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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

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In re:

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

License Renewal Application Submitted by

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

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

DPR-26, DPR-64

February 23, 2011

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**STATE OF NEW YORK'S COMBINED REPLY TO  
ENERGY AND STAFF CROSS-MOTIONS FOR SUMMARY DISPOSITION ON  
NYS COMBINED CONTENTIONS 35 AND 36 CONCERNING THE  
DECEMBER 2009 SEVERE ACCIDENT MITIGATION ALTERNATIVE REANALYSIS**

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TEMPLATE = SECX 036

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## INTRODUCTION

Staff and Entergy, both in their opposition to the State's motion for summary disposition and in their cross-motion, merely repackage versions of the arguments they unsuccessfully presented in opposition to the admission of Contention 35/36.<sup>1</sup> While the FSEIS uses more words to say the same thing that was said in the DSEIS on this issue, there are no new arguments and no attempt to address the numerous citations and legal analyses the State of New York offered in comments on the DSEIS and in support of Contention 35/36.<sup>2</sup>

The essence of Entergy and Staff's continued attack on Contention 35/36 is that: (1) NEPA does not require implementation of any particular mitigation alternative, and (2) NRC regulations prohibit requiring implementation of any SAMA, as part of license renewal, that is not related to aging management. Based on these two arguments, Entergy and Staff assert that it is neither necessary to complete cost estimates for these mitigation measures nor to provide a

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<sup>1</sup> Staff and Entergy's briefs do substantially expand upon the short discussion in the FSEIS of the alleged basis for refusing to consider implementation of any of the clearly cost-effective SAMAs or to complete the cost analysis for those SAMAs. Those briefs, however, are no substitute for the NEPA obligations that must be met in the FSEIS, itself, and, in any event, fail to provide a legal justification to accept the FSEIS SAMA conclusions. In addition, the validity of the Staff's position must rise or fall on the text of the Final Supplemental Environmental Impact Statement, not by *post hoc* rationalizations provided by counsel for Staff or the license applicant in subsequent litigation filings. *See, e.g., Federal Power Commission v. Texaco, Inc.*, 417 U.S. 380, 397 (1974) ("we 'cannot accept appellate counsel's post hoc rationalizations for agency action'; for an agency's order must be upheld, if at all, 'on the same basis articulated in the order by the agency itself'"); *Burlington Truck Lines Inc. v. United States*, 371 U.S. 156, 168-69 (1962).

<sup>2</sup> This failure to join issue with New York State on the information it submitted in its DSEIS comments, is itself a clear violation of NRC's NEPA regulations. The FSEIS must include "consideration of major points of view concerning the environmental impacts of the proposed action and the alternatives, contain an analysis of significant problems and objections raised by other Federal, State, and local agencies, by any affected Indian tribes, and by other interested persons" (10 C.F.R. § 51.71(b)), and discuss and respond to any relevant responsible opposing view not adequately discussed in the DSEIS. 10 C.F.R. § 51.91(3)(b). These NRC requirements echo the regulations adopted by CEQ requiring federal agencies to fully analyze all feasible alternatives and explain the basis for their acceptances or rejections. *Id.*; *see also* 40

substantive rational basis for why clearly cost-effective SAMAs should not be implemented. This is the only alleged rational basis the FSEIS offers for not implementing any SAMAs – and it is wrong as a matter of law.

Staff and Entergy have gone to great lengths to respond to an argument the State never made; the State did not argue that NEPA mandated the implementation of a particular mitigation measure. But the fact that NEPA does not require implementation of a particular SAMA does not mean that when a SAMA is clearly cost-effective, its implementation can be denied without a rational basis. Every environmental mitigation measure imposed by NRC is imposed pursuant to NEPA and is subject to the Administrative Procedure Act's (APA) requirements.<sup>3</sup> Thus, when NRC imposes environmental conditions on an operating license, it does so under NEPA's authority and its actions must have a rational basis as required by the APA. Either NRC must implement a clearly cost-effective SAMA or have a rational reason for not doing so. Citing an arbitrary or irrational basis will not do. Further, while it may be true that a measure unrelated to aging management cannot be ordered to be implemented pursuant to a Part 54 safety review, there is no such limitation imposed under Part 51, compliance with which is required by Part 54.

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C.F.R. §§ 1503.4, 1505.1(e).

<sup>3</sup> It is well-established that the Atomic Energy Act does not itself authorize NRC to consider or require implementation of any environmental conditions. *New Hampshire v. Atomic Energy Comm'n*, 406 F.2d 170 (1st Cir.) cert. denied 395 U.S. 962 (1969). But for NEPA, NRC would have no environmental authority:

The Atomic Energy Commission, for example, had continually asserted, prior to NEPA, that it had no statutory authority to concern itself with the adverse environmental effects of its actions. Now, however, its hands are no longer tied. It is not only permitted, but compelled, to take environmental values into account. *Perhaps the greatest importance of NEPA is to require the Atomic Energy Commission and other agencies to consider environmental issues just as they consider other matters within their mandates.*

*Calvert Cliffs' Coordinating Comm., Inc. v. United States Atomic Energy Comm'n*, 449 F.2d

Staff and Entergy have misread NRC's NEPA and license renewal regulations. Those regulations, plus decisions interpreting them, demonstrate that a SAMA analysis undertaken during a license renewal proceeding is governed by Part 51, and that Part 54 requires compliance with Part 51. *See* 10 C.F.R. § 54.29(b). In fact, Part 54 provides that environmental conditions that are part of the CLB "may be supplemented or amended as necessary to protect the environment during the term of the renewed license and will be derived from information contained in the supplement to the environmental report submitted pursuant to 10 C.F.R. part 51." 10 C.F.R. § 54.33(c). Thus, the focus of regulatory authority as to this issue lies in Part 51 and not, as Entergy and Staff argue, in Part 54. The Commission has rejected attempts to use Part 54 and its limited safety review as a limit on Part 51 and its environmental review. 66 Fed. Reg. 10834 (Nuclear Energy Institute; Denial of Petition for Rulemaking [Docket No. PRM 51-7]) (Feb. 20, 2001). Since Part 54 directs full compliance with Part 51 and explicitly recognizes that changes to the CLB may be imposed solely on the basis of the findings in the Part 51 supplemental environmental impact statement, Staff's assertion that it has no authority to impose implementation of cost-effective SAMAs as license conditions is just plain wrong.<sup>4</sup> 10 C.F.R. § 51.103(a)(4) requires NRC to take all practicable steps to mitigate adverse environmental consequences or explain why it does not. The FSEIS fails to do either.

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1109, 1112 (D.C. Cir. 1971)(footnote omitted)(emphasis added).

<sup>4</sup> The relevant language of the FSEIS is "[h]owever, none of the potentially cost-beneficial SAMAs relate to adequately managing the effects of aging during the period of extended operation. Therefore, they need not be implemented as part of IP2 and IP3 license renewal pursuant to 10 CFR Part 54" (FSEIS at 5-11) and "there is no regulatory basis to impose any of the potentially cost-beneficial SAMAs as a condition for license renewal of IP2 and IP3 – even if those potentially cost-beneficial SAMAs are 'finally' found to be cost-beneficial." *Id.* at 5-12.

## ARGUMENT

### A. NEPA AND NRC REGULATIONS AUTHORIZE IMPLEMENTATION OF COST-EFFECTIVE SAMAs

In an attempt to deflect the Board from the central issue of whether Staff must provide a rational basis for its decision on whether or not to order implementation of clearly cost-effective SAMAs, Entergy and Staff beat the same dead horse - *i.e.*, NEPA does not permit an intervenor to compel NRC Staff to implement a particular mitigation measure. Contention 35/36 has been limited by the Board to preclude that argument (*Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3) LBP-10-13 at 29, 71 N.R.C. \_\_ (June 30, 2010)) Rather, the issue is whether Staff has the legal authority, pursuant to Part 51, to order implementation of cost-effective SAMAs and thus, whether the FSEIS has provided a rational basis for not ordering implementation of clearly cost-effective SAMAs. Since the only basis offered is that such implementation is prohibited in a license renewal proceeding, the primary question for the Board's consideration in judging the FSEIS's adequacy is whether that conclusion is correct.<sup>5</sup>

Both Entergy and Staff argue that Staff is prohibited under NEPA and NRC regulations from ordering implementation of cost-effective SAMAs. They place principal reliance on *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989), but that reliance is misplaced.

