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In the Matter of:	Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3)
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March 30, 2012

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
ENTERGY NUCLEAR OPERATIONS, INC. ) Docket Nos. 50-247-LR/50-286-LR  
 )  
(Indian Point Nuclear Generating )  
Units 2 and 3) )

NRC STAFF INITIAL STATEMENT OF  
POSITION REGARDING CONTENTION  
CW-EC-3A (ENVIRONMENTAL JUSTICE)

Pursuant to 10 C.F.R. §§ 2.337(g)(2) and 2.1207(a)(1), the Atomic Safety and Licensing Board's ("Board's") Scheduling Order (July 1, 2010) (unpublished) at 14, and Order (Granting NRC Staff's Unopposed Time Extension Motion and Directing Filing of Status Updates) (February 16, 2012) (unpublished) at 1, the staff of the U.S. Nuclear Regulatory Commission ("NRC Staff" or "Staff") submits its written statement of position along with written testimony, supporting affidavits, and supporting exhibits, regarding Hudson River Sloop Clearwater, Inc.'s ("Clearwater's") Contention CW-EC-3A on Environmental Justice. Appended to this filing is the "NRC Staff Testimony of Jeffrey J. Rikhoff and Patricia A. Milligan Regarding Contention CW-EC-3A (Environmental Justice)" (Exhibit ("Ex.") NRC000063) and 12 Staff Exhibits. For the reasons set forth below and in the supporting testimony, the Staff submits that Clearwater's Contention CW-EC-3A is without merit and the Board should find in favor of the Staff.

BACKGROUND

On April 23, 2007, Entergy Nuclear Operations, Inc. ("Entergy" or "Applicant") filed an application to renew the operating licenses for Indian Point Nuclear Generating Units 2 and 3 ("IP2 and IP3" or "Indian Point"), for an additional period of 20 years. Entergy submitted an Environmental Report ("ER"), as required by 10 C.F.R. §§ 51.53(c) and 54.23, as part of its

license renewal application (“LRA”). On December 10, 2007, Clearwater filed a petition to intervene that included six environmental contentions, including, *inter alia*, Contention EC-3. Hudson River Sloop Clearwater, Inc.’s Petition to Intervene and Request for Hearing (Dec. 10, 2007). On July 31, 2008, the Board re-framed and limited the contention, and then admitted it. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-08-13, 68 NRC 43, 219 (July 31, 2008).

On December 22, 2008, the NRC Staff issued its Draft Supplemental Environmental Impact Statement (“DSEIS” or “Draft SEIS”) concerning the Indian Point LRA.<sup>1</sup> Clearwater filed no contentions on the Draft SEIS. On December 3, 2010, the Staff published the Final Supplemental Environmental Impact Statement (“FSEIS” or “Final SEIS”) on the Indian Point LRA.<sup>2</sup> On February 3, 2011, Clearwater filed a motion seeking leave to file amendments and new contentions in connection with its Contention EC-3. Motion for Leave to Amend and Extend Contention EC-3 Regarding Environmental Justice and Petition to Do So (Feb. 3, 2011). On July 6, 2011, the Board granted in part and denied in part Clearwater’s motion. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3) (July 6, 2011) (unpublished) (Agencywide Documents and Access Management System (“ADAMS”) Accession No. ML111870344). Contention CW-EC-3A, as amended by the Board states as follows:

Entergy’s environmental report and the Final Supplemental Environmental Impact Statement contain seriously flawed environmental justice analyses that do not adequately assess the impacts of relicensing Indian Point on the minority, low-income and disabled populations in the area surrounding Indian Point.

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<sup>1</sup> “Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 38 Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment,” NUREG-1437 Supplement 38 (Dec. 2008) (Ex. NYS000132A-D).

<sup>2</sup> “Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 38 Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Final Report,” NUREG-1437, Supplement 38 (Dec. 2010) (Ex. NYS000133A-J).

*Id.*

On December 22, 2011, Clearwater filed its “Initial Statement of Position for Clearwater’s Contention EC-3A Regarding Environmental Justice” (“Clearwater’s Initial Position”) (Ex. CLE000002). Clearwater’s Initial Position was accompanied by testimony from Dr. Michael Edelstein (Ex. CLE000003), Dr. Erik Larsen (Ex. CLE000005), John Simms (Ex. CLE000006), Aaron Mair (Ex. CLE000007), Dolores Guardado (Ex. CLE000008), Stephen Filler (Ex. CLE000009), and Manna Jo Greene (Ex. CLE000010).

On January 30, 2012, Entergy filed a motion in limine to exclude portions of Clearwater’s pre-filed testimony and exhibits for Contention CW-EC-3A. Entergy’s Motion in Limine to Exclude Portions of Pre-filed Testimony and Exhibits for Contention CW-EC-3A (Environmental Justice) (Jan. 30, 2012). The Staff supported Entergy’s motion in limine and Clearwater opposed the motion. NRC Staff’s Response in Support of Entergy’s Motion in Limine on Contention CW-EC-3A (Environmental Justice) (Feb. 9, 2012); Clearwater Reply in Opposition to Entergy’s Motion in Limine (Feb. 17, 2012). On March 6, 2012, the Board denied Entergy’s motion in limine regarding Contention CW-EC-3A. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3) (July 6, 2011) (unpublished) (ML12066A170).<sup>3</sup>

