

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF'S RESPONSE IN OPPOSITION TO STATE OF NEW YORK'S MOTION FOR
PARTIAL SUMMARY DISPOSITION OF NYS CONTENTION 16/16A

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MOTION FOR PARTIAL SUMMARY DISPOSITION OF NYS CONTENTION 16/16A

INTRODUCTION

On August 28, 2009, the State of New York ("NYS") filed a motion for partial summary disposition of NYS Contention 16/16A.¹ Pursuant to 10 C.F.R. § 2.1205(b), the NRC Staff ("Staff") hereby files its response in opposition to NYS' Motion.² As more fully set forth below, NYS has failed to demonstrate that no genuine issues of material fact exist or that NYS is entitled to judgment as a matter of law. Accordingly, NYS' Motion should be denied.

PROCEDURAL BACKGROUND

This proceeding concerns the application of Entergy Nuclear Operations, Inc. ("Entergy") to renew the operating license for Indian Point Nuclear Generating Units 2 and 3 (collectively

¹ "New York's Motion for Summary Disposition on Use of Straight Line Gaussian Air Dispersion Model for the Environmental Impact Analysis of Significant Radiological Accidents at Indian Point and NYS Contention 16/16A" (Aug. 28, 2009) ("NYS' Motion").

² The Staff has attached the joint affidavit of Dr. Nathan E. Bixler and Joseph A. Jones, P.E. ("Joint Sandia Affidavit"), and the affidavits of Robert Palla ("Palla Affidavit") and Steven LaVie, ("LaVie Declaration") as Exhibits 1, 2, and 3, respectively. These affidavits describe in full the Staff's disagreement with NYS' Statement of Material Facts Not in Dispute. Exhibits A – R are attached in support of the affidavits. Finally, the Staff has attached a detailed statement of material facts in opposition to NYS' statement as Exhibit 4.

"Indian Point"). On November 30, 2007, NYS filed a petition to intervene in this matter, submitting 32 contentions for consideration by the Atomic Safety and Licensing Board ("Board").³ The Board granted NYS' Petition, admitting 11 contentions including Contention 16. NYS Contention 16 stated that:

Entergy's Assertion, in its SAMA Analysis for [Indian Point], that it "Conservatively" Estimated the Population Dose of Radiation in a Severe Accident, is Unsupported Because Entergy's Air Dispersion Model Will Not Accurately Predict the Geographic Dispersion of Radionuclides Released in a Severe Accident and Entergy's SAMA Will Not Present an Accurate Estimate of the Costs of Human Exposure.⁴

The Board limited NYS Contention 16 to three discrete issues: (1) "whether the population projections used by Entergy are underestimated," (2) "whether the ATMOS module in MACCS2 is being used beyond its range of validity," and (3) "whether use of MACCS2 with the ATMOS module leads to non-conservative geographical distribution of radioactive dose within a fifty-mile radius of [Indian Point]."⁵

In December 2008, the Staff issued the Draft Supplemental Environmental Impact Statement ("Draft SEIS" or "DSEIS") for review and comment.⁶ On February 27, 2009, NYS filed three supplemental and two new contentions addressing the Draft SEIS, including Contention 16A. NYS Contention 16A stated:

³ "Notice of Intent to Participate and Request for Hearing" ("NYS' Petition") (Nov. 30, 2007).

⁴ NYS' Petition at 163.

⁵ *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 NRC 43, 112 (2008).

⁶ "Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Indian Point Generating Unit Nos. 2 and 3", NUREG-1437, Supplement 38 Dec. 2008.

The DSEIS Improperly Accepted Entergy's Population Dose Estimates Of Radiation Released In A Severe Accident Despite The Licensing Board's Admission Of the State Of New York's Contention That The Air Dispersion Model Used By Entergy in its SAMA Analysis Will Not Accurately Predict the Geographic Dispersion of Released Radionuclides and Will Result in an Inaccurate Estimate of the Costs of Human Exposure.⁷

The Board admitted and consolidated NYS Contention 16A with NYS Contention 16. In doing so, the Board stated that “[NYS] will not be allowed to address arguments from the original NYS-16 that went beyond the limiting language of the admitted contention.”⁸

