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

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In re:

License Renewal Application Submitted by

Entergy Nuclear Indian Point 2, LLC,
Entergy Nuclear Indian Point 3, LLC, and
Entergy Nuclear Operations, Inc.
-----X

Docket Nos. 50-247-LR; 50-286-LR

ASLBP No. 07-858-03-LR-BD01

DPR-26, DPR-64

December 17, 2011

**STATE OF NEW YORK
INITIAL STATEMENT OF POSITION
CONTENTION NYS-17B**

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STATEMENT OF POSITION

In accordance with 10 C.F.R. § 2.1207(a)(1) and the Atomic Safety and Licensing Board's (Board's) Scheduling Order, dated June 7, 2011 and updated on October 7, 2011, the State of New York (State) hereby submits its Initial Statement of Position on admitted New York State Contention 17B (NYS-17B).

NYS-17B alleges:

The [Final Supplemental Environmental Impact Statement]¹ FSEIS fails to address the impact of the continued operation of IP2 and IP3 for another 20 years on offsite land use, including real estate values in the surrounding area in violation of 10 C.F.R. §§ 51.71(a), 51.71(d), 51.95(c)(1), and 51.95(c)(4).

NYS-17B consolidates the State's previously admitted Contention 17 and 17A, which challenged, respectively, Entergy's and Staff's earlier failures to analyze the no-action alternative's positive impacts on property values in the area surrounding Indian Point Units 2 (IP2) and 3 (IP3). The Board agreed that at least "[a]rguably, the presence of plant systems, structures, and components (SSCs) (including spent fuel) might have an adverse effect on nearby property values," and that "as long as plant components exist on-site after the period of extended operations, these components' impacts on property values need to be evaluated in the no-action alternative."² The Board previously agreed with New York that "Entergy should have considered the impact on real estate values that would be caused by license renewal or non-renewal."³ As Entergy did, Staff has failed to analyze the impact to property values of both license renewal and the no-action alternative.

¹ *Final Supplemental Environmental Impact Statement for Indian Point Nuclear Generating Units 2 and 3*, NUREG-1437, Supplement 38, Vol. 1, dated December 3, 2010 (ML 103350455) ("FSEIS") (Exh. NYS00133A through NYS00133D).

² Aug. 10, 2011 Mem. and Order (Granting Entergy's Request for Clarification) at 4-5.

³ *In the Matter of Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 116 (2008).

Despite its failure to analyze the impact to property values of license renewal and non-renewal, Staff has nonetheless drawn conclusions about the no-action alternative's potential impacts on offsite land use and socioeconomics. With respect to "land use," Staff concluded that the impacts of both license renewal and the no-action alternative would be "SMALL."⁴ With respect to the broader category, socioeconomics, of which "land use" is a component, Staff concluded that "the [adverse]⁵ socioeconomic impacts of plant shutdown would likely be SMALL to MODERATE." Staff based its conclusion solely on the predicted revenue losses to certain taxing entities when the facility is shut down. Consistent with its view that it had no obligation to examine the impact of the facility or its relicensing on property values, Staff did not address the topic at all in its discussion of Socioeconomic Impacts of Plant Operation During the License Renewal Term (FSEIS § 4.4) or in its discussion of the no-action alternative (FSEIS § 8.2).

By contrast, the thorough analysis of the State's economist, Stephen C. Sheppard, Ph.D., shows definitively that the plant has an actual impact on property values, which would continue if license renewal were granted, and that concomitantly the no-action alternative "would generate a recovery in property values that could add more than \$1 billion to the value of residential property" within 5 kilometers of Indian Point. Dr. Sheppard's analysis shows that the value of removing the facility from the community is worth \$1 billion more than the burden of replacing the property taxes and fees that the facility generates. In Dr. Sheppard's opinion, this impact can only be characterized as "LARGE," within the meaning of 10 C.F.R. Part 51, Subpt A, Appx B.

⁴ FSEIS at 4-70 (license renewal); *id.* at Table 8-2 (no action alternative); *id.* at 8-22 (same).

⁵ "Unless the significance level is identified as beneficial, the impact is adverse, or in the case of 'small,' [the impact] may be negligible." 10 C.F.R. 51, Subpart A, Appx. B, Table B-1.

As set forth below, the FSEIS's failure to analyze the impact of license renewal or non-renewal on nearby property values is arbitrary and capricious, violates the National Environmental Policy Act and NRC regulations, and thus fails to provide the legally required environmental review that is a prerequisite to a decision on Entergy's application for license renewal.

PROCEDURAL BACKGROUND

The State filed a petition for leave to intervene in this proceeding on November 30, 2007.⁶ New York Contention 17 alleged that the applicant's Environmental Report (ER) should have analyzed adverse impacts on off-site land use and that its failure to do so led to the erroneous conclusion that relicensing would "have a significant positive impact on the communities surrounding" the facility, thus violating 10 C.F.R. Part 51.⁷ The State supported NYS-17 with the November 29, 2007 report of Stephen C. Sheppard, Ph.D., *Potential Impacts of Indian Point Relicensing on Property Values*.⁸ On July 31, 2008 the Board admitted NYS-17 as a contention of omission, ruling that "[i]n conducting its analysis of the impact of the license renewal on land-use, Entergy should have considered the impact on real estate values that would be caused by license renewal or non-renewal."⁹

On December 22, 2008, Staff issued a Draft Supplemental Environmental Impact Statement (Draft SEIS). The State subsequently filed new and amended contentions, including NYS-17A, which alleged that the Draft SEIS, like the ER, failed to analyze the impact of

⁶ New York State Notice of Intention to Participate and Petition to Intervene (Nov. 30, 2007) (NYS Petition), available at ML073400187, ML083400205.

⁷ *Id.* at 167-174.

⁸ Exh. NYS000226.

⁹ *In the Matter of Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 116 (2008).

relicensing on off-site land use, including real estate values.¹⁰ In support of proposed NYS-17A, the State submitted the second Sheppard report, *Potential Impacts of Indian Point Relicensing with Delayed Site Remediation* (Feb. 26, 2009).¹¹ Over the objections of Entergy and Staff, the Board admitted NYS-17A, which it consolidated with NYS-17 (resulting in NYS-17/17A).¹²

With Staff's support, Entergy moved for summary disposition of NYS-17/17A on February 26, 2010.¹³ Entergy (and Staff) argued that NYS-17/17A was outside the scope of the proceeding or, if it was within the scope of the proceeding, it was moot because the Draft SEIS addressed the potential change in property values if the no-action alternative were selected. Entergy also argued that NYS-17/17A depended upon impermissible speculation about what might happen at the site if license renewal were denied and that it turned on the impermissible calculation of risk or fear about living near a nuclear facility. The State opposed the motion,¹⁴ submitting the third report of Stephen C. Sheppard, Ph.D., *Determinants of Property Values* (March 15, 2010).¹⁵ Adhering to its view that NYS-17/17A is within the scope of the proceeding, the Board ruled "that there remain[ed] a genuine dispute over a material fact regarding the socioeconomic environmental impacts of license renewal on property values adjacent to [Indian Point]." The Board cautioned that "proffered NEPA contentions relating to on-site spent fuel storage are outside the scope of this proceeding due to the Waste Confidence

¹⁰ See State of New York Contentions Concerning NRC Staff's Draft Supplemental Environmental Impact Statement (Feb. 27, 2009) at 14-19.

¹¹ Exh. NYS000227.

¹² June 16, 2009 ASLB Order (Ruling on New York State's New and Amended Contentions) at 8; see also Apr. 22, 2010 ASLB Mem. and Order (Denying Entergy's Motion for the Summary Disposition of NYS Contention 17/17A) at 2.

¹³ Entergy Nuclear Operations, Inc. Motion for Summ. Disp. of NYS Contention 17/17-A (Property Values) (Feb. 26, 2010).

¹⁴ State of New York's Response to Entergy's Motion for Summary Disposition on New York Contentions 17 and 17A (Mar. 18, 2010).