## DISCUSSION

### I. Legal and Regulatory Requirements

#### A. National Environmental Policy Act Requirements

The contention at issue in this case arises under the National Environmental Policy Act of 1969, as amended (“NEPA”), and the NRC’s regulations that implement this statute. 42 U.S.C. §§ 4321 *et seq*; 10 C.F.R. Part 51. Under NEPA, the NRC is required to take a “hard

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<sup>3</sup> While the Staff acknowledges the Board’s Order, the Staff maintains its support of Entergy’s Motion in Limine.

look” at the environmental impacts of a proposed action, as well as reasonable alternatives to that action. See *Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87-88 (1998). This “hard look” is tempered by a “rule of reason” that requires agencies to address only impacts that are reasonably foreseeable – not remote and speculative. See, e.g., *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973). In other words, the Staff is excused from conducting a NEPA analysis of “remote and speculative” impacts or “worst case” scenarios. *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 348-49 (2002). Importantly, “NEPA does not call for certainty or precision, but an *estimate* of anticipated (not unduly speculative) impacts.” *Louisiana Energy Servs.* (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005) (emphasis in original). Further, “NEPA gives agencies broad discretion to keep their inquiries within appropriate and manageable boundaries.” *Louisiana Energy Servs., L.P.*, CLI-98-3, 47 NRC at 103 (citation omitted).

#### B. Burden of Proof on Environmental Matters

Generally, an applicant has the burden of proof in a licensing proceeding. 10 C.F.R. § 2.325. In cases involving NEPA contentions, however, the burden shifts to the NRC, because the NRC, not the applicant, has the burden of complying with NEPA. See, e.g., *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), CLI-83-19, 17 NRC 1041, 1049 (1983). However, because “the Staff, as a practical matter, relies heavily upon the [a]pplicant’s ER in preparing the EIS, should the [a]pplicant become a proponent of a particular challenged position set forth in the EIS, the [a]pplicant, as such a proponent, also has the burden on that matter.” *Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center), LBP-96-25, 44 NRC 331, 339 (1996), *rev’d on other grounds by Louisiana Energy Servs., L.P.* (Claiborne Enrichment Center) CLI-97-15, 46 NRC 294 (1997) (citing *Pub. Serv. Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB- 471, 7 NRC 477, 489 n.8 (1978)).

In challenging the Staff's environmental review, intervenors must identify, with some specificity, the alleged deficiencies in the Staff's NEPA analysis. See *Hydro Resources, Inc.* (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 13 (1999). The Staff's NEPA analysis is adequate unless the Staff "has failed to take a 'hard look' at significant environmental questions – i.e., the Staff has unduly ignored or minimized pertinent environmental effects." See *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 431 (2003) (discussing what an intervenor must allege, with adequate support, to litigate a NEPA claim).

C. Environmental Justice Requirements

Executive Order 12898 directs Federal agencies to address environmental justice issues by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of [an agency's] programs, policies, and activities on minority populations and low-income populations." Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12898, 59 Fed. Reg. 7,629 (Feb. 16, 1994) (Ex. ENT000259). On December 10, 1997, the Council on Environmental Quality (CEQ) issued environmental justice guidance which was developed to further assist Federal agencies with their NEPA procedures. See CEQ Environmental Justice Guidance Under the National Environmental Policy Act, (Dec. 1997) ("CEQ EJ Guidance") (Ex. ENT000266). On August 24, 2004, the Commission issued a policy statement regarding the treatment of environmental justice issues in NRC regulatory and licensing actions. See Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions, 69 Fed. Reg. 52,040 (Aug. 24, 2004) (Ex. ENT000260). In this policy statement, the Commission explained that it is "committed to the general goals set forth in EO [Executive Order] 12898, and strives to meet those goals as part of its NEPA review process." *Id.* at 52,042. The policy statement incorporates past Commission decisions, staff environmental

guidance, as well as Federal case law on environmental justice. *Id.* at 52,041; *see also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-02-20, 56 NRC 147, 153 (2002) (“PFS”); *Louisiana Energy Servs.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 100-10 (1998) (“LES”).

The Commission has held that “disparate impact” analysis is the principal tool for advancing environmental justice under NEPA. *LES*, CLI-98-3, 47 NRC at 100. Further, the NRC’s goal is to identify and adequately weigh or mitigate environmental impacts on low-income and minority communities that become apparent only by considering factors peculiar to those communities. *Id.* Additionally, this Board has held that under NEPA, the purpose of an environmental justice review is to insure that the Commission considers and publicly discloses environmental factors peculiar to minority or low-income populations that may cause them to suffer harm disproportionate to that suffered by the general population. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-08-13, 68 NRC 43, 199 (2008).

In accordance with the environmental justice findings in Table B–1 in Appendix B to Subpart A, “Environmental Effect of Renewing the Operating License of a Nuclear Power Plant” in 10 C.F.R. Part 51, the need for and content of an analysis of environmental justice will be addressed on a plant-by-plant basis. Environmental justice was not evaluated on a generic basis in the “Generic Environmental Impact Statement for License Renewal of Nuclear Plants” (“GEIS”) (Ex. NYS000131A-I), because guidance for implementing Executive Order 12898 was not available prior to its completion in 1996.