On August 28, 2009, NYS moved for partial summary disposition on NYS Contention 16/16A. NYS asked the Board to find that the Gaussian model⁹ used in the MACCS2 code “is an unreliable methodology for determining the dispersion of radiation from Indian Point in the event of the postulated severe accidents analyzed in the SAMA portion of the DSEIS.”¹⁰ NYS acknowledged, however, that it was not seeking resolution of Contention 16/16A in its entirety. In support of the motion, NYS submitted the Declaration of Bruce A. Egan, Sc.D., dated August 28, 2009 (“Egan Declaration”).¹¹

⁷ See “State of New York Contentions Concerning NRC Staff’s Draft Supplemental Environmental Impact Statement” (NYS’ Supplemental Petition”) at 9 (Feb. 27, 2009).

⁸ Order (Ruling on New York State’s New and Amended Contentions), (June 16, 2009).

⁹ The Gaussian model utilized in the MACCS2 code is also commonly referred to as the “ATMOS module”.

¹⁰ NYS’ Motion at 8.

¹¹ Dr. Egan’s Declaration contains 61 numbered paragraphs but paragraph no. 59 appears twice in non-consecutive paragraphs. See Egan Declaration at 27 – 28.

DISCUSSION

I. Legal Standards Governing Motions for Summary Disposition

Pursuant to 10 C.F.R. § 2.1205(a), motions for summary disposition must be in writing, must include a written explanation of the basis for the motion, and must include affidavits to support statements of fact. In ruling on a motion for summary disposition, the presiding officer is to apply the standards for summary disposition set forth in 10 C.F.R. § 2.710. See 10 C.F.R. § 2.1205(c). A moving party is entitled to summary disposition of a contention if the filings in the proceeding, together with the statements of the parties and the affidavits, demonstrate that there is no genuine issue as to any material fact and that it is entitled to a decision in its favor as matter of law. See 10 C.F.R. §§ 2.1205 and 2.710(d)(2); see also *Advanced Medical Sys., Inc.* (One Factory Row, Geneva, Ohio), CLI-93-22, 38 NRC 98, 102-03 (1993); *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 179-80 (2005).

A party seeking summary disposition bears the burden of demonstrating that no genuine issue of material fact exists. See *Sequoyah Fuels Corp. & General Atomics Corp.* (Gore, Okla. Site Decontamination and Decommissioning Funding), LBP-94-17, 39 NRC 359, 361 (1994). The evidence submitted must be construed in favor of the non-moving party. *Id.* Affidavits submitted in support of a summary disposition motion must be executed by individuals qualified by “knowledge, skill, experience, training, or education,” and must be sufficiently grounded in facts. *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-05-04, 61 NRC 71, 80-81 (2005) (*citing* Fed. Rule of Evid., Rule 702); *Bragdon v. Abbott*, 524 U.S. 624, 653 (1998) (stating that an expert’s opinion must have a traceable, analytical basis in objective fact before it may be considered on summary judgment).

A party opposing a motion for summary disposition cannot rely on mere allegations or denials of the moving party’s facts; rather, the non-moving party must set forth specific facts

demonstrating a genuine issue of material fact. See 10 C.F.R. § 2.710(b); *Advanced Medical Sys.*, CLI-93-22, 38 NRC at 102. Bare assertions and general denials, even by an expert, are insufficient to oppose a properly supported motion for summary disposition. *Duke Cogema*, LBP-05-04, 61 NRC at 81 (citing *Advanced Medical Sys.*, CLI-93-22, 38 NRC at 102); *Houston Lighting & Power Co.* (Allens Creek Nuclear Generating Station, Unit 1), ALAB-629, 13 NRC 75, 78 (1981). Although the burden is on the moving party to show there is no genuine issue of material fact, the non-moving party must controvert any material fact proffered by the moving party or that fact will be deemed admitted. *Advanced Medical Sys.*, CLI-93-22, 38 NRC at 102-03. For a Board to find the existence of a genuine issue of material fact, "the factual record, considered in its entirety, must be enough in doubt so that there is a reason to hold a hearing to resolve the issue." *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Units 1 & 2), LBP-83-46, 18 NRC 218, 223 (1983).