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<sup>5</sup> Staff insists that the cost analyses provided by Entergy are sufficient for the "hard look" required by NEPA. Staff Brief at 17-24. Staff even devotes a number of pages of its brief to extolling the quality of its review of the SAMA analysis. Staff Brief at 12-17. Staff also asserts that "[f]urther refinement of a SAMA analysis that has already determined whether a SAMA is potentially cost beneficial is not necessary for an objective evaluation. FSEIS Appendix A at A-127." Staff Brief at 26. Given these statements, should the Board accept the argument that further cost analyses are not required for compliance with NEPA, it should bar Staff from relying on any further cost analyses, or alleged limitations of the present analyses, or the lack of further analyses, as a "rational" basis for refusing to order implementation of clearly cost-effective SAMAs.

First, the State does not claim that NEPA requires Staff to order implementation of cost-effective SAMAs. Rather the State has argued that Staff is authorized to order such implementation once the NEPA process shows that a SAMA is substantially cost-effective. The APA and 10 C.F.R. § 51.103(a)(4) impose on Staff the duty to have a rational basis for not implementing a cost-effective SAMA. NRC Staff's only excuse is that it does not have the "regulatory basis" to require implementation of a cost-effective SAMA that is unrelated to license renewal. FSEIS at 5-12. As demonstrated above, and below, that excuse is baseless.

Second, as the State explained in depth in its reply to Entergy and Staff's opposition to the admissibility of Contention 35/36, *Methow Valley* is in no way similar to this case. See State of New York's Combined Reply to Entergy and Staff Answers to the State's New and Amended Contentions Concerning the December 2009 Severe Accident Mitigation Alternative Reanalysis, at 12-15 (Apr. 12, 2010) (ML101160415). Unlike the instant application, the Interior Department did not decline to insist that the mitigation measures be implemented. Rather, the Department took several steps to assure that appropriate mitigation measures were taken. *Methow Valley*, 490 U.S. at 345-346. The Interior Department entered into a memorandum of understanding with other jurisdictions in order to have a commitment that the necessary mitigation measures would be taken. *Methow Valley*, 490 U.S. at 353, n.16. Finally, unlike this case where the permit will authorize an additional 20 years of operation and no further permitting will be required, the permit being issued in *Methow Valley* was a preliminary permit which did not itself authorize any construction activity. *Methow Valley*, 490 U.S. at 337.

*Methow Valley* does not provide a legal justification for Staff to refuse to implement, without a rational basis, those specifically identified mitigation alternatives that are significantly cost-effective and will provide a substantial reduction in potential adverse environmental

impacts.

Staff and Entergy also assert that Part 51 does not authorize implementation of clearly cost-effective SAMAs. That argument ignores the plain language of 10 C.F.R. § 51.103(a)(4) that imposes a duty on NRC to take “all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted.” Entergy attempts to avoid this plain language by citing to *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station) CLI-10-11, 71 N.R.C. \_\_\_, which included the following *dicta*:

From its SAMA analysis, Entergy identified seven potentially cost-effective SAMAs. ... Because none of the seven potentially cost-effective SAMAs bear on adequately managing the effects of aging, none need be implemented *as part of the license renewal safety review*, pursuant to 10 C.F.R. Part 54.

*Id.*, slip op. at 7, n.26 (emphasis added and internal citation omitted).<sup>6</sup> The State agrees that SAMAs are not developed as part of the “safety review” and cost-effective SAMA implementation does not occur as part of the “safety review.” The Commission is merely confirming that implementation of SAMAs is authorized by NEPA and Part 51, just as the GEIS Statement of Considerations and Interim Policy statement on severe accidents under NEPA contemplated. 61 Fed. Reg. 28467, 28481, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses (June 5, 1996); Statement of Interim Policy, Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969, 45 Fed. Reg. 40101, 40103 (June 13, 1980).

Finally, Entergy relies on a decision involving Duke Power arguing that the decision

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<sup>6</sup> As noted by the State during the April 19, 2010 oral argument in this proceeding, in CLI-10-11, the Commissioners added the phrase “safety review” to the Staff’s statement in the Pilgrim FSEIS. *Compare* CLI-10-11, at 7, n.26 *with* NUREG-1437, Supplement 29, Vol. 1 at 5-10 (included in NRC Staff Attachment 2).

stands for the proposition that all SAMAs that are cost-effective and not related to aging must be implemented, if at all, through Part 50. Entergy Brief at 32, citing to *Duke Energy Corporation* (McGuire, Units 1 & 2; Catawba, Units 1 & 2) CLI-02-28, 56 N.R.C. 373, 388 n.77 (Dec. 18, 2002). The full footnote tells a different story:

The SEISs also point out that “this SAMA does not relate to adequately managing the effects of aging during the period of extended operation,” and “[t]herefore, it need not be implemented as part of license renewal pursuant to 10 CFR Part 54.” *See, e.g.*, Catawba Draft SEIS at 5-29. Nonetheless, the draft SEISs emphasize that maintaining power to the hydrogen igniter system is “sufficiently important for all PWRs [Pressurized Water Reactors] with ice condenser containments,” and therefore the “NRC has made the issue a Generic Safety Issue (GSI), GSI-189 -- Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident.” The “need for plant design and procedural changes will be resolved as part of GSI-189 and addressed [for McGuire and Catawba] and other ice condenser plants as a current operating license issue.” *See, e.g.*, McGuire Draft SEIS at 5-29. Thus, the ultimate agency decision on whether to require facilities with ice condenser containments to implement any particular SAMA will fall under a Part 50 current licensing basis review. NEPA “does not mandate the *particular decisions* an agency must reach,” only the “process the agency must follow while reaching its decisions.” *Committee to Save the Rio Hondo v. Lucero*, 102 F.3d 445, 448 (10th Cir. 1996) (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)).

56 N.R.C. 373, 388 n.77. In *Duke*, unlike the current case, Staff offered a rational basis, on the merits, for not ordering implementation of a SAMA because that SAMA was already being addressed in an ongoing generic proceeding pursuant to Part 50. In this case, Staff has offered no rational basis, on the merits, for its refusal to order implementation of any cost-effective SAMAs, and, as noted below at pp. 11-12, has also failed to initiate or timely complete the Part 50 process with regard to cost-effective SAMAs. That is the heart of the matter.

**B. SAMAs THAT ARE COST-EFFECTIVE AND MITIGATE “SMALL” IMPACTS CAN BE IMPLEMENTED**

Staff and Entergy make much of the fact that the 1996 GEIS lists the impacts from severe accidents at all plants as “SMALL”. That characterization does not excuse NRC from reducing

those impacts where alternatives exist that are clearly cost-effective, and neither Staff nor Entergy cite to any authority that supports such an excuse. Nor do they address the fact that although the Commission determined that the impacts were small for all SAMAs it still directed applicants and NRC Staff to conduct a SAMA analysis in all cases where one has not been previously conducted. 10 C.F.R. § 51.53(c)(3)(ii)(L). Staff and Entergy appear to be suggesting that because the GEIS finds the impacts from severe accidents are “SMALL” it excuses them from doing and completing an analysis of the cost of SAMAs or seriously considering implementation of clearly cost-effective SAMAs. If that were the case the Commission would have embraced, not firmly rejected, the NEI 2001 petition to eliminate the SAMA analysis from license renewal proceedings. NRC, “Nuclear Energy Institute; Denial of Rulemaking,” PRM 51-7, 66 Fed. Reg. 10834 (Feb. 20, 2001). Instead, the Commission reinforced the importance of the SAMA analysis:

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

*Id.* 66 Fed. Reg. at 10836.