¹⁵ *Determinants of Property Values* (Mar. 18, 2010). Exh. NYS000228.

Rule (codified as 10 C.F.R. § 51.23), whose continuing viability we recently certified to the Commission.”¹⁶

On January 24, 2011, the State moved to file amended bases to NYS-17/17A, and a proposed NYS-17B, which alleged:

The FSEIS fails to address the impact of the continued operation of IP2 and IP3 for another 20 years on offsite land use, including real estate values in the surrounding area in violation of 10 C.F.R. §§ 51.71(a), 51.71(d), 51.95(c)(1), and 51.95(c)(4).

The State’s filing was supported by a fourth report by Dr. Sheppard, dated January 24, 2011.¹⁷

The Board admitted NYS-17B (and consolidated it with its predecessors) “insofar as it applies the bases of NYS-17/17A to the FSEIS instead of the DSEIS,” but declined to admit the proposed amended bases because it found that they contravened the Waste Confidence Rule, 10 C.F.R. § 51.23(b).¹⁸ Although the Board concluded that “the environmental impacts of long-term storage of spent fuel in adjudicatory proceedings” did not fall within the scope of the proceeding, nonetheless, “the negative effect on property values predicted by Dr. Sheppard that would result from the longer-term presence of spent fuel anticipated by the updated Waste Confidence Rule is not an environmental impact barred by the Waste Confidence Rule.”¹⁹ In response to a subsequent motion for clarification by Entergy,²⁰ the Board explained that the Waste Confidence Rule operates to bar any claim that “property value impacts from spent fuel storage can be isolated from impacts to property values emanating from the presence of other

¹⁶ Apr. 22, 2010 ASLB Mem. and Order (Denying Entergy’s Motion for the Summary Disposition of NYS Contention 17/17A) at 13-14, 18.

¹⁷ *Potential Economic Impacts Related to Property Value Diminution in Communities Surrounding the IPEC* (Jan. 24, 2011). Exh. NYS000230.

¹⁸ Jul. 6, 2011 ASLB Mem. and Order (Ruling on Pending Motions for Leave to File New and Amended Contentions) at 17.

¹⁹ *Id.* at 18.

²⁰ Applicant’s Motion for Clarification of Licensing Board Admissibility Rulings on Contentions NYS-17B and NYS-37 (Jul. 18, 2011).

Indian Point plant components.”²¹ Nonetheless, “the property value impacts of the presence of spent fuel storage facilities with the presence of other plant components during the period of extended operations” are “within the scope of this proceeding.”²²

LEGAL STANDARDS AND REGULATORY FRAMEWORK

I. National Environmental Policy Act Requirements

The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-37, “is our basic national charter for protection of the environment.”²³ Accordingly, NEPA requires federal agencies to follow certain procedures before they may undertake projects that will affect the environment.²⁴ *Id.* “NEPA [also] requires agencies to balance a project’s economic benefits against its adverse environmental effects.”²⁵

NEPA’s central requirement is that an agency prepare an environmental impact statement (EIS) to be included “in every recommendation or report on proposals for . . . major Federal actions significantly affecting the quality of the human environment.”²⁶ An EIS advances NEPA’s goals in two ways:

First, it ensures that an agency, when deciding whether to approve a project, will carefully consider, or take a ‘hard look’ at, the project’s environmental effects. Second, it ensures that relevant information about a proposed project will be made available to members of the public so that they may play a role in both the decisionmaking process and the implementation of the decision.²⁷

²¹ *Id.* at 4.

²² *Id.* at 3-4.

²³ *‘Ilio’Ulaokalani Coalition, v. Rumsfeld*, 464 F.3d 1083, 1093 (9th Cir. 2006) (quoting 40 C.F.R. § 1500.1(a) (2006)).

²⁴ *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 443 (4th Cir. 1996).

²⁵ *Hughes River Watershed Conservancy*, 81 F.3d at 446 (quoting *Calvert Cliffs’ Coordinating Comm. v. United States Atomic Energy Comm’n*, 449 F.2d 1109, 1113 (D.C. Cir. 1971)).

²⁶ 42 U.S.C. § 4332(2)(C).

²⁷ *Hughes River Watershed Conservancy*, 81 F.3d at 443 (citations omitted).

An EIS must include a comparative analysis of the environmental consequences of the alternatives before the agency.²⁸ NEPA also requires that the EIS “[r]igorously explore and objectively evaluate all reasonable alternatives.”²⁹ Among these alternatives is the no-action alternative,³⁰ which provides the standard by which a reader may compare the “beneficial and adverse impacts related to the applicant doing nothing.”³¹

NEPA obligates a federal agency to ensure “the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.”³² “Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.”³³ A “final EIS must include ‘a discussion of adverse impacts that does not improperly minimize negative side effects.’”³⁴ A hard look requires more than cursory research and does not include sweeping negative evidence under the proverbial rug.³⁵ Staff may not simply rely on incorrect assumptions or data provided by the licensee.³⁶ Agencies have an affirmative obligation to “insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statement[s], identify any methodology used and . . . make explicit reference by footnote to the scientific and other sources relied upon for conclusions[.]”³⁷ Nor do “general statements about possible effects and some risk . . . constitute

²⁸ See 42 U.S.C. § 4332(2)(c)(iii); 40 C.F.R. § 1502.14(d).

²⁹ See also *In the Matter of Pa’ina Hawaii, LLC (Materials License Application)*, CLI-10-18, Docket No. 30-36974-ML, July 8, 2010, 2010 WL 2753784.

³⁰ See 40 C.F.R. § 1502.14(d).

³¹ *Kilroy v. Ruckelshaus*, 738 F.2d 1448, 1453 (9th Cir. 1984).

³² 40 C.F.R. § 1502.24.

³³ 40 C.F.R. § 1500.1(b).

³⁴ *Western Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 491 (9th Cir. 2011) (quoting *Earth Island Inst. v. United States Forest Serv.*, 442 F.3d 1147, 1159 (9th Cir. 2006), abrogated on other grounds by *Winter v. NRDC, Inc.*, 555 U.S. 7 (2008)).

³⁵ See *National Audubon Socy. v. Department of the Navy*, 422 F.3d 174, 181 (4th Cir. 2005).

³⁶ 40 C.F.R. § 1500.1(b).

³⁷ *Id.* § 1502.24.

a hard look absent a justification regarding why more definitive information could not be provided.”³⁸

In sum, in determining the adequacy of an EIS, a court looks at three factors: (1) whether the agency has, in good faith, objectively taken a hard look at the environmental consequences of the proposed project and reasonable alternative; (2) whether the EIS provides sufficient detail to allow those who did not participate in its preparation to understand and consider the pertinent environmental influences at issue; and (3) whether the EIS explanation of alternatives is sufficient to permit a reasoned choice among different courses of action.³⁹ If an independent review of the record reveals that an agency did not make a reasoned decision based on its analysis of the record, “a court ‘may properly conclude that the agency has acted arbitrarily and capriciously.’”⁴⁰

II. Nuclear Regulatory Commission Framework

“Issuance or renewal of a license to operate a nuclear power plant is a ‘major Federal action’ triggering NEPA’s requirement that the agency produce an Environmental Impact Statement (‘EIS’) for such proceedings.”⁴¹ To streamline the “significant task” confronting the NRC when it proposes to license the operation of a nuclear facility, “the NRC in 1996 conducted a study to determine which NEPA-related issues could be addressed generically (that is, applying to all plants) and which needed to be determined on a plant-by-plant basis.”⁴² The first group of

³⁸ *Western Watersheds Project*, 632 F.3d at 491 (quoting *Blue Mtns. Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998)).

³⁹ *Davis Mtns. Trans-Pecos Heritage Assoc. v. FAA*, 116 Fed. Appx. 3, *8 (5th Cir. 2004).

⁴⁰ *Environmental Defense v. United States Army Corps of Eng.*, 515 F. Supp.2d 69, 78 (D.D.C. 2007) (citation omitted).