In addition to demonstrating that no genuine issues of material fact exist, the movant must also demonstrate that it is entitled to the decision as a matter of law. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). In its recent *Pilgrim* decision, the Commission clearly articulated the legal standard for contentions related to a SAMA analysis. The Commission stated: "NRC adjudicatory hearings are not 'EIS editing sessions.' The ultimate concern here is whether any additional SAMA should have been identified as potentially cost-beneficial, not whether further analysis may refine the details in the SAMA NEPA analysis." *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-09-11, 69 NRC____ (Jun. 4, 2009)(slip op. at 4-5).

Because the Commission's summary disposition rules follow Rule 56 of the Federal Rules of Civil Procedure, federal court decisions that interpret and apply Rule 56 are considered appropriate precedent for the Commission's rules. See *Safety Light Corp.* (Bloomsburg Site

Decommissioning and License Renewal Denials), LBP-95-9, 41 NRC 412, 449 n. 167 (1995). See also *Advanced Medical Sys.*, CLI-93-22, 38 NRC at 102-03; *Duke Cogema Stone & Webster*, 61 NRC at 79. The adjudicating body need only consider the purported factual disputes that are "material" to the resolution of the issues raised in the summary disposition motion. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). Material facts are those with the potential to affect the outcome of the case. *Ganton Technologies Inc. v. National Indus. Group Pension Plan*, 865 F. Supp 201, 205 (S.D.N.Y 1994); *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), LBP-96-18, 44 NRC 86, 99 (1996).

II. The State Has Not Show the Absence of Genuine Issues of Material Fact With Regard to the Use of ATMOS for SAMAs

NYS has not met its burden of showing that no genuine dispute as to material facts exists. NYS admits in its Motion that Contention 16/16A "may present factual issues which must be resolved at the hearing."¹² NYS further admits that Contention 16/16A "is not ripe for resolution at this time," because NYS is not prepared or able to address whether its concerns regarding the ATMOS module of the MACCS2 code would result in any change to the SAMA analysis.¹³ In essence, NYS asks this Board to render an opinion, with material facts in dispute, and to do so in the absence of any showing that NYS' challenge to the ATMOS module would have any effect on the SAMA analysis such that an additional mitigating measure might be determined to be cost-beneficial. In sum, NYS fails to present a prima facie case in support of its motion. NYS' motion should therefore be denied.

¹² NYS' Motion at 8 n.3.

¹³ *Id.*

Further, NYS' Statement of Material Facts and Dr. Egan's declaration contain numerous errors related to atmospheric modeling for purposes of a SAMA analysis, and reflect a fundamental misunderstanding of SAMA analysis and Probabilistic Risk Assessment ("PRA") techniques. These defects and errors preclude the grant of summary disposition in favor of NYS. While NYS asserts that 68 "facts" are not in dispute, the "facts" and statements in Dr. Egan's supporting declaration are directed to three main issues, namely: (1) the accuracy required for the meteorological model used in conducting a SAMA analysis; (2) the relevant scientific community's acceptance of the MACCS2 code and its ATMOS module for SAMA analysis; and (3) the effects of topographical variations near the Indian Point site on the SAMA analysis. As will be shown below, NYS has not established that these issues and its alleged facts are not in dispute, or that it is entitled to summary disposition as a matter of law on these. Further, even if NYS' bare allegations are taken as true, NYS failed to show that the SAMA analysis would be altered or that it would identify any additional SAMAs as potentially cost beneficial based on these changes. *See infra* Sec. V.

III. NYS' Proposed Meteorological Models Are Not Superior to the Use of ATMOS for SAMA Purposes

NYS and Dr. Egan assert that the ATMOS module and the Gaussian plume model are not accurate enough to provide reliable data for determining the economic costs and benefits of SAMA mitigating measures.¹⁴ NYS states that:

The need for accuracy in the predictive model is particularly important where that number of individuals who could be exposed to the pollutant, the level of such exposures and the duration of

¹⁴ NYS' Statement of Material Facts at ¶¶ 16 – 19, 60 – 61, and 68. *See also* Egan Declaration at ¶ 19.

such exposures is greatly impacted by the actual path the pollutant plume follows once it is released from the source ... [and] where the economic cost of mitigation measures and the economic benefits of mitigation measurements are fairly close, such as with a factor of 2 of each other.¹⁵