Finally, the concept of “small” is clearly in the eye of the beholder, and it is difficult to see how the population dose and economic impacts that would be avoided if the cost-effective SAMAs involved here were implemented could be considered “small”. For example, after applying appropriate discounts for the probability of the accident and other ameliorating considerations, Entergy has determined that if it were to install a flood alarm in the 480V switchgear room of IP2 it would produce a benefit of \$5,591,781 by reducing the population dose risk by 39.24% and the offsite economic cost risk by 28.77%. December 2009 SAMA

Reanalysis at 17. The only thing “small” about that calculation is that it would only cost \$200,000 to achieve those benefits. *Id.* Similar substantial benefits are associated with the 18 SAMAs that are the subject of Contention 35/36. *Id.* at 10-28.<sup>7</sup>

**C. 10 C.F.R. § 54.33(c) AUTHORIZES IMPLEMENTATION OF ENVIRONMENTAL CONDITIONS THAT ALTER THE CURRENT LICENSING BASIS WHERE WARRANTED BY THE PART 51 ENVIRONMENTAL REVIEW**

Staff and Entergy seek to avoid the clear language in 10 C.F.R. § 54.33(c) that authorizes modifications of the CLB as part of the license renewal process to implement environmental conditions warranted by the Part 51 analysis. Entergy focuses on the first part of the section, which relates to reaffirming already existing environmental conditions – a provision that is irrelevant to Contention 35/36 – and the language in the regulation that says new CLB changes could *include* monitoring, reporting and recordkeeping.

Entergy asserts that:

Section 54.33(c) states that “these conditions”-which relate specifically to a licensee’s ongoing environmental monitoring, reporting, and recordkeeping obligations under Part 50-may be supplemented or amended as necessary to protect the environment during the term of the renewed license. NYS misinterprets the purpose of this provision in arguing that it authorizes the Staff to compel implementation of the SAMAs at issue in NYS-35/36, which would involve significant CLB modifications at IP2 and IP3.

Entergy Brief at 29 (footnote omitted). But § 54.33(c) does not limit additional conditions to ones that involve only monitoring, reporting and recordkeeping since those words are preceded by the unlimiting word “including.” Nor does the State argue that § 54.33(c) authorizes Staff to

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<sup>7</sup> Entergy seeks to belittle the quality of its own benefits assessment by suggestion that it is too conservative. Entergy Brief at 34-35. What the FSEIS said was “[t]he SAMA evaluations were performed using realistic assumptions with some conservatism. On balance, such calculations overestimate the benefits and are conservative.” FSEIS, Vol. 3, Appendix G at G-33. The benefits analysis follows the prescribed procedures for SAMA analyses. *Id.* at G-34. These procedures include an enormous reduction in benefit potential as the result of applying the

*compel* implementation of SAMAs. Rather that provision *allows* the CLB to be amended to the extent supplemental environmental conditions are “necessary to protect the environment during the term of the renewed license and will be derived from information contained in the supplement to the environmental report submitted pursuant to 10 CFR Part 51.” *Id.*

Entergy’s additional argument based on case law demonstrating that Part 54 is limited to safety reviews and Part 51 is wholly separate, not only fails to support its argument that § 54.33(c) does not authorize CLB amendments to the extent warranted by Part 51, but further supports the State’s argument that Part 54 cannot be used to limit Part 51. Entergy states:

In *Turkey Point*, the Commission further stated that, while its AEA review under Part 54 does not compromise or limit NEPA, [140] its *safety* review under Part 54 and its *environmental* review under Part 51 are “analytically separate.” [141]

[140] *Id.* at 13 (“Our aging-based safety review does not in any sense ‘restrict NEPA’ or ‘drastically narrow[] the scope of NEPA’”).

[141] *Id.*

Entergy Brief at 30 (emphasis in original). Thus, contrary to the FSEIS’s “rational basis” and Entergy and Staff’s principal argument, the fact that Part 54 limits the safety review to aging management issues is irrelevant to whether under Part 51 Staff has the authority to order implementation of clearly cost-effective SAMAs unrelated to aging management. If, based on a SAMA review, a mitigation measure would provide a substantial environmental benefit and would be clearly cost-effective – *i.e.*, if it is a “practicable measures within [NRC’s] jurisdiction to avoid or minimize environmental harm” – it should be implemented, pursuant to 10 C.F.R. § 51.103(a)(4), unless there is a rational basis to not do so. The limits of the safety review in Part 54 cannot be the rational basis for a refusal to implement.

The FSEIS tries to avoid this conclusion by introducing, without any citation to legal

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probability of the accident to the consequence calculation. *Id.* at G-2 to G-3.

authority, the argument that if a SAMA is not able to be implemented pursuant to Part 54 then the only mechanism for its implementation is Part 50:

Under the NRC's regulatory system, any potentially cost-beneficial SAMAs that do not relate to 10 CFR Part 54 requirements would be considered, to the extent necessary or appropriate, under the agency's oversight of a facility's current operating license in accordance with 10 CFR Part 50 requirements, inasmuch as such matters would pertain not just to the period of extended operation but to operations under the current operating license term as well.

FSEIS at 5-11. But neither Staff nor Entergy point to any regulation or any decision that stipulates that when a change to the CLB occurs as a result of an environmental analysis the change must be effectuated by way of Part 50. The provisions of 10 C.F.R. § 54.33(c) undeniably contemplate that modifications can be made to the CLB that are "derived from information contained in the supplement to the environmental report submitted pursuant to 10 C.F.R. Part 51." No Part 50 backfit process is required or warranted.

Staff and Entergy appear to be treating these SAMAs as potential backfits only for the purposes of opposing the State's contentions and not because they actually intend to treat the SAMAs as potential backfits. If the FSEIS assertion that cost-effective SAMAs unrelated to aging management can only be implemented through a Part 50 backfit was anything more than legal rhetoric, then backfit decisions on the 18 SAMAs at issue in Contention 35/36 and identified in December 2009 would have already been made.<sup>8</sup> However, no such decisions have been made, and it is clear, by their actions and not their arguments, that neither Staff nor Entergy

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<sup>8</sup> Staff and Entergy also fail to explain how it is that a clearly cost-effective, aging management-related SAMA would have to be implemented, without having to go through a Part 50 backfit analysis, but a clearly cost-effective SAMA *unrelated* to aging management, could only be implemented with a backfit analysis. The mere fact that the former is authorized under Part 54 and the latter, so they argue, is not, cannot explain the difference since both mitigation measures would arise out of a Part 51 environmental review and would impose obligations that are not necessary to protect the public health and safety but are nonetheless clearly cost-effective and will substantially mitigate adverse environmental impacts.

believe that the cost-effective SAMAs should be considered as backfits. Thus, although Staff asserts “if the Staff determines to impose any SAMAs as backfits to the CLB, which are not uniquely applicable to the period of extended operations, it would do so as part of the NRC’s regulatory oversight of the current operating licenses” (Staff Brief at 27, n.65), its failure to take action on these alleged backfits, belies any such “commitment.” According to internal Staff guidance, once an applicant or Staff has identified a *potential* backfit, prompt action must be taken to address the question. See NRR Office Instruction LIC-202, Rev. 2, “Procedures for Managing Plant-Specific Backfits and 50.54(f) Information Requests” (May 12, 2010) (ML092010045) at 3 (“Once either the staff or a licensee has identified a proposed staff position as a potential backfit, the staff should move promptly to resolve the issue.”). In their legal arguments to this Board, Staff and Entergy have labeled the potentially cost beneficial SAMAs Entergy identified in December 2009 as potential backfits. In addition, the information submitted in the SAMA analysis already meets the substantive requirements for backfit analysis. See Staff Brief at 15 (“The Staff observed that Entergy had executed its cost-benefit analysis in accordance with NUREG/BR-0184, ‘Regulatory Analysis Technical Evaluation Handbook’ (NRC 1997), and that Entergy had provided two sets of discount rates, consistent with the guidance in Revision 4 of NUREG/BR-0058, ‘Regulatory Analysis Guidelines of the [NRC]’ (NRC 2004). *Id.* at 5-8”). These NUREG/BRs are the key analytical guidance documents for determining whether a backfit is warranted.

Once the information provided by a properly done SAMA analysis is submitted, and either Staff or Entergy assert that the SAMA is a potential backfit, it triggers the obligation in LIC-202 for completion of the backfit analysis which needs to be completed within 150 days. See LIC-202 at 3-4. But Staff has had the December 2009 SAMA Reanalysis for over a year.

Thus, if Staff really believed that the SAMAs were backfits, by now Staff should have determined whether the potentially cost beneficial SAMAs should be imposed as backfits by deciding whether “there is a substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from the backfit and that the direct and indirect costs of implementation for that facility are justified in view of this increased protection.” 10 C.F.R. §50.109(a)(3). Staff has done no such thing and no Staff disclosures to the Hearing File suggest anything to the contrary. Staff clearly has no intention of taking any of these SAMAs seriously, whether under Part 51 or under Part 50 despite the fact that they are clearly cost-effective.