#### D. Scope of License Renewal and Emergency Planning Requirements

The scope of the license renewal process is limited. *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-05, 75 NRC \_\_ (Mar. 8, 2012) (slip op. at 2) (*citing N.J. Env’tl. Fed’n v. NRC*, 645 F.3d 220, 224 (3d Cir. 2011)). The safety review—and any associated

license renewal adjudicatory proceeding—focuses on the detrimental effects of aging posed by long-term reactor operation. *Id.* Applicants must demonstrate “reasonable assurance” that “the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB [current licensing basis] for the period of extended operation.” *Id.* at 3.

Regarding emergency planning requirements, the Commission concluded in the statements of consideration for the rulemaking on license renewal that “the adequacy of existing emergency preparedness plans need not be considered anew as part of issuing a renewed operating license.” 56 Fed. Reg. 64,943, 64,967 (Dec. 13, 1991) (Ex. ENT000270). Rather, the adequacy of emergency planning is a safety issue that is evaluated by the Commission on an ongoing basis as part of its oversight of operating reactors under 10 C.F.R. Part 50.

To ensure that a licensee’s emergency preparedness plan remains adequate to protect the health and safety of the public, the NRC requires: (1) a detailed annual review of the facility’s emergency preparedness plan by persons who have no direct responsibility for its implementation, (2) an evaluation of the continued adequacy of applicable and appropriate communication and working relationships with State and local governments, and (3) performance of an annual exercise of the licensee’s emergency preparedness plans evaluated by the NRC against definitive performance criteria. 56 Fed. Reg. at 64,966. Offsite emergency preparedness plans are also subject to review and evaluation by the Federal Emergency Management Agency (“FEMA”), and the effectiveness of those plans is evaluated biennially by FEMA and the NRC in comprehensive emergency preparedness exercises. See 10 C.F.R. § 50.47(a)(2); 10 C.F.R. Part 50, Appendix E, § IV.F.2. The Commission’s requirements in 10 C.F.R. Part 50 ensure continued adequacy of emergency preparedness in light of changes in site characteristics that may occur during the term of the existing operating license, such as transportation systems and demographics. 56 Fed. Reg. at 64,966 (Ex. ENT000270). Thus, the NRC has determined that “the current requirements, including continuing update

requirements for emergency planning, provide reasonable assurance that an acceptable level of emergency preparedness exists at any operating reactor at any time in its operating lifetime.”

*Id.* at 64,966-64,967.

## II. Staff Witnesses

The attached testimony of Jeffrey J. Rikhoff and Patricia A. Milligan presents the opinions of two qualified witnesses and demonstrates that the Staff’s environmental justice analysis presented in the FSEIS meets the requirements of NEPA and the NRC regulations implementing NEPA. See NRC Staff Testimony of Jeffrey J. Rikhoff and Patricia A. Milligan Regarding Contention CW-EC-3A (Environmental Justice) (“Staff Testimony”) (Ex. NRC000063).

Mr. Rikhoff is a Senior Environmental Scientist/Socioeconomist in the Division of License Renewal, Office of Nuclear Reactor Regulation (NRR), U.S. Nuclear Regulatory Commission (NRC), in Washington, D.C. *Id.* at A1a. Mr. Rikhoff has been employed by the NRC for over five years. *Id.* Mr. Rikhoff conducts land use, socioeconomic, cultural resource, and environmental justice impact assessments in support of license renewal environmental reviews. Mr. Rikhoff has been working on NEPA environmental reviews for 23 years. *Id.* at A2a. Prior to working for the NRC, Mr. Rikhoff worked for over 17 years as a government contractor preparing environmental NEPA documentation for the U.S. Department of Energy (“DOE”) and Department of Defense (“DoD”). *Id.* Mr. Rikhoff specializes in preparing environmental impact statements (“EISs”) and environmental assessments (“EAs”); cost analyses; socioeconomics and environmental justice impact analyses; comprehensive land-use and facility development planning studies; regulatory review and permitting; and consultations with American Indian tribal representatives. *Id.* Mr. Rikhoff has been conducting environmental justice impact assessments for the Federal government for the past 11 years. *Id.* Mr. Rikhoff served as the principal reviewer of the environmental justice portions of Entergy’s ER for the IP2/IP3 LRA. *Id.*

at A3a. In this regard, Mr. Rikhoff was also responsible for preparing Section 4.4.6 of the FSEIS. *Id.* Mr. Rikhoff's testimony addresses the Staff's review of Entergy's ER and the Staff's environmental justice review contained in the FSEIS. Mr. Rikhoff's testimony also addresses certain claims made by Clearwater in its prefiled testimony.

Ms. Milligan is employed as a Senior Level Advisor for Emergency Preparedness and Response in the NRC's Office of Nuclear Security and Incident Response (NSIR). *Id.* at A1b. Ms. Milligan has held this position since November 2004 and has been employed by the NRC for over 13 years. *Id.* In this position, Ms. Milligan is responsible for technical leadership in the application of emergency preparedness and response activities and regulations at fixed nuclear facilities as well as in the development and documentation of NRC Staff positions and technical guidance on regulatory aspects of emergency preparedness and response. *Id.* at A2b. Ms. Milligan provides technical review and oversight in development and finalization of agency emergency preparedness regulations and guidance. She also develops technical bases for emergency preparedness regulations and guidance. *Id.* Ms. Milligan supports other NRC offices, including the Regional offices as well as other Federal, State and local government agencies. *Id.* Ms. Milligan functions as an NRC point of contact for emergency preparedness in the international community and serves on international committees dedicated to emergency preparedness and response. *Id.* Prior to assuming the position of Senior Level Advisor, Ms. Milligan served as a Senior Emergency Preparedness Specialist for the NRC from 1998 until 2004. *Id.* Before joining the NRC, Ms. Milligan was employed in the nuclear power industry working on health physics and emergency preparedness issues. *Id.* Additionally, Ms. Milligan worked as a nuclear pharmacist for a private radiopharmaceutical laboratory. *Id.* at A3b. Ms. Milligan was not involved in the review of the environmental report. Ms. Milligan's testimony addresses the NRC's regulatory requirements under 10 CFR Part 50 for emergency planning and evacuation for a licensed operating nuclear power reactor. Ms. Milligan's testimony also

addresses certain claims regarding emergency planning made by Clearwater in its prefiled testimony.