It is clear from the documents and Declaration relied upon by NYS that its preferred meteorological models are no more accurate than the ATMOS module utilized in the MACCS2 code. Joint Sandia Affidavit at ¶¶ 26 – 28, 30 – 31, 40, 52, and 61. Other federal agencies, including the Environmental Protection Agency (“EPA”), have studied Gaussian plume models that are similar to the ATMOS module of the MACCS2 code. Egan Declaration at ¶ 29. The EPA concluded that the AERMOD model, championed by NYS and Dr. Egan, is only accurate within a factor of 2 and that it systemically underestimates the concentration levels of the contaminant under most conditions. Joint Sandia Affidavit at ¶¶ 26 and 28; Exhibit (“Ex.”) O at 9 and 14; Ex. P at 30; Ex. Q at 26. NYS’ reliance on models with accuracy that is no better than the ATMOS module in the MACCS2 code, Egan Declaration at ¶¶ 29 – 30, is misplaced. See Joint Sandia Affidavit at ¶¶ 18, 26 – 28, 30 – 31, 40, 52, and 61. NYS’ endorsement of AERMOD and CALPUFF for use in a SAMA analysis utilizing PRA techniques is misplaced; in that the ATMOS module of the MACCS2 code provides superior results than NYS’ preferred models in conducting a SAMA analysis. See Joint Sandia Affidavit at ¶¶ 26 – 28, 30 – 31, 40, 52, and 61. See *also* Ex. L at 65 – 68. Indeed, the ATMOS module demonstrated accuracies within 40% of the expected values when tested under SAMA analysis conditions. Joint Sandia Affidavit at ¶ 28; Ex. L at 65 – 68. Thus, even if one accepts NYS’ assertions regarding the need for accuracy in meteorological modeling in a SAMA analysis, the ATMOS module is

¹⁵ NYS’ Statement of Material Facts at ¶¶ 18 and 19.

sufficiently accurate even under NYS' assertions.¹⁶ Moreover, the ATMOS module produces conservative results leading to more favourable consideration of potential SAMAs, while NYS' preferred model produces non-conservative results. Joint Sandia Affidavit at ¶¶ 33 – 34, 36, 39, 42, 43, 57, and 66. *Compare with* Joint Sandia Affidavit at ¶¶ 47, 49, 50, and 52.

NYS places particular emphasis on a study by the Lawrence Livermore National Laboratory (“LLNL”) to support its view that the ATMOS module is not accurate enough for a SAMA analysis. NYS' Motion at 21-22. In contrast to NYS' assertions, LLNL concluded that the ATMOS module is reliable and adequate for performing SAMA type analysis within 200 miles from release site. See Joint Sandia Affidavit at ¶¶ 26 and 28; Ex. L at 62, 65-68, and 72. In fact, LLNL concluded that the ATMOS module was more accurate than other modules when implemented for SAMA analysis. See Joint Sandia Affidavit at ¶¶ 26 and 28; Ex. L at 62, 65-68, and 72. LLNL concluded that the ATMOS module was accurate to within 40% under SAMA analysis conditions for the entire 50 mile radius, rather than the 100% (i.e., a factor of 2) alleged by NYS. See Joint Sandia Affidavit at ¶ 28. Thus, the ATMOS module as implemented by the MACCS2 code is sufficiently accurate to perform a SAMA analysis utilizing PRA techniques.

IV. The MACCS2 Code and ATMOS Module Are Widely Accepted for Risk Analysis

NYS and Dr. Egan essentially argue that the scientific community, other Federal agencies and the NRC Staff agree that the ATMOS module is not acceptable for use in complex terrain for the purpose of a SAMA analysis. See NYS' Motion at 15. NYS further states that: “ATMOS, as implemented in the DSEIS SAMA analysis, did not account for the variations

¹⁶ The Staff disagrees with NYS' assertions regarding the level of accuracy required for a meteorological model to produce acceptable results in a SAMA analysis. See, e.g., Joint Sandia Affidavit at ¶¶ 26 – 27, 30 – 31, 40, 52, and 61.

created by the Indian Point terrain” NYS’ Statement of Material Facts at ¶ 35. Likewise, Dr. Egan states that:

