No. 06-1142

UNITED STATES COURT OF APPEALS
FOR THE SEVENTH CIRCUIT

Environmental Law and Policy Center, Blue Ridge Environmental Defense League, Nuclear Energy Information Service, Nuclear Information and Resource Service, and Public Citizen,

Petitioners,

vs.

United States Nuclear Regulatory Commission and the United States of America,

Respondents.

On Appeal from the United States Nuclear Regulatory Commission, No. CLI-05-29

OPENING BRIEF OF PETITIONERS

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RULE 26.1 DISCLOSURE STATEMENT

Appellate Court No.: 06-1142

Short Caption: Environmental Law and Policy Center, et al. v. United States Nuclear Regulatory Commission, et al.

(1) The full name of every party that the attorney represents in this case (if the party is a corporation, you must provide the corporate disclosure information required by Fed. R. App. P. 26.1 by completing item #3):

Environmental Law and Policy Center, Blue Ridge Environmental Defense League, Nuclear Energy Information Service, Nuclear Information and Resource Service, and Public Citizen

(2) The names of all law firms whose partners or associates have appeared for the party in the case (including proceedings in the district court or before an administrative agency) or are expected to appear for the party in this court:

Environmental Law & Policy Center
Harmon, Curran, Spielberg & Eisenberger LLP

(3) If the party or amicus is a corporation:

(i) Identify all its parent corporations, if any: and

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(ii) list any publicly held company that owns 10% or more of the party's or amicus stock:

N/A

Attorney's Signature: _____ Date: _____

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Please indicate if you are Counsel of Record for the above parties pursuant to Circuit Rule 3(d). Yes __X___ No _____

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STATEMENT OF JURISDICTION

1. The United States Nuclear Regulatory Commission ("NRC') had jurisdiction, pursuant to the Atomic Energy Act, 42 U.S.C. §§ 2011-2259, to review Exelon Generating Company's application for an Early Site Permit ("ESP") to build a new nuclear power plant in Clinton, Illinois.

2. This Court has jurisdiction under 42 U.S.C. § 2239(b) and 28 U.S.C. § 2342(4) because this petition challenges the final agency orders from the NRC and its Atomic Safety Licensing Board ("Board") dismissing Petitioners' intervention in the ESP administrative proceeding. The claims before this Court of Appeals arise under the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, the Atomic Energy Act, and the Administrative Procedure Act, 5 U.S.C. §§ 701-706.

3. The NRC entered its final order affirming the Board's dismissal of Petitioners' intervention in the ESP permit proceeding on December 12, 2005. Petitioners filed their Petition for Review under Federal Rule of Appellate Procedure 15 on February 8, 2006. The United States is a party to this case (through its agency defendant NRC). This Petition is timely because 28 U.S.C. § 2344 requires filing of a petition for review within 60 days after entry of a final order by the NRC.

4. This petition is from a final order because the NRC dismissed the Petitioners from the administrative proceeding, and the Court of Appeals has jurisdiction to hear this case for the reasons set forth above.

STATEMENT OF THE ISSUES PRESENTED FOR REVIEW

1. Whether the United States Nuclear Regulatory Commission's ("NRC") exclusion of energy efficiency and clean energy alternatives that are different than a private energy company's own goals to site and build a proposed new nuclear plant violated the National Environmental Policy Act's ("NEPA") required "searching and independent inquiry" and "hard look" and unlawfully constrained the NEPA environmental review process under the holdings in *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997) and *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519 (1978)?

2. Whether the NRC's dismissal of clean energy alternatives to Exelon's proposed new nuclear plant without a full and fair evidentiary hearing and on the basis of Exelon's flawed discussion of alternatives is contrary to the "rigorous exploration and objective evaluation" of alternatives required by NEPA, 40 C.F.R. § 1502.14, as interpreted by *Simmons* and *Vermont Yankee*?