III. Clearwater's Contention Lacks Merit and the Board Should Find in Favor of the Staff

In Contention CW-EC-3A, Clearwater contends that the environmental impacts from a severe accident at Indian Point and the effects of an evacuation on prisoners and special needs populations in facilities located within 50 miles of the IP2 and IP3, as compared to the impacts on the general population, were not adequately assessed in the ER and FSEIS. *See generally* Clearwater's Initial Position (Ex. CLE000002). Clearwater's claims are without merit for two reasons. First, the NRC Staff's environmental justice analysis in the FSEIS is adequate under NEPA. Second, Clearwater's assumption that the emergency plans are deficient and will have a disproportionately high and adverse impact on prison populations or special needs populations (pre-schools, nursing homes, shelters, hospitals, and transit dependent populations) is speculative and unreasonable.

A. The Staff's Environmental Justice Analysis in the FSEIS is Adequate Under NEPA

1. The Staff Took a Hard Look at the Human Health and Environmental Effects of License Renewal on Minority and Low-income Populations

The NRC Staff's analysis of the human health and environmental effects on minority and low-income populations from the continued operation of IP2 and IP3 during the license renewal term is presented in Section 4.4.6 of the FSEIS. (Ex. NYS000133A-J). Entergy in its ER, and the Staff in its FSEIS adequately addressed the environmental impacts on minority and low-income populations from the continued operation of IP2 and IP3 during the license renewal term. The ER provided demographic information necessary to support the Staff's environmental justice impact assessment consistent with the guidance in Regulatory Guide 4.2, Supplement 1, Section 4.22. Staff Testimony at A8. (Ex. NRC000063). Additionally, the Staff's environmental justice assessment in the FSEIS meets the regulatory requirements at 10 CFR § 51.95(c) and is

consistent with the NRC Staff guidance outlined in Section 4.4.6 of NUREG-1555, Supplement 1: Standard Review Plans for Environmental Reviews for Nuclear Power Plants – Supplement 1: Operating License Renewal (October 1999) (“ESRP Supp. 1”) (Ex. NYS00019B). *Id.* at A9.

In accordance with NEPA, the NRC Staff took a “hard look” at the environmental effects from continued operation of IP2 and IP3 during the license renewal term on minority and low-income populations and concluded that there would be no disproportionately high and adverse impacts to minority and low-income population. The NRC Staff conducts its environmental justice review for license renewal by (1) identifying the location of minority and low-income populations<sup>4</sup> that may be affected by the operation of the nuclear power plant during the license renewal term or by refurbishment activities associated with license renewal, (2) determining whether there would be any potential human health or environmental effects to these populations and special pathway receptors, and (3) determining if any of the effects may be disproportionately high and adverse. *Id.* at A11.

In his testimony, Mr. Rikhoff provides a detailed overview of how the Staff performed its environmental justice review in the FSEIS. *See Id.* at A14-A21. In the FSEIS, the Staff concluded there would be no additional socioeconomic impact (environmental effect) on minority and low-income populations during the license renewal term beyond what is currently being experienced. *Id.* at A14. In addition, the Staff determined that human health effects from the continued operation of IP2 and IP3 on the offsite population would remain unchanged. *Id.* at A15. Moreover, radiation doses from continued operations associated with this license renewal are expected to continue at current levels, and remain within regulatory limits. *Id.* Therefore,

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<sup>4</sup> The NRC Staff uses the same definitions of minority and low-income populations that CEQ uses in their Environmental Justice Guidance, except with updated Census Bureau definitions of race and ethnicity and editorial revisions for readability. These definitions are explained in detail in the Staff’s Testimony at A12 (Ex. NRC000063).

the Staff concluded there would be no additional human health impact (human health effect) on minority and low-income populations during the license renewal term beyond what is currently being experienced. *Id.* The Staff also performed a special pathway receptor assessment<sup>5</sup> and concluded that no disproportionately high and adverse human health effects would be expected in special pathway receptor populations in the region as a result of subsistence consumption of fish and wildlife. *Id.* at A16. The Staff also considered the impacts of postulated accidents, including both design basis and severe accidents, which the Commission has generically determined to be small. *Id.* at A20. Based on this information and the analysis of human health and environmental impacts presented in Chapters 4 and 5 of the FSEIS, the NRC Staff concluded there would be no disproportionately high and adverse impacts to minority and low-income populations from the continued operation of IP2 and IP3 during the license renewal term. *Id.*

2. The Use of Census Block Group Data over Census Block Data in the ER and the FSEIS is Reasonable

In Contention CW-EC-3A, Clearwater claims that Census blocks should have been used instead of Census block groups in identifying minority and low-income populations. Clearwater Initial Position at 19-21 (Ex. CLE000002). However, the use of Census block groups in the ER and the FSEIS is reasonable because Census block group data contains poverty and income information while Census block data does not contain such information. Staff Testimony at A23. (Ex. NRC000063). Although Census block data provides more detailed geographic information, Census block group data, which incorporates Census block data, also provides a sufficient level of geographic detail for identifying the location of minority and low-income populations. *Id.*

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<sup>5</sup> Special pathways take into account the levels of radiological and non-radiological contaminants in native vegetation, crops, soils and sediments, surface water, fish, and game animals on or near the nuclear power plant site. Staff Testimony at A11 (Ex. NRC000063). For a more detailed discussion of the Staff's special pathway receptor assessment, refer to Staff Testimony at A16-A18.