[T]here is a consensus in the scientific community of meteorologists that create and use air dispersion models, and government agencies that rely on them, that a simple straight-line Gaussian plume model, such as ATMOS, is scientifically unreliable when applied to the complex terrain in which Indian Point power station is located and cannot accurately predict the dispersion and concentrations of radionuclides in a 50 mile radius of the stations. Because of these deficiencies, and because of the wide variations in population density within the 50 mile radius, the DSEIS’s SAMA analysis could have grossly underestimated the number of people who would be exposed in a severe accident and the concentration of the doses they would receive. This would, in turn, underestimate the “cost” of a severe accident and thus the “benefit” of a proposed mitigation measure that would reduce the magnitude of the initial release of radiation from the plant or reduce the probability of the release occurring, or both.¹⁷

As is clear from NYS’ arguments and Dr. Egan’s Declaration, however, their challenge pertains not to the use of ATMOS in a SAMA analysis but, rather, to the ATMOS module’s accuracy on use in emergency planning and response.¹⁸ Thus, NYS admits that it is unprepared to address the key issue in Contention 16/16A, namely: whether a different meteorological model would have any effect on the SAMA analysis’ determination of potential cost beneficial measures. See NYS’ Motion at 8 n.3.¹⁹

¹⁷ Egan Declaration at ¶ 60.

¹⁸ Emergency planning and response for Indian Point is set out in the Indian Point Emergency Plan, and would include actual meteorological data as well as actual sampling of the release, for consideration in making Protection Action Recommendations. The use of such actual data in a real accident differs considerably from the use of probabilistic modeling of a range of accident scenarios, used in the prediction of a severe accident’s mean effect on the surrounding 50 mile radius for a nuclear facility. See Joint Sandia Affidavit at ¶¶ 13 and 54 – 55.

¹⁹ NYS has identified one document in support of its views, involving Mr. LaVie’s Power Point presentation on emergency dose assessments. As explained below, Mr. LaVie’s presentation was not (continued. . .)

NYS and Dr. Egan appear to misunderstand how the ATMOS module is used in the MACCS2 code, such as the multiple weather trials, the forced rotation of the plume through 16 compass sectors, and the combination of the hundreds of meteorological trials into a statistically reliable mean, which provides acceptably accurate dispersion data for use in a SAMA analysis. Joint Sandia Affidavit at ¶¶ 13 –15, 36, 38, 61, 63, and 65; Palla Affidavit at ¶¶ 22, 24, and 26 -- 27. The use of such statistical modeling techniques results in reliable and conservative predictions of the likelihood of contaminants reaching each specific location, the concentration of the contaminants when they reach that location, and the deposition of contaminants at that location. Joint Sandia Affidavit at ¶¶ 13 –15, 36, 38, 61, 63, and 65.

NYS tries to compare the results of a single Gaussian plume to a worst case scenario under different meteorological models.²⁰ This is an inappropriate comparison. It would be more appropriate to compare the statistical mean produced by the ATMOS module to a similar statistical mean produced by running hundreds of weather trials using an alternative model weighted according to their probability of occurrence. Under the LLNL study, which compared the ATMOS module to other alternative models in a SAMA type analysis, the authors concluded that the ATMOS module outperformed more modern alternative models and produced results

(. . .continued)

related to license renewal, Indian Point, or SAMA analysis and is not relevant. See Joint Sandia Affidavit at ¶¶ 54 – 55; LaVie Affidavit at ¶¶ 11 – 12.

²⁰ NYS' comparison of a single worst case scenario to a SAMA analysis is inappropriate in that it attempts to transform the SAMA analysis from a probabilistic model in which numerous accidents and conditions are modeled in order to arrive at a mean value to a deterministic model involving only one accident scenario. This deterministic approach assumes that an accident will happen and ignores the fact that severe accidents are extremely unlikely and that any of a range of accidents and releases may occur, under a wide range of meteorological conditions. See Joint Sandia Affidavit at ¶¶ 13 –15, 36, 38, 61, 63, and 65; Palla Affidavit ¶¶ 22, 24, and 26 – 27.

within 40% of the expected values. Joint Sandia Affidavit at ¶ 28. In other words, the ATMOS module has been found to be reliable for conducting SAMA analysis. Joint Sandia Affidavit at ¶¶ 14 – 18, 36, 52, 61, 63, and 65; Palla Affidavit at ¶¶ 19 – 21. In sum, NYS' reliance on a worst case single weather trial scenario is not material or relevant to consideration of the ATMOS module's accuracy, reliability, or acceptability for the purpose of conducting a SAMA analysis.