**D. ECONOMIC ANALYSES MUST BE SUFFICIENTLY COMPLETE TO DETERMINE WHETHER A SAMA SHOULD BE IMPLEMENTED**

Both Staff and Entergy insist that the economic analyses Entergy conducted so far on the 18 SAMAs at issue in Contention 35/36 are sufficient and need not include the announced but not yet completed engineering cost analyses. Staff Brief at 20-24; Entergy Brief at 20-22. Their argument rests on two fallacious theories. First, they assert that since none of these 18 SAMAs relates to aging management, none can be implemented as part of license renewal, so an incomplete economic analysis is acceptable. But that theory would justify doing *no* economic analysis of any SAMA that is unrelated to aging management and would make all the work Entergy has done and Staff has laboriously reviewed pointless. Second, they assert that they are only doing enough economic analysis to determine if the SAMA is “potentially” cost-effective and need not finally determine if it is actually cost-effective. But that theory is refuted by the numerous statements by the Commission and guidance documents upon which Staff and Entergy rely, all of which focus on having sufficient information to enable a decision to be made and not on whether the SAMA analysis finds SAMAs that are “potentially” cost-effective.

The history of the SAMA process, spelled out in the State's Motion for Summary Disposition of Consolidated Contention NYS-35/36 at pp. 20-22, demonstrates the Commission's intent that the SAMA process be used to make decisions about whether a SAMA provides sufficient benefits to "warrant implementation." Statement of Considerations Accompanying Adoption of the GEIS, 61 Fed. Reg. 28467, 28481 (June 5, 1996). Other NRC guidance documents also contain similar statements focused on using the SAMA analysis to facilitate decisions, including Supplement 1 to Regulatory Guide 4.2 (Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Licenses) at 4.2-S-50 (noting that one of the ER obligations is to list "plant modifications . . . (if any) that have or will be implemented to reduce the severe accident dose consequence risk"); NUREG 1555, Supplement 1 (Standard Review Plans for Environmental Reviews of Nuclear Power Plants (Oct. 1999)) at 5.1.1-8 to 5.1.1-9 noting that the Staff review of the SAMA analysis should conclude with a finding as to whether "further mitigation measures are warranted" or whether "no further mitigation measures are warranted;" and the NEI 05-01 (Rev. A) Severe Accident Mitigation Alternatives (SAMA) Guidance Document (Nov. 2005) at 28 (noting the SAMA cost analysis should be completed "to the point where economic viability of the proposed modification can be adequately gauged"). In its decisions, the Commission has emphasized that the SAMA process is designed to assist the NRC in making decisions. *Duke Energy Corporation* (McGuire, Units 1 and 2; Catawba, Units 1 and 2) CLI-02-17, 56 N.R.C. 1 (July 23, 2002) at 10, emphasizing that even though NEPA does not require implementation of any particular SAMA, the obligation to fully develop the record with regard to any SAMA is required "to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct."

The arguments Staff and Entergy advance regarding the narrow scope of the SAMA review and Staff's lack of any mandate to make a decision, on the merits, on whether to require implementation of clearly cost-effective SAMAs as part of the license renewal process particularly ignore the early history of the SAMA process. The SAMA analysis was the result of a Commission decision that severe accident mitigation alternatives had not been included in the operating license decision for nuclear power plants and should be. Thus, contrary to Staff and Entergy's implication, the Commission recognized as early as 1980 that any decision on operating license issuance needed to include consideration of SAMAs, including their possible implementation.

It is the Commission's position that its Environmental Impact Statements shall include considerations of the site-specific environmental impacts attributable to accident sequences that lead to releases of radiation and/or radioactive materials, including sequences that can result in inadequate cooling of reactor fuel and to melting of the reactor core. In this regard, attention shall be given both to the probability of occurrence of such releases and to the environmental consequences of such releases.

45 Fed. Reg. 40101 (Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969 - Statement of Interim Policy) (June 13, 1980). The Commission went on to confirm that these new reviews of severe accidents should apply to all operating license proceedings:

It is the intent of the Commission in issuing this Statement of Interim Policy that the staff will initiate treatments of accident considerations, in accordance with the foregoing guidance, in its ongoing NEPA reviews. i.e., for any proceeding at a licensing stage where a Final Environmental Impact Statement has not yet been issued.

*Id.* at 40103. It then confirmed that the purpose of the review is to implement improvements:

it is also the intent of the Commission that the staff take steps to identify additional cases that might warrant early consideration of either additional features or other actions which would prevent or mitigate the consequences of serious accidents.

*Id.*

The proposed license renewal, if issued, would create a new operating license for IP2 and IP3 to which all the obligations relevant to SAMA analyses must apply. Pursuant to 10 C.F.R. § 54.31(b) the renewed license is “superseding the operating license previously in effect.” Thus, this case is a “proceeding at a licensing stage where a Final Environmental Impact Statement has not yet been issued” requiring a full SAMA analysis. Entergy claims the FSEIS meets the requirements of *Limerick* when it asserts that the FSEIS “provides ‘sufficient discussion of relevant issues and opposing viewpoints to enable the decisionmaker to take a ‘hard look’ at the environmental factors and to make a reasoned decision.’” Entergy Brief at 36 (emphasis added) quoting from *Limerick Ecology Action v. NRC*, 869 F.2d 719, 737 (3rd Cir. 1989). It is this reasoned decision which is missing from the FSEIS.

When the Commission adopted 10 C.F.R. § 51.53(c)(3)(iii)(L) it continued to emphasize that the purpose of the SAMA analysis was to gather sufficient information to make a determination on whether implementation of a SAMA was warranted:

In some instances, a consideration of the magnitude of reduction in the site specific CDF and release frequencies alone (i.e., no conversion to a dose estimate) may be sufficient to conclude that no significant reduction in off-site risk will be provided and, therefore, implementation of a mitigation alternative is not warranted.

61 Fed. Reg. 28467, 28481 (Environmental Review for Renewal of Nuclear Power Plant Operating Licenses - Statement of Considerations) (June 5, 1996). There is no point in identifying ways in which to decide that implementation of a SAMA is not warranted unless implementation of the SAMA is one of the options that Staff must consider.

A final piece of the historical foundations of the SAMA analysis is found in the GEIS. That document requires that SAMAs be treated as a Category 2 issue because they do not meet

the three pronged test for classification as Category 1. As the Commission explained in denying NEI's request "that the NRC amend its regulations to delete the requirement to consider Severe Accident Mitigation Alternatives (SAMAs) as part of the environmental review to support license renewal decisions" (66 Fed. Reg. 10834 (Nuclear Energy Institute; Denial of Petition for Rulemaking [Docket No. PRM 51-7]) (Feb. 20, 2001)) SAMAs failed to meet the third prong of the Category 1 test because of "unresolved questions regarding mitigation" (*id.* at 10835):

However, one of the criteria for a Category 1 finding is, as stated in footnote 2 of Table B-1, Part 51, "Mitigation of adverse impacts associated with the issue have been considered in the analysis, and it has been determined that additional plant specific mitigation measures are likely not to be sufficiently beneficial to warrant implementation."

*Id.* at 10834. It is an undisputed historical fact that site specific alternatives to mitigate the environmental impacts of severe reactor accidents were not examined during the rulemaking that led to the 1996 generic EIS.

Even Staff, apparently unwittingly, has conceded in its brief that the purpose of the SAMA analysis is to facilitate decision making when it states that:

subpart A of 10 C.F.R. Part 51 establishes requirements needed to comply with NEPA -i.e., it provides the means by which the agency is to consider the environmental impacts of its decisions, adverse environmental effects which cannot be avoided, alternatives to the proposed action. etc., but it does not establish a requirement that any particular action be taken. See NEPA, § 102(2). Similarly, the NRC's regulations implementing NEPA (in 10 C.F.R. Part 51) - do not require the agency to take any particular action other than to satisfy its NEPA obligation to consider the environmental impacts of its decisions.