Moreover, the use of Census block group data is in accordance with CEQ guidance. *Id.* Thus, choosing Census block group data over Census block data is reasonable.

Additionally, Clearwater asserts that there is disagreement between New York State Department of Environmental Conservation (“NYSDEC”) maps and the FSEIS maps with respect to majority minority areas between 10 and 50 miles of Indian Point because of the NRC’s use of Census block groups. Clearwater Initial Position at 20 (Ex. CLE000002). Specifically, Clearwater asserts that a large “Environmental Justice” area above Poughkeepsie to the west of the Hudson is not identified in the FSEIS map and another large area east of Rhinebeck on the 50-mile boundary is omitted from the FSEIS. *Id.* However, as Mr. Rikhoff notes in his testimony, the Staff’s environmental justice impact assessment of the effects of license renewal conducted for the FSEIS is not limited to the Census block groups identified on the maps. Staff Testimony at A24. (Ex. NRC000063). The Staff considered human health and environmental effects from continued nuclear power plant operations and refurbishment associated with license renewal for all minority and low-income populations within 50 miles of IP2 and IP3 whether they appeared on the representative environmental justice population maps or not, including the environmental justice populations above Poughkeepsie to the west of the Hudson and east of Rhinebeck on the 50-mile boundary. *Id.* Thus, Clearwater’s assertions are without merit.

3. The Staff’s Environmental Justice Analysis Considered All Members of Minority and Low-Income Populations, Including Those that Are Considered Disabled, Have Special Needs, or Are Incarcerated

Clearwater suggests that the NRC Staff did not adequately assess disproportionate impacts on disabled, special needs, and prison populations. Clearwater Initial Position at 19-21 (Ex. CLE000002). However, unless disabled, special needs, or incarcerated individuals also consider themselves a member of a minority race and/or are living below the poverty threshold (low-income), NRC regulations and the Commission’s policy statement do not require the

consideration of disabled, special needs, and prison populations as distinct populations in the environmental justice assessment. See Staff Testimony at A25-A26. (Ex. NRC000063).

Clearwater also asserts that the Staff's environmental justice assessment failed to account for environmental justice populations in prisons including Sing Sing and other special facilities such as pre-schools, hospitals, homeless shelters, and nursing homes. Clearwater Initial Position at 19-21 (Ex. CLE000002). However, as Mr. Rikhoff states in his testimony, the minority and low-income populations in Sing Sing are considered in the FSEIS. Staff Testimony at A27. (Ex. NRC000063). In fact, all minority and low-income populations within 50-miles of IP2 and IP3 are considered in the FSEIS regardless of whether they are immobilized with disabilities and/or institutionalized because the demographic data for the FSEIS environmental justice assessment was drawn from the 2000 Census data which includes populations that are immobilized with disabilities and/or institutionalized. *Id.* at A27-A28. Accordingly, contrary to Clearwater's assertions, no member of a minority and low-income population was excluded from consideration in the FSEIS environmental justice assessment. *Id.*

4. The Staff is Not Required to Consider the Disproportionate Impacts of a Severe Accident and Evacuation on Low-income and Minority Populations in License Renewal Environmental Reviews

Clearwater asserts in Contention CW-EC-3A that Entergy's ER and the Staff's FSEIS do not address the disproportionate impacts of severe accidents on special needs and prison populations. See *generally* Clearwater's Initial Position (Ex. CLE000002). Clearwater's Contention CW-EC-3A assumes an accident occurring at one of the units would require the activation of the emergency plan, the consequences of which would require the evacuation of the general population around the site. *Id.* Clearwater contends that special needs populations and prisoners housed in facilities located within 50 miles of IP2 and IP3 would not be treated the same as the general population in this scenario. *Id.*

However, the NRC Staff is not required to consider the impacts of a severe accident at

Indian Point and the impacts of evacuation on special needs populations and prisoners housed in facilities located within 50 miles of IP2 and IP3 in the license renewal environmental review. The Commission has generically determined that impacts associated with postulated accidents are small because nuclear plants are designed and operated to successfully withstand design basis accidents, and the probability weighted impact risks associated with severe accidents are also small. Staff Testimony at A20. (Ex. NRC000063). Based on this information and the analysis of human health and environmental impacts presented in Chapters 4 and 5 of the FSEIS, the NRC Staff concluded there would be no disproportionately high and adverse impacts to minority and low-income populations from the continued operation of IP2 and IP3 during the license renewal term. *Id.*

Finally, in the statements of consideration for the rulemaking on license renewal, the Commission concluded that “the adequacy of existing emergency preparedness plans need not be considered anew as part of issuing a renewed operating license.” 56 Fed. Reg. 64,943, 64,967 (Dec. 13, 1991) (Ex. ENT000270). Accordingly, the NRC Staff is not required to consider the disproportionate impacts of a severe accident on low-income and minority populations in license renewal environmental reviews.