V. The Terrain Surrounding Indian Point Has Little Impact on the SAMA Analysis

NYS and Dr. Egan argue that the Indian Point site's topography and that its effect on local meteorology are too complex for a Gaussian plume model. See NYS' Motion at 6 – 7. NYS bases these assertions, *inter alia*, on the presence of "high terrain," "valley sidewalls," the Hudson River, and overall light wind conditions.²¹ NYS and Dr. Egan fail to recognize, however, that the MACCS2 code utilizes hundreds of weather trials under varying conditions, which together adequately account for the terrain near the Indian Point site. Thus, under similarly complex meteorological conditions, the ATMOS module produced results within 40% of the expected outcomes. Joint Sandia Affidavit at ¶ 28. In contrast, the AERMOD code, favored by NYS, has been found to involve uncertainties in light winds. *Id.* at ¶¶ 28, 40, and 45; *compare with* Egan Declaration at ¶ 23. Thus, while NYS asserts that the Indian Point site is subject to light winds, it espouses a model that is recognized as being vulnerable to error in light wind conditions. In addition, AERMOD has limited range (less than half of the area of interest), and exhibits accuracy only within about a factor of 2. Moreover, unlike the ATMOS module, the

²¹ NYS' Statement of Material Facts at 24 – 35.

AERMOD model is potentially not conservative. Joint Sandia Affidavit at ¶¶ 39, 47, 49, 50, and 52.

The PRA techniques utilized in Indian Point's SAMA analysis provide a statistically reliable frequency-weighted mean for evaluating the expected consequences of a postulated accident under unknown conditions. Joint Sandia Affidavit at ¶¶ 13 –15, 36, 38, 61, 63, and 65. This method provides a reliable method to evaluate the consequences and risk resulting from a highly unlikely future event under unknown conditions. In contrast, NYS' suggested approach (i.e., to evaluate the worst case scenario), ignores the likelihood of particular events occurring (i.e., low probability) and the unknown nature of the actual conditions that may exist at the time of the postulated accident. Joint Sandia Affidavit at ¶¶ 14 – 16, 25, 27, 36, 38, 55, 63, and 65. Thus, NYS' reliance on a deterministic methodology is not material or relevant to the performance of a SAMA analysis for the Indian Point site. The ATMOS module accounts for a plume's path through statistical analysis that accounts for the potential effect of complex meteorological and topographical features in a reliable and conservative manner. Joint Sandia Affidavit at ¶¶ 34, 36, 42, and 61; Palla Affidavit at ¶ 26.

NYS' Material Fact No. 35 and Dr. Egan's Declaration (¶ 37) state that "[t]he simplicity of the ATMOS model's assumptions are scientifically unreliable for use in the terrain in which Indian Point is embedded and the model therefore cannot accurately predict the geographic dispersion and concentration of a radionuclide release from the that site."²² However, in his Declaration in the Pilgrim license renewal proceeding, Dr. Egan stated, "[the Gaussian] Models

²² Egan Declaration ¶ 37. See also NYS' Material Fact No. 35.

can be conservative but have incorrect simulations of the underlying physics.”²³ Significantly, the Board in the Pilgrim license renewal proceeding stated that Dr. Egan provided no evidence that the use of the ATMOS module in the MACCS2 code produced non-conservative results for the purpose of conducting a SAMA analysis,²⁴ And that “[Dr. Egan] fails to provide any relevant support for the opposition to the [SAMA analysis].”²⁵ Dr. Egan’s current declaration is similarly devoid of any relevant facts.