Staff Brief at 35 (emphasis in the original). According to Webster's Encyclopedic Unabridged Dictionary of the English Language (Copyright 1994) at 312 the first definition of "consider" is "to think carefully about, esp. in order to make a decision." This concession that the goal of the SAMA analysis is determine which, if any, SAMAs should be required to be implemented is

consistent with the view Staff took in its response to Pilgrim Watch's Petition to Intervene in the Pilgrim relicensing proceeding:

For Pilgrim, a set of 281 possible SAMAs were identified from a number of sources. See LRA, ER at p.4-33. These sources included the Pilgrim PRA analysis, and other sources as well. Id. These alternatives were further assessed and screened based on a number of considerations. Ultimately, *in determining whether an alternative should be implemented* the licensee performed a cost-benefit analysis using a methodology that is consistent with the NRC Regulatory Analysis Technical Evaluation Handbook (NUREG/BR-0184). This analysis is designed to identify and estimate the relevant values and impacts of a [sic] each proposed change, and *provides a structured approach for balancing benefits and costs in determining whether implementation is justified.*

*Entergy Nuclear Generation Co.*, (Pilgrim Nuclear Power Station) Docket No. 50-293, Staff's Response to Request for Hearing And Petition to Intervene Filed by Pilgrim Watch (June 19, 2006) at 26 (ML061710086)(emphasis added).

Despite many pages of argument, Staff and Entergy fail to explain how it could be that no SAMA implementation can ever be ordered when all these pronouncements by the Commission and Staff and the plain language used clearly contemplate that the adequacy of the SAMA analysis is to be judged by the extent to which it allows a decision to be reached on whether to implement a particular SAMA. If the SAMA analysis is not to be used as a guide for making decisions, what is its function? Entergy repeatedly asserts that “[t]he goal of SAMA analysis is only to determine what potential plant enhancements may be cost-beneficial in mitigating the effects of a postulated severe accident” (Entergy Brief at 11) but never explains to what end, or addresses the numerous citations noted above that all identify the SAMA process as the precursor to making a decision.

Entergy and Staff continually refer to “potentially cost-beneficial” SAMAs and assert that the SAMA analysis need not go beyond identifying SAMAs that are “potentially cost-

beneficial.” Staff expresses the point in this way:

The engineering project analyses would not consider any SAMAs other than those which Entergy already identified as “potentially” cost-beneficial. While those analyses might result in a refinement of the cost/benefit ratio of the SAMAs which Entergy already found to be “potentially cost-beneficial,” or the deletion of certain SAMAs that are no longer found to be cost-beneficial, those analyses could not result in the identification of any other cost-beneficial SAMAs beyond those which Entergy has already identified. Significantly, while that information may be useful to Entergy in deciding whether to implement any of these SAMAs, the information is not needed to understand the environmental impacts of license renewal or alternatives thereto.

Staff Brief at 20-21 (emphasis in original). However, with one exception discussed below, a search of the regulations and guidance documents relevant to license renewal, environmental reviews and SAMA analyses fails to disclose that the economic analysis can end when “potentially cost-beneficial” SAMAs are identified or, for that matter, even include any reference to “potentially cost-beneficial” SAMAs.<sup>9</sup> Rather, as noted above, the focus of those guidance documents is whether the analysis is sufficiently complete to enable a decision on implementation to be made.

The one exception is the industry’s own statement on the issue, NEI-05-01 Rev. A (Severe Accident Mitigation Alternatives (SAMA) Analysis Guidance Document (Nov. 2005)). Staff has adopted that document as the Staff guidance document for SAMA analyses. *See* 72 Fed. Reg. 45466, 45467 (“The staff finds that NEI 05–01, Revision A, describes existing NRC regulations, and facilitates complete preparation of SAMA analysis submittals”). The NEI document adopts the phrase “potentially cost-beneficial” SAMA but indicates, unlike the

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<sup>9</sup> Using the phrase “potentially cost-beneficial” as a stopping point for the economic analysis would produce absurd results. Every SAMA that, if implemented, would produce a benefit is “potentially cost-beneficial” until some economic analysis has been conducted. Once the economic analyses begin, as the ER and FSEIS illustrate, various SAMAs are dropped from consideration because the level of economic analysis is sufficient to demonstrate they will not be cost beneficial. No basis has been offered, or could be offered, for stopping that winnowing

position Staff and Entergy assert, that when a SAMA is identified as “potentially cost-beneficial,” even though more complete engineering analyses are yet to be done, it is then sufficiently analyzed to make a decision on implementation. NEI-05-01 at 16 (“if the analysis determines that an aging related SAMA is potentially cost-beneficial, the plant is under no obligation to implement the SAMA immediately. Thus, *the plant will commit to implementing the SAMA* by the beginning of the period of extended operation” (emphasis added)). In fact, NEI-05-01 Rev. A indicates that the purpose of the SAMA process is to make a *decision* on whether implementation of the SAMA is cost-beneficial. *Id.* at 1. (“The purpose of the analysis is to identify SAMA candidates that have the potential to reduce severe accident risk and to determine if implementation of each SAMA candidate is cost beneficial.”)

Thus, every document that addresses the purpose of the SAMA process or how it is to be conducted focuses on whether the SAMA analysis is sufficient to permit a decision to be reached on whether to implement the SAMA. Thus, either the current SAMA analysis is sufficient to reach a decision on implementation or, as the Staff asserts, the engineering analyses that have yet to be done, “may be useful to Entergy in deciding whether to implement any of these SAMAs.” Either way, the FSEIS fails to provide a legally defensible position for its treatment of SAMAs. Either more study is needed to achieve the purpose of determining if implementation is cost beneficial, in which case the current SAMA analysis is inadequate, or no more study is needed and it can now be determined whether to implement these 18 SAMAs and if not to provide a rational basis, on the merits, for not doing so.<sup>10</sup>

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process where Entergy and Staff have stopped it in this case.

<sup>10</sup> Thus, Contention 35/36 is not moot since the FSEIS’s explanation for refusing to consider implementation of SAMAs is legally invalid and the economic analysis conducted to date does not, by Staff’s own admission (NRC Staff Brief at 20-21), complete the analysis to a point where a final decision can be reached on whether to implement a SAMA.

**E. REGULATORY HISTORY REGARDING PART 54 DOES NOT SUPPORT STAFF OR ENTERGY**

Entergy has cited, selectively and out of context, statements in the regulatory history of Part 54 that it believes demonstrate that no modifications should be made to the continuing licensing basis of a plant during the license renewal process unless they are related to aging management. Entergy Brief at 5-6. The regulatory history which it identifies is the *draft* of the Part 54 amendments that were issued in 1990. In the *final* version of those amendments, the Commission made clear that, except for requiring compliance with the provisions of Part 51, no further discussion of the requirements of Part 51 would occur in its statement of consideration because the environmental regulations were still being developed:

The environmental impacts of individual nuclear power plant license renewals are the subject of a generic environmental impact statement (GEIS) and a separate rulemaking action that will propose changes to 10 CFR part 51. An Advance Notice of Proposed Rulemaking invited early public comments concerning this part 51 rulemaking (55 FR 29964; July 23, 1990). A Notice of Intent (NOI) to prepare a GEIS was simultaneously published with the notice of proposed rulemaking (55 FR 29967; July 23, 1990). The proposed revisions to part 51 and the supporting documents were published for public review and comment on September 17, 1991 (56 FR 47016). The comment period for this action expires December 16, 1991.

56 Fed. Reg. 63943, 64945 (Nuclear Power Plant License Renewal) (Dec. 13, 1991). There is no mention in the statement of considerations of "severe accident mitigation alternatives" or its predecessor concept "severe accident mitigation design alternatives." This is not surprising, since the draft of the proposed environmental regulations for license renewal at that time proposed that no severe accident mitigation alternatives needed to be considered at license renewal. 56 Fed. Reg. 47016, Environmental Review for Renewal of Operating Licenses - Proposed Rule (Sept. 19, 1991) ("Accordingly, SAMDA evaluations at the license renewal stage are not necessary."). Even when the final amended version of Part 54 was issued in 1995 and

referenced limiting CLB changes to those related to aging management, there was no mention of SAMAs because, as of that date, the final regulations for environmental reviews at the license renewal stage had not been adopted. Those regulations, which included for the first time the requirement to conduct a SAMA review for license renewal were not adopted until 1996. Thus, the context in which the quoted language appears is focused on Part 54, which is not the source of Staff's authority to order implementation of clearly cost-effective SAMAs but which merely authorizes Staff to do whatever is warranted by the Part 51 review.