##### 5. Clearwater’s Mitigation Claims are Flawed

Clearwater contends that the FSEIS has failed to consider feasible mitigation measures to reduce the impacts of license renewal on minority and low-income populations. Clearwater’s Initial Position at 31-32 (Ex. CLE000002). However, the NRC Staff did not need to consider any mitigation measures to reduce the environmental impacts associated with license renewal on low-income and minority populations because the Staff determined that the impacts of license renewal would not be disproportionately high and adverse to minority and low-income populations. Staff Testimony at A21. (Ex. NRC000063). Additionally, as previously discussed, the Commission has generically determined that the probability weighted impact risks

associated with severe accidents are small. *Id.* at A20. Therefore, there is no disproportionately high or adverse impact on minority or low-income populations. Moreover, in accordance with 10 C.F.R. 51.53(c)(3)(ii)(L), the NRC Staff reviewed severe accident mitigation alternatives (“SAMAs”) for IP2 and IP3 in Section 5.2 of the FSEIS. (Ex. NYS000133A-J). Clearwater has not challenged the SAMA evaluation in Contention CW-EC-3A.<sup>6</sup>

B. Clearwater’s Assumption that the Emergency Plans are Deficient and Will Have A Disproportionately High and Adverse Impacts on Prison Populations or Special Needs Populations is Speculative and Unreasonable

Due to the importance of emergency response for the nuclear power plant communities, emergency planning and preparedness is evaluated on an ongoing basis. Staff Testimony at A7b. (Ex. NRC000063). The NRC Staff reviews existing emergency preparedness plans throughout the life of any facility, keeping up with changing demographics and other site-related factors to ensure the adequate protection of public health and safety in the very unlikely event of an accident at the Indian Point. *Id.* These reviews have consistently indicated that the emergency response plans for the area surrounding Indian Point provide a sound framework for effective decision-making and implementation of essential emergency preparedness functions, regardless of the initiating event. *Id.* NEPA is governed by a “rule of reason” that requires agencies to address only impacts that are reasonably foreseeable – not remote and speculative. *See, e.g., Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973).* Therefore, Clearwater’s assumptions that the comprehensive emergency plans both onsite and in the counties surrounding Indian Point are somehow deficient and that emergency response personnel will be unable to fulfill their duties or take actions necessary to

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<sup>6</sup> *See also Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3), LBP-08-13, 68 NRC 43, 201-203 (July 31, 2008) (rejecting admission of Clearwater Contention EC-4 which asserted that Entergy’s SAMA analysis does not adequately consider the impacts of a possible terrorist attack, a radiological event, or an evacuation at Indian Point, particularly the impact on the EJ communities discussed in Clearwater EC-3.).*

mitigate a possible event are speculative and unreasonable. Moreover, Clearwater's claims based on these assumptions inherently challenge the adequacy of the emergency plans and thus fall outside of the scope of this license renewal proceeding and Contention CW-EC-3A.

1. The NRC Has Reasonable Assurance that Adequate Protective Measures Can and Will be Taken in the Event of a Severe Accident at Indian Point

In accordance with 10 C.F.R. 50.47, before a plant is licensed to operate, the NRC must have "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." Staff Testimony at A29 (Ex. NRC000063). Oversight of emergency preparedness for licensed nuclear power plants and surrounding communities is shared by the NRC and FEMA. *Id.* The NRC and FEMA have a Memorandum of Understanding, under which FEMA has the lead in overseeing offsite planning and response and the NRC assists FEMA in carrying out this role. *Id.* FEMA reviews and evaluates the offsite emergency plans developed by the State and Counties to ensure that there is reasonable assurance that the plans, as developed, can be implemented to afford adequate protection to the populations in the 10- and 50-mile emergency planning zones ("EPZs"). *Id.* The NRC oversees the licensee's onsite emergency plan and has the statutory authority to make the final determination of reasonable assurance considering both offsite and onsite emergency preparedness. *Id.*

The NRC's overall decision of reasonable assurance is based on licensees complying with NRC regulations and guidance as well as the adequacy of State/local plans as determined by FEMA. *Id.* The emergency preparedness plans and programs for nuclear power plant licensees and offsite authorities cover preparations for evacuation, sheltering, and other actions to protect residents near plants in the event of a serious accident. *Id.* These emergency plans are developed and implemented to provide adequate protection to all populations within the EPZs around nuclear power plants. *Id.* Additionally, emergency response plans are

periodically updated and are designed to be flexible enough to respond to a wide variety of adverse conditions, including a terrorist attack. *Id.* The coordinated response to contain or mitigate a threatened or actual release of radioactive material would be essentially the same whether it resulted from an accidental or terrorist act. *Id.*

Nuclear power plant owners, government agencies, and State and local officials work together to create a system for emergency preparedness and response that will serve the public in the unlikely event of an emergency. *Id.* These plans are regularly tested and evaluated and the NRC Staff devotes several hundred hours to emergency preparedness inspections of each facility. *Id.* These reviews and exercise evaluations have consistently indicated that the emergency response plans for the area surrounding Indian Point provide a sound framework for effective decision-making and implementation of essential emergency preparedness functions, regardless of the initiating event. *Id.* Moreover, the NRC has determined that “the current requirements, including continuing update requirements for emergency planning, provide reasonable assurance that an acceptable level of emergency preparedness exists at any operating reactor at any time in its operating lifetime.” 56 Fed. Reg. 64,943, 64,966-967 (Dec. 13, 1991) (Ex. ENT000270).