⁴¹ *Massachusetts v. United States*, 522 F.3d 115, 119 (1st Cir. 2008) (quoting 10 C.F.R. § 51.20).

⁴² *Id.*

issues, so-called Category 1 issues, are common either to all nuclear facilities or to a sub-class of those facilities. *Id.* Category 2 issues, by contrast, require a site-specific review.⁴³

The NRC addressed Category 1 issues through a Generic Environmental Impact Statement whose findings were codified in a 1996 rulemaking (Final Rule).⁴⁴ “The process of creating the EIS for an operating licensing (or re-licensing) proceeding begins with the applicant, although producing the EIS is ultimately the NRC’s responsibility.”⁴⁵ An applicant submits to the NRC an environmental report that provides a site-specific analysis of all Category 2 issues; the applicant generally can rest on the GEIS findings with respect to Category 1 issues.⁴⁶

The NRC’s NEPA regulations require “analysis [in a draft EIS] of significant problems and objections raised by other Federal, State, and local agencies, by any affected Indian tribes, and by other interested persons.”⁴⁷ A draft EIS must, “to the fullest extent practicable, quantify the various factors considered.”⁴⁸

Subsequently, NRC staff

draw upon the applicant’s environmental report to produce a draft EIS (“SEIS”) for the license renewal. *See* [10 C.F.R.] § 51.95(c). This plant-specific SEIS addresses Category 2 issues and complements the GEIS, which covers Category 1 issues. *Id.* § 51.71(d). When the GEIS and SEIS are combined, they cover all issues that NEPA requires be addressed in an EIS for a nuclear power plant license renewal proceeding.

Once the agency has prepared a draft SEIS, it must be made available for comment both to the public and to other federal, state, and local agencies. *Id.* §§ 51.73, 51.74. After receiving comments, the NRC must then prepare a final SEIS. *id.* § 51.95(c)(3) (referencing *id.* § 51.91).⁴⁹

⁴³ *Id.*; *see also* 10 C.F.R. Part 51, subpart A., Appx. B, n. 2.

⁴⁴ Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996) (NYS000127).

⁴⁵ *Massachusetts*, 522 F.3d at 120.

⁴⁶ *Id.*

⁴⁷ 10 C.F.R. § 51.71(b).

⁴⁸ *Id.* § 51.71(d).

⁴⁹ *Massachusetts*, 522 F.3d at 120.

NRC regulations define three adverse impact levels for evaluating environmental effects.⁵⁰ “Small” adverse impacts are those whose effect is either undetectable or so minor that it will neither destabilize nor noticeably alter any important attribute of the resource. “Moderate” adverse impacts are those that are sufficient to alter noticeably, but not destabilize, important attributes of the resource. And adverse “Large” impacts will have clearly noticeable effects sufficient to destabilize important attributes of the resource.⁵¹

SUPPORTING EVIDENCE

As the Board has already found, “[i]n conducting its analysis of the impact of the license renewal on land-use, Entergy should have considered the impact on real estate values that would be caused by license renewal or non-renewal.”⁵² The Board also found⁵³ that

Entergy’s claim that New York has demonstrated no “‘reasonably close causal relationship’” to the physical environment since “the causal chain between nonrenewal of the IPEC operating licenses and the alleged property value effect is ‘too attenuated’”⁵⁴ to be a question of fact that is appropriate for resolution at an evidentiary hearing. New York asserts facts in support of its contentions in the form of an expert’s declarations and associated reports that non-renewal of the Indian Point licenses will have a significant impact on adjacent land values.⁵⁵

⁵⁰ See 10 C.F.R. 51, Subpart A, Appx. B, Table B-1. “Unless the significance level is identified as beneficial, the impact is adverse, or in the case of ‘small,’ [the impact] may be negligible.” *Id.*

⁵¹ *Id.*

⁵² See Jul. 31, 2008 ASLB Mem. and Order (Ruling on Petitions to Intervene and Requests for Hearing), LBP-08-13, at 83.

⁵³ Apr. 22, 2010 ASLB Mem. and Order (Denying Entergy’s Motion for the Summary Disposition of NYS Contention 17/17A) at 12-13 (footnotes in the quoted material have been renumbered).

⁵⁴ Footnote omitted.

⁵⁵ See, e.g., State of New York Contentions Concerning NRC Staff’s Draft Supplemental Environmental Impact Statement, Supplemental Declaration of Stephen C. Sheppard, “Potential Impacts of Indian Point Relicensing with Delayed Site Reclamation” at 1 (Feb. 26, 2009) (“[T]here are significant additional burdens imposed on off-site property values if license renewal is approved.”); New York State Notice of Intention to Participate and Petition to Intervene and Supporting Declarations and Exhibits, Declaration of Stephen C. Sheppard, “Potential Impacts of Indian Point Relicensing on Property Values” at 6 (Nov. 29, 2007) (“The

This potential evidence goes directly against statements in Entergy's ER and the NRC Staff's Draft SEIS that non-renewal will not have a significant impact.⁵⁶

Adopting the applicant's analysis, along with its biases and omissions, Staff's socioeconomic analysis is arbitrary and capricious and does not satisfy NEPA.

THE APPLICANT'S SOCIOECONOMIC ANALYSIS

Likely Impacts of License Renewal

In its initial opposition to NYS-17, Entergy took the position "that an applicant in a license renewal proceeding need only analyze impacts from population growth related to the plant or from the public services that local governments provide to encourage development using the tax payments from the plant."⁵⁷ Entergy also expressly contended that there was "no regulatory requirement or guidance document [that] calls for an analysis of property values for purposes of license renewal," and that the Waste Confidence Rule precluded the need for any discussion of any aspect of spent fuel storage.⁵⁸ Accordingly and relying on the GEIS, the ER

result indicates that the assertion that the impacts of extended licensing of the plant would be non-existent or undetectable cannot be accepted as scientifically valid.").

⁵⁶ Indian Point Energy Center License Renewal Application, Appx. E, Environmental Report (ER) at 4-40 to 4-43 ("[T]he impact to tax-driven land use changes from the continued payment of PILOT and property taxes from IP2 and IP3 is expected to be SMALL due to pre-established land use patterns and controls to guide land use development. Therefore, mitigation measures are not warranted."); Office of Nuclear Reactor Regulation, Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment, Main Report, NUREG-1437, at 8-29 to 8-30 (Supp. 38, Vol. 1 Dec. 2008) (ML083540594) . . . ("The NRC staff concludes that the socioeconomic impacts of plant shutdown would likely be SMALL to MODERATE (MODERATE effects for the Hendrick Hudson Central School District, Village of Buchanan, Town of Cortlandt, and the Verplanck Fire District).").

⁵⁷ ASLB Mem. and Order (Ruling on Petitions to Intervene and Requests for Hearing), LBP-08-13, at 80.

⁵⁸ *Id.* at 80.

discussed only “population-driven” and “tax-driven” land use changes,⁵⁹ each of which it concluded would have only a small impact.

With respect to tax-driven land use changes, Entergy focused on its payments to local governments within Westchester County and noted that IP’s fiscal contributions to the local economies “likely provide[] for a higher level of public infrastructure and services than would otherwise be possible,” leading to “overall growth.”⁶⁰ Entergy concluded that “the impact to tax-driven land use changes from the continued payment of PILOT and property taxes from IP2 and IP3 is expected to be SMALL due to pre-established land use patterns and controls to guide land use development.”⁶¹

Likewise, “Entergy agree[d] with the GEIS conclusion that new population-driven land use changes at the site during the license renewal term will be SMALL [NRC 1996, Section 4.7.4.2].”⁶² Because it anticipated that license renewal would result in no additional hiring, Entergy concluded that there would be “no adverse impact resulting from population driven land use changes associated with license renewal.”⁶³

Even though a consultant hired by the County of Westchester in 2005 observed that property values would likely increase near the facility if it were to shut down,⁶⁴ Entergy did not consider the likely impacts of relicensing on residential property values. Yet that significant omission did not stop the applicant from concluding that “the continued operation of IP2 and IP3

⁵⁹ See ER at 4-41 to 4-42.