### CONCLUSION

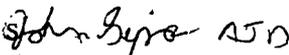
NRC regulations, Staff guidance documents and NRC case law prove that Staff and Entergy's assertion that the FSEIS has provided a rational basis for not considering implementation of any cost-effective SAMAs on the basis that Staff has no regulatory authority to order implementation of a SAMA that is not related to aging management is wrong. Rather, the relevant legal authorities demonstrate that the purpose of the SAMA analysis is to identify those mitigation measures that are cost-effective so that a decision can be made as to whether their implementation is warranted. Part 54 authorizes modifications to the CLB if the Part 51 environmental review demonstrates a change is warranted. 10 C.F.R. § 54.33(c). Part 51 requires implementation of mitigation alternatives that are cost-effective or an explanation of the basis for not ordering implementation. 10 C.F.R. § 51.103(a)(4).

Staff and Entergy also assert that the cost analyses they have done are sufficient because they identify potentially cost-beneficial SAMAs even while admitting that further analyses are yet to be done that may result in a rejection of some SAMAs as not cost-effective. They cannot have it both ways. Either the cost analyses done to date are sufficient to make the implementation decision – in which case no further analyses are required – or they are not in

which case further analyses are required.

The unavoidable impression that Staff and Entergy's briefs leave is that regardless of any additional work that will be done on the SAMAs, and regardless of what decisions will be made about their implementation, that work and those decisions should not be done in the light of day, and should not be done with participation by States and other intervenors and with a decision by this Board. That position is not only untenable, but is directly contrary to the Commission's stated goal of increasing the role of public participation in the NRC licensing process.<sup>11</sup> The State of New York urges this Board to reject Staff and Entergy's arguments to repudiate their effort to curtail public participation on an issue as important as mitigation of the environmental effects of severe accidents and to grant the State's Motion For Summary Disposition of Consolidated Contention NYS-35/36.

Respectfully submitted,



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Dated: February 23, 2011

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<sup>11</sup> See e.g. NRC Public Website <http://www.nrc.gov/about-nrc/regulatory/licensing/pub-involve.html> ("The U.S. Nuclear Regulatory Commission (NRC) has a long-standing practice of conducting its regulatory responsibilities in an open manner, and keeping the public informed of the agency's regulatory, licensing, and oversight activities. For that reason, the NRC is committed to informing the public about its licensing activities, and providing opportunities for the public to participate in the agency's decisionmaking process.").

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

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In re:

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

License Renewal Application Submitted by

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

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

DPR-26, DPR-64

February 23, 2010  
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**INTRODUCTION**

Pursuant to 10 C.F.R. §§ 2.1205(b) and 2.710(a), the State of New York submits this Counter-Statement of Material Facts in opposition to Entergy's Cross-Motion for Summary Disposition of Contention NYS-35/36 filed on February 3, 2011.<sup>1</sup>

**COUNTER-STATEMENT OF UNDISPUTED MATERIAL FACTS**

1. Severe accident mitigation alternatives ("SAMAs"), by definition, pertain to severe accidents; *i.e.*, those accidents whose consequences could be severe, but whose probability of occurrence is so low that they may be excluded from the spectrum of design basis accidents ("DBAs") that have been postulated for a plant. *See* NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Vol. 1, §§ 5.3.2, 5.3.3, 5.4 (May 1996) ("GEIS"), *available at* ADAMS Accession Nos. ML040690705. *This is a legal conclusion and not a factual statement; the State refers the Board to the referenced document, which speaks for itself.*

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<sup>1</sup> *See* Applicant's Consolidated Memorandum in Opposition to New York State's Motion for Summary Disposition of Contention NYS-35/36 and in Support of its Cross-Motion for Summary Disposition (Feb. 3, 2011).

2. Based on the GEIS evaluation of severe accident impacts, 10 C.F.R. Part 51 concludes that the “[t]he probability weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to ground water, and societal and economic impacts from severe accidents are small for all plants.” 10 C.F.R. Part 51, Subpart A, App. B, Table B-1 (Postulated Accidents; Severe accidents). *This is a legal conclusion and not a factual statement; the State refers the Board to the referenced document which speaks for itself.*

3. GEIS analyses represent adequate, plant-specific estimates of the impacts from severe accidents that would generally over-predict, rather than under-predict, environmental consequences. See Final Rule: Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,480 (June 5, 1996), amended by 61 Fed. Reg. 66,537 (Dec. 18, 1996) [Att. 6]. *Disputed; to the extent this comment is applicable to Indian Point, it is demonstrably false in light of the substantial population density within 50 miles of the plant site that is greater than any other operating plant. Other site specific conditions, including earthquake vulnerability and the impossibility of effectively evacuating the population within the zone of potential impact from a severe accident, make the impacts anything but small. Also, the SAMA analysis demonstrates millions of dollars of potential benefit through the reduced probability of property damage and radiation exposure if certain SAMAs, with costs well below the benefits, were implemented.*

4. 10 C.F.R. Part 51 states that if the Staff has not previously considered SAMAs for a license renewal applicant’s plant in an EIS or in an environmental assessment, then the applicant must complete an evaluation of alternatives to mitigate severe accidents. 10 C.F.R. § 51.53(c)(3)(ii)(L); see also 10 C.F.R. Part 51, Subpart A, App. B, Table B-1. *This is a legal conclusion and not a factual statement; the State refers the Board to the referenced document*

*which speaks for itself.*

5. The purpose of a SAMA analysis is to identify potential changes to a nuclear power plant, or its operations, that (1) could further reduce the already very low risk of *postulated* severe reactor accident scenarios, and (2) are cost-beneficial to implement. It is not a substitute for, and does not represent, the NRC NEPA analysis of potential impacts of severe accidents. *See* Final Rule: Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,479-480 [Att. 6]; *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, slip op. at 3, 37-38 (Mar. 26, 2010); *see* NUREG-1437, Supp. 38, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Final Report, Vol. 1 at 5-2 to 5-3, 5-11 (Dec. 2010) (“FSEIS”). *These are legal conclusions and not factual statements; the State refers the Board to the referenced documents which speak for themselves.*

6. Entergy submitted its SAMA analysis for Indian Point Units 2 and 3 (“IP2” and “IP3”) in April 2007 as part of the Environmental Report (“ER”) for the Indian Point Energy Center (“IPEC”) license renewal application (“LRA”). *See* ER Sec. 4.21 & Att. E (Severe Accident Mitigation Alternatives Analysis), *available at* <http://www.nrc.gov/reactors/operating/licensing/renewal/applications/indian-point.html#application>. *Undisputed.*

7. The NRC Staff documented its initial review of Entergy’s SAMA in its December 2008 draft Supplemental Environmental Impact Statement (“SEIS”) for the IPEC LRA. *See* NUREG-1437, Supp. 38, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment (Dec. 2008) (“DSEIS”). *Undisputed.*

8. On December 11, 2009, Entergy submitted a Revised SAMA Analysis that

include corrected wind direction inputs. See NL-09-165, Letter from Fred Dacimo, Entergy, to NRC, "License Renewal Application - SAMA Reanalysis Using Alternate Meteorological Data" (Dec. 11, 2009) ("NL-09-165" or "Revised SAMA Analysis"), available at ADAMS Accession No. ML093580089 [Att. 11]. *Undisputed; the State notes that this statement is an incomplete summary of all the changes made in the December 2009 SAMA Reanalysis which replaced the previous SAMA analysis in its entirety.*

9. The Nuclear Energy Institute ("NEI") has issued a guidance document, NEI 05-01, Revision A, to assist NRC license renewal applicants in preparing SAMA analyses. See NEI 05-01, Severe Accident Mitigation Alternatives (SAMA) Analysis, Guidance Document, at i (Rev. A, Nov. 2005), available at ADAMS Accession No. ML060530203 [Att. 7]. *Undisputed.*

10. The Staff has approved and recommended the use of NEI 05-01 by license renewal applicants. See Final License Renewal Interim Staff Guidance LR-ISG-2006-03: Staff Guidance for Preparing Severe Accident Mitigation Alternatives Analyses (Aug. 2007) ("LR-ISG-2006-03"), available at <http://www.nrc.gov/reading-rm/doc-collections/isg/license-renewal.html> [Att. 8 & Att. 9]. *Undisputed.*

11. Consistent with the NRC-approved guidance NEI 05-01, Entergy developed cost estimates for implementing each SAMA candidate to the extent necessary to allow it to make an informed judgment about the economic viability of the proposed improvement. See ER, Att. E at E.2-3 to E.2-4 & E.4-3 to E.4-4. Entergy followed this same cost-estimating process in its Revised SAMA Analysis. Revised SAMA Analysis at 8-9 [Att. 11]. *Disputed. In portions of their pleadings, Entergy and NRC Staff assert that the cost analyses Entergy conducted are not sufficient to make a final decision on implementation of any SAMAs and thus, the SAMA analysis has not been completed to the point required to comply with NEI-05-01 because their "economic*

viability” cannot be “adequately gauged” as NEI-05-01 would require.