2. The NRC Will Initiate an Enforcement Action or Plant Shutdown if the Emergency Plans are Found to be Deficient

In accordance with 10 C.F.R. 50.54(s)(2)(ii), if the NRC finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency and if the deficiencies are not corrected within four months of that finding, the Commission will determine whether the reactor shall be shut down until such deficiencies are remedied or whether other enforcement action is appropriate. *Id.* at A30. In her testimony, Ms. Milligan provides a detailed overview of how deficiencies with the emergency plans are identified and assessed by FEMA and the NRC. *Id.*

3. Emergency Planning Requirements provide for Specific Consideration of Disabled and Prison Populations

As Ms. Milligan points out in her testimony, the requirements for emergency planning in NUREG-0654/FEMA-REP-1, Rev. 1, Section J, Protective Response element 10.d, state that plans to implement protective measures for plume exposure pathways must include, “means for protecting those persons whose mobility may be impaired due to such factors as institutional or other confinement.” *Id.* at 31.

4. The Emergency Plans Contain Provisions for the Evacuation of Populations within Sing Sing and other Prisons and Special Facilities.

Clearwater asserts that if the populations within special facilities such as prisons (including Sing Sing), hospitals, and nursing homes shelter-in-place in accordance with the emergency plans, they will be disproportionately impacted because they will not be evacuated. Clearwater’s Initial Position at 22-30 (Ex. CLE000002). However, as Ms. Milligan explains in her testimony, shelter-in-place is preferred over evacuation whenever it provides equal or greater protection from the hazard. Staff Testimony at A34 (Ex. NRC000063). In fact, shelter-in-place is a preferred action when emergency events develop rapidly and/or evacuation would be problematic, such as if a roadway has been disrupted. *Id.* Moreover, as Ms. Milligan explains, there have been a number of case studies of real events (such as train derailments releasing large quantities of hazardous gases and pipe ruptures and chemical facility accidents resulting in atmospheric releases of hazardous gases) demonstrating that shelter-in-place is an effective strategy for protecting public health and safety. *Id.* at A34-A35.

Additionally, as Ms. Milligan explains in her testimony, protective action recommendations are implemented based upon evolving plant conditions, which allows for a series of staged evacuations for transit dependent populations. *Id.* at A36. A decision may be made not to move some populations due to the risk versus benefit considerations. *Id.* However, during a severe accident, after the plume has passed or release has ended, shelter-

in-place would be accompanied by plans to evacuate or relocate out of the impacted area if conditions require such action. *Id.* If such plant conditions are projected to impact Sing Sing or other such special facilities, then the facility emergency plan would recommend the evacuation of these populations. *Id.* The evacuation of the prison population is under the authority of the New York State Department of Corrections, which plans to provide for protection of the safety of the prison population. *Id.* The Department of Corrections routinely moves prisoners within New York State and has the capability to quickly evacuate and relocate prisoners when faced with conditions such as fires or flooding. *Id.* Corrections officials are confident they will be able to relocate prisoners from Sing Sing should the need arise. *Id.*

Additionally, as Ms. Milligan explains in her testimony, the County and State emergency plans include provisions for evacuation which encompasses the movement of people and the resources necessary to support such movement including—identifying populations with special needs (e.g., mobility impaired, hearing impaired, school children, and transportation dependent); and the care and support of evacuees. *Id.* The evacuation plans will be implemented at the local level, using all available local resources, supplemented by available State resources as necessary. *Id.*

5. Sheltering in Place Does Not Mean Affected Populations Will Receive Higher Radiation Doses

Clearwater asserts that if the populations within special facilities such as prisons (including Sing Sing), hospitals, and nursing homes shelter-in-place in accordance with the emergency plans, these populations will receive higher radiation doses than the general public. Clearwater's Initial Position at 22-26 (Ex. CLE000002). However, sheltering-in-place does not mean that the affected populations will receive a higher or harmful radiation dose because they did not immediately evacuate. Staff Testimony at A37 (Ex. NRC000063). There are no dose limits for evacuation of the public; rather, there is a dose range (1-5 rem) proposed in the EPA

Manual of Protective Action Guides (“EPA Dose Guidelines”) (Ex. Ex. ENT000284) that recommends careful consideration of the risks versus the benefits when undertaking a protective action such as evacuation. *Id.*

Decisions to evacuate or shelter are made on the basis of plant conditions and projected dose. *Id.* at A39. A projected dose is simply that—a dose that is “projected” based on a number of conservative inputs not an actual or measured dose. *Id.* Further, it is not an instantaneous dose but rather a dose that is projected to be delivered over several days. *Id.* If plant conditions indicate that such doses are projected to the populations at Sing Sing or other such special facilities, then the emergency plan would drive the evacuation of that population. *Id.* Moreover, local, State and Federal emergency management officials are committed to ensuring that the emergency plans provide for adequate protection of public health and safety for the residents and others in the communities surrounding the Indian Point. *Id.* While it is possible that special populations such as those incarcerated at Sing Sing could receive radiation doses higher than other populations that are immediately able to self-evacuate, any doses received would not be disproportionately high and adverse because they would be within the EPA Dose Guidelines. *See id.* During a severe accident, after the plume has passed or release has ended, shelter-in-place should be accompanied by plans to evacuate or relocate out of the impacted area if conditions require such action. *Id.* at A37.