⁶⁰ See *id.* at 4-42.

⁶¹ *Id.* at 4-43.

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Indian Point Retirement Options, Replacement Generation, Decommissioning/Spent Fuel Issues, and Local Economic/Rate Impacts*, prepared for the County of Westchester and the County of Westchester Public Utility Service Agency, June 9, 2005 (2005 Levitan Report) at xiv-xv, 103 (“If IP were retired and not replaced it is likely that property values for homeowners would increase even if the IP site stores [spent nuclear fuel].” (Exh. NYS000056).

will have a significant positive economic impact on the communities surrounding the station. Positive impacts include, but are not limited to, reduced local unemployment, significant contributions to local property tax revenue, economic support of southeastern New York, and lower energy costs.”⁶⁵

Likely Socioeconomic Impacts of the No-Action Alternative

In its no-action alternative analysis, Entergy observed that “[i]n the event that the IP2 and IP3 Operating Licenses are not renewed for an additional 20 years, then adverse impacts can be expected due to loss of tax revenues (see Table 2-9).”⁶⁶ Inexplicably, however, Entergy did not evaluate the impact of the no-action alternative on property values, a core component of land use and valuation.

STAFF’S SOCIOECONOMIC ANALYSIS

Likely Socioeconomic Impacts of License Renewal

Like Entergy, Staff undertook its socioeconomic analysis with a bias: It assumed that the facility had a positive impact on nearby communities and it never considered indicia that did not support that view. Staff’s underlying assumptions are clear from its description of the relevant “region of influence” analyzed in FSEIS § 2.2.8:

This section describes current socioeconomic factors that have the potential to be directly or indirectly affected by changes in IP2 and IP3 operations. IP2 and IP3 and the communities that support them can be described as a dynamic socioeconomic system. The communities provide the people, goods, and services required by IP2 and IP3 operations. IP2 and IP3 operations, in turn, create the demand and pay for the people, goods, and services in the form of wages, salaries, and benefits for jobs and dollar expenditures for goods and services. The measure of the communities’ ability to support the demands of IP2 and IP3 depends on their ability to respond to changing environmental, social, economic, and demographic conditions. *The socioeconomic region of influence (ROI) is defined by the areas where IP2 and IP3 employees and their families reside, spend their*

⁶⁵ ER at 8-67.

⁶⁶ ER at 8-57.

income, and use their benefits, thereby affecting the economic conditions of the region. The IP2 and IP3 ROI consists of a four-county area (Dutchess, Orange, Putnam, and Westchester Counties) where approximately 84 percent of IP2 and IP3 employees reside. The following sections describe the housing, public services, offsite land use, visual aesthetics and noise, population demography, and the economy in the ROI surrounding IP2 and IP3 (emphasis added).⁶⁷

Thus, Staff's definition of the relevant "region of influence" presumed that the facility would shower benefits on the "region of influence" that it defined only by the communities where its employees live and spend money. This "trickle down" analysis never considered that the facility might simultaneously be diminishing nearby property values (also within Staff's "region of influence"). In essence, Staff defined the so-called "region of influence" as the "region of *positive* influence." Like the applicant, Staff analyzed only the "tax-driven" and "population-driven" potential impacts of the proposed action,⁶⁸ not the impact of the facility on property values - a key component of land use. Staff's error infected the entire socioeconomic analysis of license renewal: "As discussed in Section 4.4 of this SEIS, continued operation of IP2 and IP3 during the license renewal term would have no impact on socioeconomic conditions in the region beyond those already being experienced."⁶⁹

Focusing only on the region of positive influence, consultant Levitan and Associates (hired by Westchester County) concluded that "[i]f the IP licenses were extended, the State would benefit from continued PILOT, employee compensation, and local spending, as well as from lower electric energy prices."⁷⁰ Even though the 2005 Levitan Report elsewhere acknowledged that "[t]he shutdown of IP2 and IP3 may result in increased property values of the homes in the communities surrounding the site," resulting in "some increases in tax revenues,"

⁶⁷ FSEIS § 2.2.8.

⁶⁸ See FSEIS 4-46 to 4-47; see also FSEIS Appx. A at A-122 ("The impact of nuclear plant operations on real estate values was not identified as an issue to be addressed by license renewal").

⁶⁹ FSEIS § 4.8.4.

⁷⁰ 2005 Levitan Report at 117.

Staff failed to recognize that license renewal would have an equal and even larger negative impact (by continuing to depress property values in the vicinity of the facility). Staff also failed to engage in any analysis of the positive and negative impacts on property values of license renewal or denial of the application. Absent this analysis, Staff's decision lacks a rational basis.

Likely Socioeconomic Impacts of the No-Action Alternative

Compounding its failure to analyze the impact of the proposed action, the FSEIS also fails to quantify the increase in property values that staff concedes "may result" from the no-action alternative.⁷¹ The FSEIS also speculates that property tax revenues would increase although not sufficiently to counter "the revenues lost from IP2 and IP3."⁷² Although Staff surmises that "the combined increase in property values and increased taxes could have a noticeable effect on some area homeowners and business," the FSEIS does not analyze "the magnitude of this effect" or even "whether the net effect would be positive or negative."⁷³ Absent any analysis at all, Staff's conclusion that "the socioeconomic impacts of plant shutdown would likely be SMALL to MODERATE (MODERATE effects for the Hendrick Hudson Central School District, Village of Buchanan, Town of Cortlandt, and the Verplanck Fire District)" is nothing more than speculation.

Moreover, despite the dearth of data or analysis, Staff has somehow deduced that the socioeconomic impacts of the no-action alternative would be *adverse* with small to moderate impacts.⁷⁴ With respect to the no-action alternative, Staff said,

The shutdown of IP2 and IP3 may result in increased property values of the homes in the communities surrounding the site (Levitan and Associates, Inc. 2005). This would result in some increases in tax revenues. However, to fully

⁷¹ See FSEIS at § 8.2.

⁷² See *id.*

⁷³ FSEIS at § 8.2.

⁷⁴ 10 C.F.R. 51, Subpart A, Appx. B, Table B-1.

offset the revenues lost from the shutdown of IP2 and IP3, taxing jurisdictions most likely would have to compensate with higher property taxes (Levitan and Associates, Inc. 2005). The combined increase in property values and increased taxes could have a noticeable effect on some area homeowners and business, though Levitan and Associates did not indicate the magnitude of this effect and whether the net effect would be positive or negative.

Revenue losses from Indian Point operation would affect the communities closest to and most reliant on the plant's tax revenue and PILOT. If property values and property tax revenues increase, some of these effects would be smaller. The NRC staff concludes that the socioeconomic impacts of plant shutdown would likely be SMALL to MODERATE (MODERATE effects for the Hendrick Hudson Central School District, Village of Buchanan, Town of Cortlandt, and the Verplanck Fire District). *See* Appendix J to NUREG-0586, Supplement 1 (NRC 2002), for additional discussion of the potential impacts of plant shutdown.⁷⁵

The report upon which Staff's conclusion is based was prepared for Westchester County in 2005 by Boston-based Levitan and Associates. The purpose of Levitan's work was to assist the County in a post-September 11th evaluation of "the feasibility of alternative options to facilitate IP's retirement."⁷⁶ Levitan was not retained as part of the relicensing effort and its report was not prepared as part of the EIS process. Its complete analysis of the potential impact of the no-action alternative on land use values follows:

Nearby Residents – If IP were retired and not replaced it is likely that property values for homeowners would increase even if the IP site stores SNF. However, that impact might be offset by higher property tax rates to compensate for the decrease in PILOT payments, and the corresponding tax rate increase for other taxpayers. In any event, such impacts would be relatively confined to Buchanan. LAI did not speculate as to the net effect of local property values for the purpose of this assignment.⁷⁷

In sum, Staff (and the report upon which it relied) merely acknowledged the possibility that the no-action alternative might cause property values to rise, conducting no considered

⁷⁵ FSEIS § 8.2 ("Revenue losses from Indian Point operation would affect the communities closest to and most reliant on the plant's tax revenue and PILOT. If property values and property tax revenues increase, some of these effects would be smaller").