VI. NYS’ Motion Exceeds the Scope of the Contention as Admitted by the Board

In admitting NYS’ Contention 16, the Board made clear that it was limiting the contention to the questions of whether the population projections were underestimated and whether the ATMOS module was being used beyond its range of validity or would lead to a non-conservative geographical distribution of radiation.²⁶ Similarly, in admitting NYS’ Contention 16A, the Board stated that “the issue of whether an ‘EPA-approved’ air dispersion model must be used in the NRC Staff’s analysis ... is outside the scope of NYS-16 and is also outside the scope of NYS-16-A.”²⁷ NYS’ reliance on the AERMOD and CALPUFF models as single event forecasting models is neither relevant nor material to the admitted contention, in that it fails to demonstrate

²³ Declaration of Bruce A. Egan, Sc.D., CCM, in Support of Pilgrim Watch’s Response Opposing Entergy’s Motion for Summary Disposition of Pilgrim Watch Contention 3, dated June 20, 2007, at ¶ 13 (“Pilgrim Declaration”) (Agency Document Access & Management System (“ADAMS”) Accession No. ML071840568) (emphasis added).

²⁴ *Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), LBP-07-13, 66 NRC 131, 151 n.21 (2007).

²⁵ *Pilgrim*, LBP-07-13, 66 NRC at 152.

²⁶ *Indian Point*, LBP-08-13, 68 NRC at 112.

²⁷ Order (Ruling on New York State’s New and Amended Contentions), unpublished at 6 (June 16, 2009).

any of the contentions' asserted defects in the SAMA analysis' use of the ATMOS module. NYS' assertion that a deterministic worst case comparison is necessary in a SAMA analysis is outside the scope of the contention as admitted. While NYS argues that "[it] does not believe that [the need to] conduct a new SAMA analysis for Indian Point using an appropriate model, is ripe for resolution at this time," NYS' Motion at 8 n.3, that purported issue is beyond the limited scope of the contention and ignore this Board's clear instructions.

VII. NYS Is Not Entitled to Summary Disposition as Matter of Law

Even assuming that all of NYS' material facts are true and not in dispute, NYS still is not entitled to summary disposition. In its Motion, NYS correctly states that the legal standard for determining whether summary disposition is appropriate for SAMA related contentions "is not whether further analysis may refine the details in the SAMA [National Environmental Policy Act] analysis" but "whether any additional SAMA should have been identified as potentially cost effective"²⁸

As stated above, the Board expressly limited NYS' contention to three discrete areas including: (1) "whether the population projections used by Entergy are underestimated," (2) "whether the ATMOS module in MACCS2 is being used beyond its range of validity," and (3) "whether use of MACCS2 with the ATMOS module leads to non-conservative geographical distribution of radioactive dose within a fifty-mile radius of [Indian Point]."²⁹ In other words, NYS' challenge to the use of the ATMOS module is relevant only insofar as it may result in a failure to identify a potentially cost-beneficial SAMA. NYS has failed to connect its motion for partial

²⁸ NYS' Motion at 8 n.3 (*citing Pilgrim*, CLI-09-11, 69 NRC at ___ (slip op. at 4-5).

²⁹ *Indian Point*, LBP-08-13, 68 NRC at 112.

summary disposition to the issue of whether a potentially cost effective SAMA was missed, and its motion therefore should be dismissed.

Moreover, as stated above, Dr. Egan has previously stated that the “[Gaussian] [m]odel can be conservative but have incorrect simulations of the underlying physics.”³⁰ In other words, Dr. Egan did not take issue with the results of a SAMA analysis utilizing the MACCS2 code, but only challenged the way in which the results were determined by the model. NYS’ Motion essentially urges the Board to require a refinement in the MACCS2 meteorological model, without any showing that any additional mitigating measure might thereby be shown to be cost-beneficial. NYS’ Motion fails to resolve any part of NYS Contention 16/16A. The Motion should therefore be denied.

CONCLUSION

For the reasons stated above, the Staff respectfully submits that NYS’ motion for partial summary disposition of NYS Contention 16/16A should be denied.

Respectfully submitted,



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Dated at Rockville, Maryland
This 13th day of October, 2009

³⁰ Pilgrim Declaration at ¶ 13.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the "NRC Staff's Response in Opposition to the State of New York's Motion for Partial Summary Disposition NYS Contention 16/16a," Exhibits 1 – 4, and Exhibits A – R have been served upon the following through deposit in the NRC's internal mail system, with copies by electronic mail, or, as indicated by an asterisk, by deposit in the U.S. Postal Service, with copies by electronic mail this 13th day of October, 2009:

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