12. The NRC Staff issued the FSEIS in December 2010. *Undisputed.* Section 5.2 of the FSEIS summarized the Staff’s final review of Entergy’s SAMA evaluation for IP2 and IP3, including its December 2009 Revised SAMA Analysis. FSEIS, Vol. 1 at 5-4 to 5-13.

*Undisputed.* Appendix G of the FSEIS further documented the Staff’s technical evaluation of Entergy’s SAMA analysis. *Id.*, Vol. 3, App. G. *Undisputed.* The FSEIS concluded that “[t]he treatment of SAMA benefits and costs support the general conclusion that the SAMA evaluations performed by Entergy are reasonable and sufficient for the license renewal submittal.” *Id.*, Vol. 1 at 5-11. *The State refers the Board to the referenced document, which speaks for itself; the State does not dispute that the FSEIS contains the cited statement but disputes the substance of the statement itself.*

13. Section G.5 of the FSEIS described the Staff’s review of Entergy’s cost estimates for implementing SAMAs. FSEIS, Vol. 3, App. G at G-34 to G-40. Section G.5 explained that Entergy estimated the costs of implementing the candidate SAMAs through the application of engineering judgment and the use of other licensees’ estimates for similar improvements. Table G-6 of the FSEIS listed, among other items, the SAMA implementation cost estimates. *Id.* at G-36 to G-38. The Staff reviewed the bases for these cost estimates and, for certain improvements, it compared the cost estimates to estimates developed previously for similar improvements (including estimates developed as part of other licensees’ SAMA for operating reactors and advanced light-water reactors). *Id.* at G-34 to G-35. *The State refers the Board to the referenced document, which speaks for itself.*

14. Section G.5 also stated that, as part of its Revised SAMA Analysis using corrected meteorological data, Entergy subjected a subset of the candidate SAMAs to more

rigorous cost-estimating techniques; *i.e.*, those SAMAs that appeared to be cost-beneficial based on the new benefit estimate and the original implementation cost estimate. FSEIS, Vol. 3, App. G at G-39. At the request of the NRC Staff, Entergy provided additional information concerning the implementation cost estimates for this subset of the candidate SAMAs by letter dated January 14, 2010. *See* NL-10-013, Letter from Fred Dacimo, Entergy, to NRC, "License Renewal Application - Supplement to SAMA Reanalysis Using Alternate Meteorological Tower Data" (Jan. 14, 2010) ("NL-10-013"), *available at* ADAMS Accession No. ML100260750 [Att. 12]. *The State refers the Board to the referenced documents, which speak for themselves.*

15. The Staff reviewed this additional cost information to determine the degree to which the revised cost estimates and their constituent costs comport with the nature, magnitude and complexity of each change. FSEIS, Vol. 3, App. G at G-39. The Staff determined that Entergy's revised cost estimates were reasonable, and that they resulted in an appropriate determination that the subject candidate SAMAs are not cost-beneficial. *Id.* at G-39 to G-40. *The State refers the Board to the referenced documents, which speak for themselves.*

16. The Staff concluded that Entergy's implementation cost estimates for all SAMA candidates are reasonable, generally consistent with prior estimates by other licensees, and sufficient and appropriate for use in the SAMA evaluation. FSEIS, Vol. 3, App. G at G-40. *The State refers the Board to the referenced document, which speaks for itself.*

17. Section 5.2.6 of the FSEIS summarized the Staff's conclusions with respect to Entergy's SAMA analyses for IP2 and IP3, including the methods used and the implementation of those methods. FSEIS, Vol. 1 at 5-11 to 5-12. The Staff concluded that the SAMA evaluations performed by Entergy for IP2 and IP3 "are reasonable and sufficient for the license renewal submittal." FSEIS, Vol. 1 at 5-11. *The State refers the Board to the referenced*

*document, which speaks for itself; the State does not dispute that the FSEIS contains the cited statement, but disputes the substance of the statement itself.*

18. The Staff also concluded that there is no regulatory basis to impose any of the potentially cost-beneficial SAMAs as a condition for license renewal of IP2 and IP3. Section 5.2.6 of the FSEIS explains the basis for this conclusion as follows:

Moreover, the NRC staff has determined that none of the potentially cost-beneficial SAMAs are related to the license renewal requirements in 10 CFR Part 54 (*i.e.*, managing the effects of aging) (SEIS § 5.2.6).

Under the NRC's regulatory system, any potentially cost-beneficial SAMAs that do not relate to 10 CFR Part 54 requirements would be considered, to the extent necessary or appropriate, under the agency's oversight of a facility's current operating license in accordance with 10 CFR Part 50 requirements, inasmuch as such matters would pertain not just to the period of extended operation but to operations under the current operating license term as well. Thus, there is no regulatory basis to suggest that potentially cost-beneficial SAMAs that are unrelated to Part 54 requirements must be imposed as a backfit to the CLB, as a condition for license renewal.

FSEIS, Vol. 1 at 5-11. *The State refers the Board to the referenced document, which speaks for itself; the State does not dispute that the FSEIS contains the cited statements, but disputes the substance of the statements themselves.*

19. Section 5.2.6 of the FSEIS further explained that no significant new information has been identified that would remove IP2 and IP3 from the generic determinations made in the GEIS and 10 C.F.R. Part 51 that severe accidents are the probability of occurrence of severe accidents is so low that they may be excluded from the spectrum of DBAs that have been postulated for a plant (GEIS §§ 5.3.2, 5.3.3, 5.4), and that the probability-weighted radiological consequences of severe accidents are small for all plants. FSEIS, Vol. 1 at 5-11 to 5-12.

*The State refers the Board to the referenced document, which speaks for itself; the State does not*

*dispute that the FSEIS contains the cited statements, but disputes the substance of the statements themselves.*

20. NYS-35/36 does not challenge any of Entergy's current SAMA implementation cost estimates (whether for cost-beneficial or non-cost-beneficial SAMAs) by alleging that they are inaccurate (e.g., too large) or based on unacceptable methods or assumptions. *Undisputed.*

21. NYS-35/36 does not allege that any new or additional SAMAs should have been identified beyond those already identified in the Revised SAMA Analysis and the FSEIS. *Undisputed.*

22. As noted in Section 5.2.6 of the FSEIS, in LBP-10-13, the Board stated that "the NRC Staff does not have to require implementation [of potentially cost-beneficial SAMAs], and an intervenor such as New York cannot demand implementation from the NRC Staff as part of a license renewal proceeding." *See Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3), LBP-10-13, slip op. at 29 (June 30, 2010). The State refers the Board to the referenced documents, which speak for themselves.*

Respectfully submitted,

s/  ASD

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Dated: February 23, 2011

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

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

DPR-26, DPR-64

February 23, 2011  
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**INTRODUCTION**

The State of New York submits this Counter-Statement of Material Facts in opposition to NRC Staff's Cross-Motion for Summary Disposition of Contention NYS-35/36 filed on February 7, 2011.<sup>1</sup>

**COUNTER-STATEMENT OF UNDISPUTED MATERIAL FACTS**

1. On February 3, 2011, Entergy Nuclear Operations, Inc. ("Entergy" or "Applicant") filed its "Statement of Material Facts in Support of Applicant's Cross-Motion for Summary Disposition of Contention NYS-35/36" ("Entergy's Statement of Material Facts"). Therein, Entergy submitted statements, in 22 numbered paragraphs, of the material facts as to which it contends there is no genuine dispute, in support of its cross-motion for summary

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<sup>1</sup> See "NRC Staff's (1) Cross-Motion for Summary Disposition, and (2) Response to New York State's Motion for Summary Disposition, of Contention NYS-35/36; (Sever Accident Mitigation Alternatives)" ("Staff's Cross-Motion") (Feb. 7, 2011).

disposition of Contention NYS-35/36.<sup>2</sup> *The State incorporates by reference here its response to Entergy's Statement of Material Facts, ¶¶ 1-22.*

2. The Staff has reviewed Entergy's Statement of Material Facts, and has determined that it substantially agrees with each of the statements of material fact set forth therein.