6. A Severe Accident at Indian Point Would Not Result in Similar Conditions for Inmates as Experienced After Hurricane Katrina

Clearwater also claims that both shelter-in-place and evacuation proved to be inadequate protection for prisoners in the aftermath of Hurricane Katrina leading to problems including horrendous conditions for prisoners and a chaotic violent situation during evacuation. Clearwater’s Initial Position at 22-26 (Ex. CLE000002). However, as Ms. Milligan states in her testimony, a severe accident at Indian Point would not result in the same conditions for the

inmates as experienced during Hurricane Katrina for several reasons including differences in the preparedness planning for nuclear power plants, differences in the size of the potential area of impact, differences in the type of impact, and contribution of the catastrophic failure of the levees to the impact of Hurricane Katrina. See Staff Testimony at A38 (Ex. NRC000063).

7. The Emergency Plans Will Not Have a Disproportionately High and Adverse Impact on Transit Dependent Populations

Clearwater asserts that in the event of an evacuation, there will be a disproportionate impact on transit dependent populations (including pre-schools, nursing homes, shelters, hospitals). Clearwater's Initial Position at 29-30 (Ex. CLE000002). Further, Clearwater asserts that transport dependent populations must wait at bus stops instead of sheltering in a building until transport is available and they must wait until after school evacuation is complete. *Id.* at 23-24. However, the emergency plans will not have a disproportionately high and adverse impact on low income residents reliant on public transportation in the event of a severe radiological accident at IP because, as Ms. Milligan explains in detail in her testimony, there is considerable attention directed towards car-less populations around Indian Point. Staff Testimony at A40 (Ex. NRC000063). County officials can make the determination to evacuate school populations on a precautionary basis, well before a general emergency is declared. *Id.* Relocating school populations before a general emergency declaration enables the use of school buses to assist in the transportation of the transportation dependent population. *Id.* Additionally, the County emergency planners have developed, and included in public information brochures, bus routes for those individuals without automobiles, but who are able to walk to a bus stop. *Id.*

8. The Emergency Plans Will Not Have a Disproportionately High and Adverse Impact on Hispanic Residents

Clearwater asserts that "the limited ability of many Hispanic residents to speak English would impair their ability to understand instructions regarding evacuation, bus provision, and

family reunification.” Clearwater’s Initial Position at 28 (Ex. CLE000002). However, the emergency plans will not have a disproportionately high and adverse impact on Hispanic residents in the communities surrounding Indian Point. As Ms. Milligan notes in her testimony, emergency planning information and brochures are made available in Spanish in both Westchester and Rockland counties. Staff Testimony at A42 (Ex. NRC000063). Moreover, FEMA requires that emergency information materials be based on an analysis of the target population and contain information that addresses all aspects, such as language spoken, of a site-specific audience profile. *Id.*

9. Potassium Iodide is Distributed in Accordance With the Emergency Plans

Clearwater asserts that a number of prison, nursing homes, assisted living, adult care, and rehabilitation facilities did not have potassium iodide available for distribution. Clearwater’s Initial Position at 27-30 (Ex. CLE000002). As Ms. Milligan explains in her testimony, however, according to Westchester County emergency plans, potassium iodide is made available to all hospitals and nursing homes, as well as schools, and licensed day-care facilities within the 10-mile emergency planning zone. Staff Testimony at A41 (Ex. NRC000063). Moreover, the emergency plans, including potassium iodide plans, used by the Counties and State are routinely evaluated by FEMA. *Id.* Discrepancies observed by FEMA are reported to County/State authorities and must be corrected. *Id.*

C. Summary

As described above, the Staff’s environmental justice analysis in the FSEIS is adequate under NEPA because the Staff has taken a hard look at the human health and environmental effects on minority and low-income populations from the continued operation of IP2 and IP3 during the license renewal term. Additionally, Clearwater’s claims are based on an unreasonable assumption that the emergency plans are somehow deficient and will have a disproportionately high and adverse impact on prison populations or special needs populations.

Accordingly, Clearwater's claims are without merit.

CONCLUSION

For the foregoing reasons, the Staff submits that Contention CW-EC-3A is without merit and the Staff's environmental review complies with the requirements of NEPA. Accordingly, the Contention CW-EC-3A should be resolved in favor of the Staff.

Respectfully submitted,

**/Signed (electronically) by/**

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Dated at Rockville, Maryland  
this 30th day of March 2012

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
)  
ENTERGY NUCLEAR OPERATIONS, INC. ) Docket Nos. 50-247-LR/50-286-LR  
)  
(Indian Point Nuclear Generating )  
Units 2 and 3) )

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing NRC Staff's Initial Statement of Position Regarding Contention CW-EC-3A (Environmental Justice) (NRC Staff Exhibit NRC000062), NRC Staff Testimony of Jeffrey J. Rikhoff and Patricia A. Milligan Regarding Contention CW-EC-3A (Environmental Justice) (NRC Staff Exhibit NRC000063), and NRC Staff Exhibits NRC000064 through NRC000075, have been served upon the following persons by Electronic Information Exchange this 30th day March, 2012:

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