UNITED STATES

NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In re: Docket Nos. 50-247-LR; 50-286-LR

License Renewal Application Submitted by   ASLBP No. 07-858-03-LR-BD01

Entergy Nuclear Indian Point 2, LLC,   DPR-26, DPR-64

Entergy Nuclear Indian Point 3, LLC, and

Entergy Nuclear Operations, Inc.   November 21, 2012

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DECLARATION OF STEPHEN C. SHEPPARD

STEPHEN C. SHEPPARD, Ph.D. hereby declares as follows:

1.   I submit this declaration in support of the State of New York's consolidated contention, NYS-17B (NYS-17B), which asserts that the FSEIS's analysis of the impact of relicensing on property values is deficient under the National Environmental Policy Act (NEPA). Specifically, I submit this declaration in accordance with the Board's ruling on October 22, 2012 and in response to ENT000590.

2.   I have analyzed the likely impact of the proposed action (license renewal) on offsite land use. I have also analyzed the impact on offsite land use of the no-action alternative (that is, denial of the license renewal application). Specifically, I have studied the impact of the

facility on residential property values within 5 km and have analyzed the impact to those property values should license renewal be denied.

3.   As set forth in NYS000231, my fifth and final report, I applied a repeat-sales analysis to residential housing sales data for properties within 5 kilometers of the facility. This analysis suggests that cessation of commercial operations of IPEC would result in a 27% increase in housing values for properties within a 5 kilometer radius of the site.

4.   On Monday, October 15, 2012, I first saw a new statistical analysis by Entergy expert Dr. George Tolley. *See* ENT000590. In his October 2012 analysis, Dr. Tolley purported to respond to a comment I made in my rebuttal testimony, *see* NYS000434 at 33-38. It is my understanding that Entergy provided the new Tolley regressions to the State of New York at about 7:00 p.m. on Friday, October 12, 2012.

5.   In my June rebuttal testimony, I observed that Dr. Tolley used some variables inconsistently because his analysis included the distance from a residence to the plant *and* that distance squared as well as the distance from a residence to the nearest rail station (an amenity) *but not* the square of their distance from the station. *See* NYS000434 at 31. I further observed that Dr. Tolley dismissed evidence that IPEC might be an important source of disamenity that would reduce property

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values because "[i]n either case, the unexpected implication is that the disamenity effect is greater the farther away the property is from IPEC." *Id.* at 35-36 (*quoting* ENT000144 at 21-22). I pointed out Dr. Tolley's concern that house values continued to increase *at an increasing rate* as distance from the facility increased was due to the functional relationship between house price and distance from the facility. The functional relationship — linear or quadratic (squared) is imposed by the investigator — in this case, Dr. Tolley himself. *See* NYS000434 at 36.

6. In my rebuttal testimony, I suggested that "instead of the form used in Dr. Tolley's model, we estimate the same model using the same data, making one small change: we use the square root of distance in place of distance and distance squared." Id.

7. Dr. Tolley's October 12, 2012 regressions give the appearance of taking up my suggestion. However, instead of applying the square-root-of-distance function to his own MLS data, as I suggested, see NYS000434 at 36, Dr. Tolley applied it to a selected subset of my repeat-sales data. In ENT000590, Dr. Tolley modified my sample by (1) using only the most recent observed sale for each property, (2) excluding sales of vacant lots, (3) excluding the sale of any house that was older than 75 years at the time of sale, and (4) excluding other unidentified

sales that he found fault with due to spelling errors or other unexplained discrepancies.

8.   To avoid confusion, clarify the record, and fully examine the issues Dr. Tolley's October 2012 regressions raised, I ran several statistical analyses, which the Board accepted into evidence on October 22, 2012. My analyses are set forth in NYS000446, which is directly responsive to ENT000590 and serves two purposes: (1) to apply the square root analysis to Dr. Tolley's MLS data, as suggested in my rebuttal but not reflected in Dr. Tolley's October 2012 regressions, and (2) to examine whether Dr. Tolley's "improvements" to my data set would make any substantive difference to my own conclusions.

9.   NYS000460 consists of 7 regressions. The first four address the first issue raised in Dr. Tolley's disclosure: that applying different functional forms to his MLS data would not change his opinion that IPEC has no effect on property values.

10.   The first regression simply double checks the model that Dr. Tolley used and presented in Table 1 (at page 17) of ENT000144. The second regression considers the most frequently used way of characterizing or measuring proximity, the linear distance between the property in question and the alleged disamenity. The third regression applies the square root of distance, as I suggested in my rebuttal testimony. And the fourth regression drops the linear and distance terms, using

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only the square of distance as a measure of proximity. Each of
these four regressions uses Dr. Tolley's data, not mine, which
is what Dr. Tolley implied he had done (but did not) in
ENT000590 when he said he was responding to my June rebuttal
testimony. Each of these regressions shows that the facility is
a statistically significant source of disamenity that has an
impact on residential real property values.

11. The fifth, sixth, and seventh regressions, on pages 3
and 4, address the second issue raised by Dr. Tolley's October
12, 2012 regressions: that my data set needed correction, and
that after such correction, an analysis would show that IPEC has
no effect on property values.

12. The fifth model, at the top of page 3, shows my
original repeat-sales analysis applied to my repeat-sales data,
without any modification. The sixth model, at the bottom of
page 3, shows my repeat-sales analysis applied to my repeat-
sales data, modified to exclude vacant lot sales, as Dr. Tolley
suggested. The results of this model are nearly identical to my
original model and suggest that IPEC has a significant effect on
surrounding property values.

13. The seventh model, at the top of page 4, shows my
repeat-sales analysis applied to my repeat-sales data, again
using data modified to exclude vacant lot sales and also
modified to include two indicator variables to account for any

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impact associated with property sales occurring during housing bubbles from 1984-1988, and 1999-2009, another modification Dr. Tolley suggested. The results of this model are, again, nearly identical to my original model and suggest that IPEC has a significant effect on surrounding property values.

14. Because I am evaluating the impact of excluding certain data from analysis, and showing that such exclusion does not alter my conclusions, the final three analyses make use of different numbers of observations. The fifth model, at the top of page 3 of NYS000446 (the work I did in response to Dr. Tolley's October 12, 2012 regressions), makes use of all 1511 observations from my original analysis. The sixth and seventh models on pages 3 and 4 exclude all observations that involved a vacant lot (so the number of observations falls to 1222).

15. These changes strengthened my central finding, which is that Indian Point is a statistically significant disamenity that diminishes residential property values within 5 kilometers. Dr. Tolley's work is not inconsistent with my findings and his October 12, 2012 regressions do not change my opinion, which is that the FSEIS is insufficient because it fails to analyze a significant impact of the proposed relicensing: If license renewal were denied, residential property values would increase in value by an amount between 25% (supported by analysis of Dr. Tolley's data) and 27% (my conclusion).

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16.   I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 21, 2012

Stephen C. Sheppard