Accordingly, inasmuch as Entergy's Cross-Motion and the Staff's Cross-Motion raise substantially identical issues, in the interest of judicial economy and conserving the resources of all parties, the Staff hereby adopts and incorporates by reference herein, in support of the Staff's Cross-Motion, each of the Applicant's 22 numbered statements as to which Entergy contends there is no genuine dispute of material fact. In addition to the Applicant's Statements of Material Fact 1 - 22, the Staff identifies the following statements as to which there is no genuine dispute of material fact. *The State incorporates by reference here its response to Entergy's Statement of Material Facts, ¶¶ 1-22.*

3. The Staff's Final SEIS (Supplement 38 to the Commission's GEIS) provided a detailed evaluation of the environmental impacts of license renewal, including the impacts of postulated accidents (including severe accidents) at IP2 and IP3. The FSEIS also provided a detailed, site-specific evaluation of the Applicant's SAMA analyses, as revised in its December 2009 SAMA Reanalysis. The Staff's evaluation took into account the hundreds of SAMAs that had been identified by Entergy (*see* FSEIS at G-49). A detailed description of each aspect of this evaluation was provided in Appendix G. *See* FSEIS, Chapter 5, and Appendix G, *passim*.

*Undisputed.*

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<sup>2</sup> *See* "Applicant's Consolidated Memorandum in Opposition to New York State's Motion for Summary Disposition of Contention NYS-35/36 and in Support of Its Cross-Motion for Summary Disposition" ("Applicant's Cross-Motion") (Feb. 3, 2011).

4. The FSEIS presented the Staff's conclusions as to the sufficiency of the Applicant's SAMA analyses for license renewal purposes, and the bases for those conclusions. *Id.*, at 5-4 - 5-11, and G-1 - G-49. In addition, the Staff provided a further explanation of the bases for its determination that none of the SAMAs identified by Entergy as potentially cost-beneficial need be imposed as a condition for license renewal – “even if those potentially cost-beneficial SAMAs are ‘finally’ found to be cost-beneficial.” *Id.* at 5-11 - 5-12. *Undisputed.*

5. In this regard, the FSEIS stated:

The staff reviewed Entergy's [SAMA] analysis, as revised, and concludes that the methods used, and the implementation of those methods, were sound. The treatment of SAMA benefits and costs support the general conclusion that the SAMA evaluations performed by Entergy are reasonable and sufficient for the license renewal submittal. Although the treatment of SAMAs for external events was somewhat limited, the likelihood of there being cost-beneficial enhancements in this area was minimized by improvements that have been realized as a result of the IPEEE [(Individual Plant Examination of External Events)] process and inclusion of a multiplier to account for external events.

Based on its review of the SAMA analysis, as revised, the staff concurs with Entergy's identification of areas in which risk can be further reduced in a cost-beneficial manner through the implementation of all or a subset of potentially cost-beneficial SAMAs. Given the potential for cost-beneficial risk reduction, the staff considers that further evaluation of these SAMAs by Entergy is appropriate. However, none of the potentially cost-beneficial SAMAs relate to adequately managing the effects of aging during the period of extended operation. Therefore, they need not be implemented as part of IP2 and IP3 license renewal pursuant to 10 C.F.R. Part 54.

FSEIS at 5-11; *cf* Appendix G at G-49. *Undisputed.*

6. Further, the Staff summarized its reasons for declining to impose any SAMAs as a condition for license renewal, stating as follows:

[T]he NRC staff has provided a detailed discussion of SAMA costs and benefits in this SEIS, which satisfies the NRC's obligation, under NEPA and related case law, to consider SAMAs in a license renewal proceeding such as the IP2 and IP3 proceeding. Indeed, as the Board found, while NEPA requires consideration of environmental impacts and alternatives, it does not require that SAMAs be imposed to redress environmental impacts. LBP-10-13, slip op. at 29.

Moreover, the NRC staff has determined that none of the potentially cost-beneficial SAMAs are related to the license renewal requirements in 10 CFR Part 54 (i.e., managing the effects of aging) (SEIS § 5.2.6). Under the NRC's regulatory system, any potentially cost-beneficial SAMAs that do not relate to 10 CFR Part 54 requirements would be considered, to the extent necessary or appropriate, under the agency's oversight of a facility's current operating license in accordance with 10 CFR Part 50 requirements, inasmuch as such matters would pertain not just to the period of extended operation but to operations under the current operating license term as well. Thus, there is no regulatory basis to suggest that potentially cost-beneficial SAMAs that are unrelated to Part 54 requirements must be imposed as a backfit to the CLB, as a condition for license renewal.

Finally, the NRC staff notes that SAMAs, by definition, pertain to severe accidents - i.e., those accidents whose consequences could be severe, but whose probability of occurrence is so low that they may be excluded from the spectrum of design basis accidents ("DBAs) that have been postulated for a plant (see GEIS §§ 5.3.2, 5.3.3, 5.4); this is consistent with the conclusions reached in § 5.2.2 of this SEIS concerning severe accidents at IP2 and IP3. The Commission has previously concluded, as a generic matter, that the probability-weighted radiological consequences of severe accidents are SMALL. GEIS § 5.5.2; 10 CFR Part 51, App. B, Table B1. As stated in §§ 5.1.1 and 5.1.2 above, no significant new information has been identified that would remove IP2 and IP3 from these generic determinations. Thus, there is no regulatory basis to impose any of the potentially cost-beneficial SAMAs as a condition for license renewal of IP2 and IP3 - even if those potentially cost-beneficial SAMAs are "finally" found to be cost-beneficial.

FSEIS at 5-11 - 5-12. *Disputed for the reasons set forth in the State's motion for summary judgment and opposition to NRC Staff's cross-motion.*

7. The Staff further explained this determination in its response to comments on the Draft SEIS, in Appendix A of the FSEIS. There, the Staff stated as follows:

The SAMA analysis constitutes a systematic and comprehensive process for identifying potential plant improvements, evaluating the implementation costs and risk reduction for each SAMA, and determining which SAMAs may be cost beneficial to implement. The analysis is technically rigorous and consistent with the NEPA expectation that federal agencies take a "hard-look" at the environmental impacts of their proposed actions, including consideration of viable alternatives. If a SAMA is determined to be potentially cost beneficial but is not related to adequately managing the effects of aging during the re-licensing period, it is not required to be implemented as part of license renewal pursuant to 10 CFR Part 54. Further refinement beyond determining whether a SAMA is potentially cost beneficial is not necessary for an objective evaluation. Nevertheless, potentially cost-beneficial alternatives are identified and considered as part of the license renewal process, and licensees often commit to further evaluate the most promising cost-beneficial SAMAs among those that have been identified, for possible future implementation in order to further reduce plant risk, as Entergy has done for Indian Point. Such a commitment to perform a further evaluation is not a condition of granting a renewed license. Accordingly, a license renewal applicant's decision to defer this further evaluation of the potentially cost-beneficial SAMAs which it has identified, to some point in the future (i.e., outside the license renewal SAMA review), is acceptable.

FSEIS Appendix A at A-127. *Undisputed.*

8. New York filed its Contentions 35 and 36 on March 11, 2010. The Board admitted those contentions, in part, and consolidated them into Contention NYS-35/36 on June 30, 2010. *See Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-10-13, slip op. at 29 (June 30, 2010). *Undisputed.*

9. The Final SEIS was issued on December 3, 2010, approximately nine months after New York filed Contentions 35 and 36, and approximately five months after the Board issued its ruling in LBP-10-13. New York has not amended Contention NYS-35/36 following the Staff's issuance of its Final SEIS. *Undisputed.*

Respectfully submitted,

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Dated: February 23, 2011

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**ATOMIC SAFETY AND LICENSING BOARD**

-----x  
In re:

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

License Renewal Application Submitted by

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

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

DPR-26, DPR-64

February 23, 2011  
-----x

CERTIFICATE OF SERVICE

I hereby certify that on February 23, 2011, copies of the State of New York's Combined Reply to Entergy And Staff Cross-Motions For Summary Disposition On NYS Combined Contentions 35 And 36 Concerning The December 2009 Severe Accident Mitigation Alternative Reanalysis, were served upon the following persons via U.S. Mail and e-mail at the following addresses:

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