Hudson Bridge
  - Verrazanno Narrows Bridge
  - George Washington Bridge
  - Brooklyn Bridge
  - Manhattan Bridge
  - Williamsburg Bridge
  - Throgs Neck Bridge
  - Robert F. Kennedy Bridge
  - Queensboro Bridge
  - Bronx-Whitestone Bridge
  - Dutchess County Airport
  - Stewart Airport
  - Teterboro Airport
  - Laguardia Airport
  - JFK Airport
  - Westchester County Airport
  - Pennsylvania Station
  - World Trade Center PATH Station
  - Interstate I-95, I-287, I-87 (NYS Thruway), I-84, NYS Route 9, Taconic Parkway
- New York City Parks:**
- Randalls Island Park
  - Battery Park
  - Washington Square Park
  - Madison Park
  - Fort Tyron Park
  - The High Line

List of Various Site Specific Improvements,  
Including Landmarks, Parks, Arenas, Universities, and Transportation Facilities  
Within 50 Miles of Indian Point Power Reactors and Spent Fuel Facilities

- Highbridge Park
- The Cloisters
- Bronx Zoo
- Van Cortlandt Park
- Prospect Park
- Bryant Park
- Jacob Purdy House
- Fort Wadsworth
- Jamaica Bay Wildlife Refuge
- State Parks:**
- Bayswater Point
- Clay Pit Ponds
- East River
- Empire-Fulton Ferry
- Gantry Plaza
- Riverbank
- Roberto Clemente
- Clarence Fahnestock
- Fahnestock Winter Park
- Franklin D. Roosevelt
- Hudson Highlands
- James Baird
- Mills Norrie (Margaret Lewis Norrie)
- Ogden Mills & Ruth Livingston Mills
- Old Croton Aqueduct
- Rockefeller
- Walkway Over the Hudson (Poughkeepsie)
- Clinton House
- John Jay Homestead
- Philipse Manor Hall
- Staatsburgh State Historic Site
- Anthony Wayne Recreation Area
- Bear Mountain
- Beaver Pond Campgrounds
- Blauvelt
- Goosepond Mountain
- Harriman
- High Tor
- Highland Lakes
- Lake Sebago Beach
- Lake Tiorati Beach
- Lake Welch Beach
- Minnewaska Preserve
- Nyack Beach
- Rockland Lake
- Schunnemunk
- Silver Mine
- Sterling Forest
- Storm King
- Tallman Mountain
- Fort Montgomery
- Knox's Headquarters
- National Purple Heart Hall of Honor
- New Windsor Cantonment
- Stony Point Battlefield
- Washington's Headquarters
- Bethpage Golf Course
- Caumsett
- Planting Fields Arboretum
- Walt Whitman Birthplace

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