⁷⁶ 2005 Levitan Report at i (Executive Summary).

⁷⁷ 2005 Levitan Report at 103.

analysis. Staff had to concede that the report's authors could not determine even whether the net change would be positive or negative.⁷⁸ Inexplicably, however Staff went on to conclude that the net socioeconomic effect of the no-action alternative would be negative.⁷⁹

As set forth below, the State will show that the socioeconomic impacts of plant shutdown would be LARGE, not "SMALL to MODERATE." Moreover, contrary to Staff's conclusion, those impacts would be positive, not negative.

THE STATE'S EVIDENCE

This section sets forth the evidence that supports NYS-17B.

Declarations and Reports of Stephen C. Sheppard, Ph.D.

The State has previously relied upon four reports (and their accompanying declarations) by economist and professor Dr. Stephen C. Sheppard, Ph.D.⁸⁰ Along with Dr. Sheppard's fifth report, *Impacts of the Indian Point Energy Center on Property Values* (December 2011),⁸¹ his earlier reports are summarized here.

1. November 28, 2007 Declaration of Stephen C. Sheppard, Ph.D. and *Potential Impacts of Indian Point Relicensing on Property Values*, Stephen C. Sheppard, Ph.D. (November 29, 2007).

In his initial report, Dr. Sheppard found that there were sound scientific reasons to conclude that the continued operation of IP2 and IP3 might impose substantial, not "small," impacts on local land use. Dr. Sheppard opines that land uses are determined by property values and the uses of land that tend to be those that generate the highest values. Dr. Sheppard concludes that impacts to land use depend upon impacts to property values because "[i]f the

⁷⁸ FSEIS § 8.2.

⁷⁹ *Id.* ("Revenue losses from Indian Point operation would affect the communities closest to and most reliant on the plant's tax revenue and PILOT. *If property values and property tax revenues increase, some of these effects would be smaller*") (emphasis added).

⁸⁰ Sheppard curriculum vitae. Exh. NYS000208.

⁸¹ Exh. NYS000231.

presence of the nuclear power generating plant has a significant impact on property values, then it logically follows that extending the license will have a significant impact on property values[,] which in turn will affect land use by affecting the decisions made by thousands of property owners and developers.”⁸² Dr. Sheppard asserts that impacts to property values by an electric generating facility, including impacts to property values in the vicinity of Indian Point, is a scientifically testable question.

In this preliminary report, Dr. Sheppard reviewed some of the literature in the field that examined the impact of power plants of all types, including nuclear, on property values. He first considered the work of Glenn Blomquist, who published *The Effect of Electric Utility Power Plant Location on Area Property Values*, *Land Economics*, Vol. 50, No. 1 (Feb. 1979), one of the early scientifically sound estimates of the impact of non-nuclear power plants on property values. Blomquist concluded, after adjusting for other factors (property size, neighborhood demographics, etc.), “there was a clear and statistically significant impact of power plants on property values.”⁸³ Economists David Clark and Leslie Nieves further concluded that the impact of a nuclear power facility would be three times larger than the impact of a coal-fired plant and more than four times larger than the impact of a gas or oil-fired electric generating facility.⁸⁴ Dr. Sheppard explained the significance of Clark and Nieves’s separation of plant impacts from the ability of those facilities to generate income and employment. “This must be done to isolate the

⁸² *Potential Impacts of Indian Point Relicensing on Property Values*, Sheppard, S. (Nov. 29, 2007) at 2.

⁸³ *Id.*

⁸⁴ *An Interregional Hedonic Analysis of Noxious Facility Impacts on Local Wages and Property Values*, *Journal of Environmental Economics and Management*, Clark, D. and Nieves, L., Vol. 27 (1994) at 235-253. Exh. NYS000235.

pure impact of the power plant that would be observed if the facility is completely replaced with an alternative use that is also capable of generating employment and income.”⁸⁵

Dr. Sheppard also reviewed a subsequent study that concluded that power plants might have no impact on property values, or that the impact was ambiguous. A 1997 study by David Clark, Lisa Michelbrink, Tim Allison and William Metz, *Nuclear Power Plants and Residential Housing Prices*, concluded that two California nuclear power plants were associated with small increases in nearby property values.⁸⁶ Dr. Sheppard points out that this study commingled the impact of job accessibility with the impact of disamenity, which would be appropriate only where the subject property would be decommissioned⁸⁷ and abandoned. As Dr. Sheppard points out, “[f]or most cases, and certainly in the decommissioning of the plant contemplated in the Indian Point case, this is not the appropriate” assumption.⁸⁸ Similarly, Dr. Sheppard found flawed a 2000 study by Sherman Folland and Robin Hough, *Externalities of Nuclear Plants: Further Evidence*,⁸⁹ which failed to account fully for labor market impacts. Nonetheless, the authors found a statistically significant negative impact on property values by a nuclear power plant.

⁸⁵ *Potential Impacts of Indian Point Relicensing on Property Values*, Sheppard, S. (Nov. 29, 2007) at 3.

⁸⁶ *Nuclear Power Plants and Residential Housing Prices*, Clark, D., Michelbrink, L., Allison, T. and Metz, W., *Growth and Change*, Vol. 28 (1997) at 496-519. Exh. NYS000236.

⁸⁷ Decommission means to remove a facility or site safely from service and reduce residual radioactivity to a level that permits--

(1) Release of the property for unrestricted use and termination of the license; or
(2) Release of the property under restricted conditions and termination of the license. See 10 C.F.R. § 50.2.

⁸⁸ *Potential Impacts of Indian Point Relicensing on Property Values*, Sheppard, S. (Nov. 29, 2007) at 3.

⁸⁹ *Externalities of Nuclear Plants: Further Evidence*, Folland, S. and Hough, R., *Journal of Regional Science*, Vol. 40, No. 4 (2000). Exh. NYS000233.

After reviewing these studies, Dr. Sheppard concluded that “[a]ll properly done studies . . . indicate the potential for a significant, not a small, impact.”⁹⁰ Dr. Sheppard tentatively concluded that if Indian Point’s licenses were not renewed, property values in the vicinity of the facility would increase by nearly \$600,000 million - more than sufficient to alter decisions about land use made by the owners of the most affected properties.

2. *Potential Impacts of Indian Point Relicensing with Delayed Site Remediation*, Stephen C. Sheppard, Ph.D. (February 26, 2009).⁹¹

In his second report, Dr. Sheppard addressed the additional burden that would be imposed on property values if wastes, including those generated during a period of license renewal, remained on the site beyond 2065 (30 years after the expiration of renewed licenses). Dr. Sheppard clarified that his initial analysis assumed that the site would be restored by 2025. Sheppard’s 2009 report examined the impact associated with a delay in full site reclamation of at least 60 years post-license renewal. Dr. Sheppard concluded that delaying reclamation would impose an additional cost ranging from \$300-\$310 million (for an additional 60 to 70 years) to \$350 million (if the delay were to last 140 years).

3. *March 15, 2010 Supplemental Declaration of Stephen C. Sheppard and Determinants of Property Values*, Stephen C. Sheppard, Ph.D. (March 15, 2010).⁹²

In his third report *Determinants of Property Values*, Stephen C. Sheppard, Ph.D. (March 15, 2010), Dr. Sheppard explained the determinants of the value of real property and how those determinants can be estimated to a reasonable degree of scientific certainty. As set forth in the report, three sources of information contribute to the economic approach to determining property value: value in exchange, cost of production, and value in use of the property.

⁹⁰ *Potential Impacts of Indian Point Relicensing on Property Values*, Sheppard, S. (Nov. 29, 2007) at 3.

⁹¹ Exh. NYS000227.

⁹² Exh. NYS000228.

Value in Exchange: The “value in exchange” concept is perhaps better known as “fair market value.” Fair market value represents the amount that a willing buyer would give to a willing seller in exchange for an object or piece of property. The exchange must be an arms-length transaction that occurs after a proper period of marketing. This ensures that the welfare and interests of the buyer are distinct from those of the seller, that the seller has located the buyer with the highest willingness-to-pay, and that both buyer and seller have acted knowledgeably, prudently and without compulsion.

Cost of Production: The cost of production concept is sometimes referred to as the “marginal cost of production” and it denotes the cost of producing an additional unit of the good or property. The concept tries to value the cost of reproducing or replacing the property.

Value in Use: This concept gauges the value of the stream of benefits that the owner or possessor receives from the property; it can be very important with respect to real property and other durable kinds of property. Economists analyze the present value of the stream of benefits obtained from a property by comparing the amount of funds that would have to be deposited in a bank or otherwise invested in order to create a stream of income identical to the stream of rental payments, or other income, that might be obtained through property ownership. Economists regard value in use as important even where property is used by its owner because the owner is reaping a benefit that can be monetized (for example, a homeowner realizes a benefit in the form of avoided rent by occupying the owned house).

Each of these concepts has an analogue in the three methodologies commonly employed by professional property appraisers. These three methodologies are:

Comparative Market Value Approach: This approach is also known as the sales comparison approach. The appraiser identifies a number of comparable properties that have sold

under contemporary market conditions in arms length transactions. The observed sales price is then adjusted to account for differences between the comparable properties and the subject property. Then the results are averaged over the small number of properties to produce an estimated value or the group of properties is used to provide a range of possible values for the subject property. This concept approximates *value in exchange*.

Cost Approach: This concept is useful where a value is required for unique properties for which no comparable sales exist. It depends on engineering data and construction cost estimates to determine the replacement cost of any building on the property. To those values are added values for the land itself and some adjustments follow. This concept approximates *costs of production*.

Income Approach: This approach, which approximates *value in use*, requires the collection of data on leases, rental rates, occupancy rates and local market conditions. Using an interest rate or rate of return chosen to reflect the uncertainty in market outcomes and associated risks of property ownership, an appraiser calculates the present value of the income that the property could generate. The approach takes into account uncertainty, as well as neighborhood conditions and potential nuisances or disamenities that might affect the property in the future.

The methods typically used by appraisers are not ideally suited to determining property values under counterfactual conditions. Such an analysis is useful in helping understand the future consequences of possible actions. For instance, a decisionmaker might want to know the value of a property if a particular amenity were added. In sum, nuisances and amenities are important factors in determining property values.

4. Fourth report of Stephen C. Sheppard, Ph.D. (January 24, 2011).

Following the December 23, 2010 revision by the Nuclear Regulatory Commission of its generic determination on the environmental impacts of the storage of spent fuel⁹³ and a December 2010 report by TLG Services, Inc., *Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3*,⁹⁴ Dr. Sheppard analyzed the impact of delay in site reclamation on property values, specifically Dr. Sheppard analyzed a baseline⁹⁵ reclamation scenario, and four distinct alternatives.

Dr. Sheppard's analysis depended on three underlying facts and a sequence of events important to the economic analysis. The underlying facts are that (1) the presence and operation of the facility diminishes the value of nearby residential and commercial property but that impact will abate when the site has been reclaimed, allowing an alternate use and new sources of economic activity and employment; (2) absent any change in the property tax rate (but assuming reassessment to reflect the market value of real property), nearby properties will increase in value, providing additional tax revenue to their communities; and (3) Entergy pays property taxes and/or makes payments in lieu of taxes that will cease when operations stop or shortly thereafter.⁹⁶

The sequence of significant events is (1) end of reactor operations; (2) reclamation of IPEC, including removal of buildings, equipment, hazardous materials, and spent fuel; (3)

⁹³ See 75 Fed. Reg. at 81,032 (Dec. 23, 2010) (Consideration of Environmental Impacts of Temporary Storage of Spent Fuel After Cessation of Reactor Operation). Exh. NYS000237.

⁹⁴ *Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3*, TLG Services, Inc. (Dec. 2010) (Doc. E11-1583-006). Exh. NYS000238.

⁹⁵ The discussion of a no-action alternative in an EIS allows policymakers and the public to compare the environmental consequences of implementing the proposed action with the environmental consequences of abandoning the project altogether: it is intended to provide a baseline against which the action alternative is evaluated.⁹⁵

⁹⁶ *Accord 2005 Levitan Report* at xiv, xv.

recovery of surrounding property values as a result of site reclamation; and (4) recovery of property tax payments on surrounding properties.

The December 2010 report, *Preliminary Decommissioning Cost Analysis for the Indian Point Energy Center, Unit 3*, by TLG Services, Inc., provides the waste removal timetable. If license renewal is denied, waste removal will take 30 years following a two year preparation period (assuming no delay in commencement of that period). If license renewal is granted and the spent fuel is thereby doubled, a conservative estimate of waste removal would be 40 years following a two year preparation period (the 40 year estimate assumes modest economies of scale in the removal of radioactive waste and therefore calculates that it will take only 10 additional years to remove the spent fuel generated during the license renewal period). Dr. Sheppard assumed that Entergy would continue making payments in lieu of taxes and tax payments through 2035 and selected a conservative tax rate of 2.36% of actual market value.

	License Renewal	Operations Cease	Decommissioning Commences	Site Reclaimed	Property Value Diminution
Baseline	Denied	2015	2015 (immediately)	2047	not applicable
Alt. A	Denied	2015	2045 (30 year delay)	2077	\$169,429,649
Alt. B	Granted	2035	2035 (immediately)	2077	\$169,429,649
Alt. C	Granted	2035	2065 (30 year delay)	2107	\$221,667,973
Alt. D	Granted	2035	2095 (60 year delay)	2137	\$237,774,023

Dr. Sheppard thus concluded that Westchester County municipalities will lose the tax revenue on a tax base that would be increased by \$169,429,649 to \$237,774,023 if the site is not reclaimed until 2077.

5. *Impacts of the Indian Point Energy Center on Property Values*, Stephen C. Sheppard, Ph.D. (December 11, 2011).

In his fifth and final report, Dr. Sheppard found “to a reasonable degree of scientific certainty that there is an adverse impact on property values resulting from IPEC’s presence in the community,” and that the recovery in property values that would likely occur if the facility were no longer present “could add more than \$1 billion dollars to the value of residential property [within 5 km of the facility], increasing its value by more than 27%.”⁹⁷

Using data from actual residential sales within 5 kms. of the facility, Dr. Sheppard organized these data so that he had one observation (record) for each pair of arm’s length transactions. Each observation included both sales prices and both sales dates, which permitted the calculation of the nominal rate of return upon the sale. Dr. Sheppard then constructed an indicator variable to identify residential ownership periods that would have been impacted by the construction in 1974 and 1976 of Indian Point Units 2 and 3.⁹⁸ Dr. Sheppard calculated that ownership periods that ended before 1974 were unlikely to have been significantly affected by Indian Point (including the much smaller Unit 1). He further calculated that the facility’s impact on property values would have been reflected in the purchase price in transactions involving both a purchase after 1976 and a sale after 1976 because a willing buyer would have known of the facility’s existence. Thus the period of time that would reflect the impact of Units 2 and 3 on property values is the period where ownership began before 1974 and ended after 1976 (the “treatment group”). The ownership periods that occurred entirely before 1974 or after 1976

⁹⁷ *Impacts of the Indian Point Energy Center on Property Values*, Stephen C. Sheppard, Ph.D. (Dec. 11, 2011) at 1, 12.

⁹⁸ As Dr. Sheppard observes in his report, Indian Point Unit 1 operated from 1962 to 1974. Its impacts on property values, although not measured, would have had a negative impact already absorbed by residential properties within 5 kms. Indian Point Unit 1 would have exacerbated the diminution in property values documented by Dr. Sheppard.

constitute the control group. That group's rate of return is the base against which the return experienced by the treatment group (the group whose property values were impacted by the facility's existence) is measured.

Using actual local sales data, Dr. Sheppard estimated the impact of being in the treatment group on the annual return during the ownership period. His analysis showed that the facility caused a statistically significant reduction of 3% per year in the nominal rate of return on residential real property within 5 kms. - in other words, each homeowner sustains a loss in the return on their home each year of 3% as a result of being a neighbor of Indian Point. In the aggregate, the community suffered a loss of \$1,070,074,312, which represents a diminution of 27.08% in property value as of January 2011.⁹⁹ Further, to a reasonable degree of scientific certainty, Dr. Sheppard concluded that "the reduced value of residential services was not compensated for by reduced required property tax payments on residential property."¹⁰⁰ Finally, as set forth in his December 2011 report, Dr. Sheppard's findings are consistent with those in other published studies.¹⁰¹

PROPOSED FINDINGS OF FACT

The FSEIS's analysis of the impact of the no-action alternative on offsite land use is inadequate to support Staff's recommendation.

1. With respect to offsite land use, the FSEIS posits that if Entergy's application for license renewal is denied

The shutdown of IP2 and IP3 may result in increased property values of the homes in the communities surrounding the site (Levitan and Associates, Inc. 2005). This would result in some increases in tax revenues. However, to fully offset the revenues lost from the shutdown of IP2 and IP3, taxing jurisdictions

⁹⁹ *Id.* at 12.

¹⁰⁰ December 2011 Sheppard Report at 9.

¹⁰¹ *Id.* at 12-13.

most likely would have to compensate with higher property taxes (Levitan and Associates, Inc. 2005). The combined increase in property values and increased taxes could have a noticeable effect on some area homeowners and business [sic], though Levitan and Associates did not indicate the magnitude of this effect and whether the net effect would be positive or negative.

Revenue losses from Indian Point operation would affect the communities closest to and most reliant on the plant's tax revenue and PILOT. If property values and property tax revenues increase, some of these effects would be smaller. The NRC staff concludes that the socioeconomic impacts of plant shutdown would likely be SMALL to MODERATE (MODERATE effects for the Hendrick Hudson Central School District, Village of Buchanan, Town of Cortlandt, and the Verplanck Fire District). *See* Appendix J to NUREG-0586, Supplement 1 (NRC 2002), for additional discussion of the potential impacts of plant shutdown.

FSEIS § 8.2.

2. FSEIS § 8.2 is identical in substance to Draft SEIS § 8.2:

The shutdown of IP2 and IP3 may result in increased property values of the homes in the communities surrounding the site (Levitan and Associates, Inc. 2005). This would result in some increases in tax revenues. However, to fully offset the revenues lost from the shutdown of Environmental Impacts of License Renewal Draft NUREG-1437, Supplement 38 8-30 December 2008 IP2 and IP3, taxing jurisdictions most likely would have to compensate with higher property taxes (Levitan and Associates, Inc. 2005). The combined increase in property values and increased taxes could have a noticeable effect on some area homeowners and business, though Levitan and Associates did not indicate the magnitude of this effect and whether the net effect would be positive or negative.

Revenue losses from Indian Point operation would likely affect only the communities closest to and most reliant on the plant's tax revenue and PILOT. If property values and property tax revenues increase, some of these effects would be smaller. The NRC staff concludes that the socioeconomic impacts of plant shutdown would likely be SMALL to MODERATE (MODERATE effects for the Hendrick Hudson Central School District, Village of Buchanan, Town of Cortlandt, and the Verplanck Fire District). *See* Appendix J to NUREG-0586, Supplement 1 (NRC 2002), for additional discussion of the potential impacts of plant shutdown.¹⁰²

3. FSEIS § 8.2 acknowledged that the no-action alternative might "result in increased property values of the homes in the communities surrounding the site," as alleged in NYS-17B, but failed to analyze the likely magnitude of that impact or of what the FSEIS speculates might

¹⁰² Dec. 23, 2008 Supplemental Draft EIS § 8.2.

be the “combined increase in property values and increased taxes.” The analysis does not indicate either “the magnitude” of the potential increase in property values or even “whether the net effect would be positive or negative.”

4. The implied conclusion in FSEIS § 8.2 that the socioeconomic impacts of plant shutdown would be adverse is completely unsupported by analysis.
5. The conclusion in FSEIS § 8.2 “that the socioeconomic impacts of plant shutdown would be SMALL” for any taxing entity is completely unsupported by analysis.
6. The conclusion in FSEIS § 8.2 “that the socioeconomic impacts of plant shutdown would be . . . MODERATE” for any taxing entity is completely unsupported by analysis.
7. The impact to residential property values by an electric generating facility, including impacts to property values within 5 km. of Indian Point, is a scientifically testable question.¹⁰³
8. To a reasonable degree of scientific certainty there is an adverse impact on property values resulting from IPEC’s presence in the community.
9. Because the adverse impact on property values is associated with the arrival of IPEC, it is scientifically plausible that it would dissipate after removal of IPEC and the decommissioning and reclamation of the site for alternative uses.
10. The recovery in property values could add more than \$1 billion dollars to the value of residential property, increasing its value by more than 27%.

¹⁰³ *Potential Impacts of Indian Point Relicensing on Property Values*, Stephen C. Sheppard (Nov. 29, 2007) at 2; *see generally* December 2011 Sheppard Report.

NEW YORK STATE'S POSITION

STAFF DID NOT TAKE A "HARD LOOK" AT THE IMPACTS OF THE NO-ACTION ALTERNATIVE ON OFF-SITE LAND USE

Relying on the information provided to it by the applicant, Staff observed that “[t]he shutdown of IP2 and IP3 may result in increased property values of the homes in the communities surrounding the site (Levitan and Associates, Inc. 2005). This would result in some increases in tax revenues.”¹⁰⁴ Staff then went on to speculate that “to fully offset the revenues lost from the shutdown of IP2 and IP3, taxing jurisdictions most likely would have to compensate with higher property taxes (Levitan and Associates, Inc. 2005).”¹⁰⁵ Staff observed that “[t]he combined increase in property values and increased taxes could have a noticeable effect on some area homeowners and business, though Levitan and Associates did not indicate the magnitude of this effect and whether the net effect would be positive or negative.”¹⁰⁶ Even though it acknowledged that it had insufficient information to determine whether increased property values would offset potentially higher property taxes, staff nonetheless concluded that they would not.¹⁰⁷ This conclusion, along with Staff’s guess as to the scope of the adverse impact forecast, is unfounded.

“It is undisputed that [staff] neither conducted nor commissioned an independent analysis of alternatives.”¹⁰⁸ Instead, in support of its conclusion, Staff relies on the 2005 Levitan Report.¹⁰⁹ But that report is not based on a site-specific study or even a review of scientific literature. It says only “If IP were retired and not replaced *it is likely that property values for*

¹⁰⁴ FSEIS § 8.2.

¹⁰⁵ *Id.*

¹⁰⁶ FSEIS § 8.2.

¹⁰⁷ *Id.* “Unless the significance level is identified as beneficial, the impact is adverse, or in the case of ‘small,’ [the impact] may be negligible.” 10 C.F.R. 51, Subpart A, Appx. B, Table B-1.

¹⁰⁸ *Southern Utah Wilderness Alliance v. Norton*, 237 F. Supp.2d 48, 53 (D.D.C. 2002).

¹⁰⁹ Exh. NYS000056.

homeowners would increase even if the IP site stores SNF. However, that impact *might be offset* by higher property tax rates to compensate for the decrease in PILOT payments, and the corresponding tax rate increase for other taxpayers. In any event, such impacts would be relatively confined to Buchanan. *LAI did not speculate* as to the net effect of local property values for the purpose of this assignment (emphasis added).”¹¹⁰

“This explanation does not represent the ‘substantial treatment’ required by NEPA’s implementing regulations to any non-construction alternatives. *See* 40 C.F.R. § 1502.14(b) (discussion in reasonable alternatives section of EIS shall ‘[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits’).”¹¹¹ These “general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.”¹¹² The administrative record contains no evidence that supports the finding that the impact on land use resources of the no-action alternative would be either adverse or “SMALL to MODERATE.” And there is, of course, no reason that more definitive information could not be provided: Dr. Sheppard has done just that. *See* December 2011 Sheppard Report. Staff failed to take a hard look at the impact of the no-action alternative (and concomitantly at the actual impact of the proposed action) on socioeconomic factors. Staff

¹¹⁰ 2005 Levitan Report at 103.

¹¹¹ *Southeast Alaska Conservation Council v. Federal Highway Admin.*, 649 F.3d 1050, 1058 (9th Cir. 2011) (failure to thoroughly analyze certain alternatives to the State's proposed plan to improve surface transportation to Juneau, Alaska was arbitrary and violated NEPA).

¹¹² *Western Watersheds Project*, 632 F.3d at 491 (quoting *Blue Mtns. Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998)).

“‘entirely failed to consider an important aspect of the problem,’ and, therefore, its no effect conclusion was arbitrary and capricious.”¹¹³

Exacerbating its failure to analyze the actual adverse impacts of relicensing and the potential positive impacts of the no-action alternative, Staff readily credited the proposed relicensing with positive economic effects.¹¹⁴ In fact, as set forth in the testimony and the December 2011 Sheppard Report, the facility is having a large, not small or moderate, impact on property values and therefore land use in the 5 kilometer area around it.¹¹⁵

As the District of Columbia Circuit held forty years ago, NEPA requires agencies to balance a project’s economic benefits against its adverse environmental effects.¹¹⁶ “Misleading economic assumptions can defeat the first function of an EIS by impairing the agency’s consideration of the adverse environmental effects of a proposed project.”¹¹⁷ Such inaccurate assumptions can also skew the public’s evaluation of a project.¹¹⁸ The failure of Entergy and staff to evaluate the potential recovery in property values associated with the no-action alternative may skew the public’s evaluation of license renewal and distort the proper balance in

¹¹³ *Id.* at 493 (quoting *The Lands Council v. McNair*, 537 F.3d 981, 987 (9th Cir. 2008 (*en banc*)), abrogated on other grounds by *Winter v. NRDC, Inc.*, 555 U.S. 7 (2008)); see also *Davis Mtns. Trans-Pecos Heritage Assoc.*, 116 Fed. Appx. at *8 (among other failures, FAA’s EIS failed to take hard look at possible effects of wake turbulence on ground structures where FAA relied not on its own expert’s opinion but rather on information supplied by applicant, which did not present reliable information and thus misinformed both public participation and the ultimate conclusion).

¹¹⁴ See FSEIS § 2.2.8.3 (detailing property tax payments and PILOT payments made to various entities, and even taking credit for property taxes paid to unidentified counties by “the 1255 people employed by the site”).

¹¹⁵ December 2011 Sheppard Report at 1-13.

¹¹⁶ *Calvert Cliffs*, 449 F.2d at 1113.

¹¹⁷ *Hughes River Watershed Conservancy*, 81 F.3d at 446.

¹¹⁸ *Id.*

the decisionmaking process.¹¹⁹ It also prevents NRC from making a sound, evidence-based decision.¹²⁰

The federal courts regularly enforce the obligation of federal agencies to carefully and thoroughly evaluate the economic impacts of proposed projects. In *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437 (4th Cir. 1996), the United States Court of Appeals for the Fourth Circuit found an EIS inadequate because, among other reasons, it relied on an inflated estimate of a proposed dam’s economic benefits, thus impairing fair consideration of the project’s adverse environmental impacts.¹²¹ The EIS had used an inflated estimate of the dam’s anticipated recreational benefits, which, in turn, comprised approximately 32% of the project’s estimated economic benefits.¹²² Because the error was significant and further “had the potential to mislead the public about the economic benefits that would result from the Project,” the faulty EIS “violated NEPA.”¹²³

Similarly, in *Johnston v. Davis*, 698 F.2d 1088, 1095 (10th Cir. 1983), the Tenth Circuit reviewed the use by the Soil Conservation Service of a Congressionally-established but artificially low discount rate in comparing alternatives. Although the Court upheld the use of the discount rate, it held that the Soil Conservation Service erred by using the rate “in a misleading manner by failing to make clear in the EIS that although the economic analysis calculated under this discount rate demonstrated that the [proposed] Project meets the cost-benefit standards

¹¹⁹ See *id.* at 446.

¹²⁰ See *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2) CLI-02-17, 56 N.R.C. 1, 10 (2002) (“While NEPA does not require agencies to select particular options, it is intended to ‘foster both informed decision-making and informed public participation, and thus to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct’” (citation and footnote omitted)).

¹²¹ See *Hughes River Watershed Conservancy*, 81 F.3d at 446-448.

¹²² *Id.* at 447.

¹²³ *Id.* at 448.

imposed by Congress, this calculation does not represent a realistic assessment of the economic value of the project.”¹²⁴ Along with the Fourth and Tenth Circuits, the Seventh Circuit has also required accuracy and independence with respect to economic analyses. When confronted with a Finding of No Significant Impact (FONSI) in connection with a proposed coal transloading facility, the Court concluded that the Army Corps of Engineers had failed in its duty to independently verify specifically challenged information obtained from applicants or outside consultants.¹²⁵

Here, Staff relied on the report of an outside consultant retained for a different purpose to support its significance findings on the impact of both relicensing and the no-action alternative on land use. That consultant acknowledged that “[i]f IP were retired and not replaced[,] it is likely that property values for homeowners would increase.”¹²⁶ But the consultant’s analysis was sufficiently superficial that it did not determine either the magnitude of this impact or whether “the net effect” of “the combined increase in property values and increased taxes” would be positive or negative.”¹²⁷ Moreover, the State expressly challenged the FSEIS’s failure to analyze the impact on property values of the no-action alternative.¹²⁸

Dr. Sheppard has testified that property values are a key component of any discussion of the socioeconomics of land use.¹²⁹ He has provided an analysis that shows that the no-action alternative would cause a 27% increase in property values in the area within 5 kilometers of the facility.¹³⁰ And he has testified that this increase is 11% greater than the diminution in housing

¹²⁴ *Johnston v. Davis*, 698 F.2d 1088, 1094 (10th Cir. 1983).

¹²⁵ *Van Abbema v. Fornell*, 807 F.2d 633, 639 (7th Cir. 1986).

¹²⁶ 2005 Levitan Report at 103.

¹²⁷ FSEIS at § 8.2.

¹²⁸ 2009 NYS Comments at 12-17. Exh. NYS000134.

¹²⁹ Sheppard Pre-Filed Testimony at 11. Exh. NYS000224.

¹³⁰ *Id.* at 33, 38.

prices as a national average that triggered the nation's current economic crisis.¹³¹ The FSEIS's failure to analyze property values and its unsupported conclusions that the proposed action would have SMALL impacts on offsite housing, while the no-action alternative would have adverse SMALL to MODERATE impacts on offsite housing, are arbitrary and capricious as a matter of law.

CONCLUSION

Staff failed to take a hard look at either the actual adverse impacts of the proposed relicensing or the potential benefits of the no-action alternative. It offered no reasoned analysis based on any scientific data at all and cannot counter the unchallenged analysis of Stephen C. Sheppard, Ph.D. Staff's conclusions about the purported socioeconomic impact of relicensing and the no-action alternative are unsupported by evidence in the record and are arbitrary and capricious.¹³²

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¹³¹ *Id.* at 40-41.

¹³² *See Western Watersheds Project*, 632 F.3d at 493.