3. Whether the NRC violated NEPA and acted contrary to law by refusing to consider the comparative costs of energy efficiency and clean energy alternatives versus Exelon's proposed new nuclear plant? 40 C.F.R. § 1502.14, 10 C.F.R. § 51.71(d), *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir. 1996).

4. Whether the NRC failed to comply with its legal duty under NEPA, 40 C.F.R. § 1502.14, to consider a combination of clean energy alternatives to Exelon's proposed new nuclear plant when it rejected any beneficial role for wind power and energy efficiency in such a combination?

STATEMENT OF THE CASE

This appeal presents the legal questions of whether the Nuclear Regulatory Commission ("NRC") violated the National Environmental Policy Act and the Administrative Procedure Act by failing to conduct the required "rigorous exploration and objective evaluation" of reasonable energy efficiency and clean wind power, solar power, natural gas and "clean coal" energy alternatives to a private energy generating company's requested permit to site a new nuclear power plant, by relying upon the company's limited self-defined business purpose of siting a new nuclear plant as the basis to exclude any evidence on energy efficiency alternatives because they did not "achieve Exelon's goal," and by skewing the cost/benefit analysis and the combination of alternatives in order to dismiss the Petitioners' clean energy alternatives contention without a full and fair evidentiary hearing. National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321-4347; *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council*, 435 U.S. 519 (1978); *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997).

On January 10, 2004, Petitioners moved to intervene in an NRC proceeding regarding Exelon Generating Company's ("Exelon") application for an Early Site Permit for a new nuclear power plant in Clinton, Illinois. Petitioners challenged Exelon's application as inadequate under NEPA because the company had failed to "rigorously explore and objectively evaluate" clean energy alternatives – energy efficiency, wind, solar, natural gas, and "clean coal" – to the proposed new nuclear plant, and the NRC must do so under NEPA. Pursuant to 10 C.F.R. § 2.309(f),

Petitioners sought a hearing in order to present a full evidentiary case for a rigorous and objective evaluation of such clean energy alternatives.

The NRC's Atomic Safety Licensing Board ("Board") granted Petitioners' intervention motion. The NRC and its Board, however, first excluded energy efficiency from the set of reasonable alternatives to be considered because it would not "achieve Exelon's goal" to build a new nuclear plant. After Exelon and the NRC Staff submitted their analyses of alternative energy sources, the Board then granted Exelon's motion to dismiss Petitioners from the proceeding. Despite Petitioners' submission of expert testimony demonstrating that Exelon's and the Staff's analyses were "inadequate, biased, inaccurate, and based upon out-of-date information," the Board held that Petitioners were not entitled to a hearing in which there could be cross-examination or questioning of the contradictory analyses. The Board stated there was no genuine dispute of material fact or law regarding the reasonableness of clean energy alternatives.

Petitioners appealed to the NRC, which issued a dismissal order affirming its Board. Petitioners now appeal to this Court because they are entitled to a full and fair evidentiary hearing to make the case that effective combinations of energy efficiency and clean energy resources are reasonable alternatives to Exelon's proposed new nuclear power plant. Under NEPA, the NRC must take an objective "hard look" at this and other alternatives, rather than rely on Exelon's self-defined limited goal and purpose. *Simmons,* 120 F.3d at 666, 670.

STATEMENT OF THE FACTS

On September 25, 2003, Exelon Generating Company submitted its application and Environmental Report ("ER") to the NRC, pursuant to 10 C.F.R. Part 52, seeking an Early Site Permit ("ESP") for a proposed new Clinton 2 nuclear power plant in Clinton, Illinois. An ESP would allow Exelon Generating to bank or reserve the Clinton site for a new nuclear plant for 20 years – with the possibility of an additional 20-year renewal – while the company decides whether to apply for a construction permit for the nuclear plant. 10 C.F.R. §§ 52.27, 52.33.

Exelon Generating is a subsidiary of Exelon Corporation, a utility holding company which also owns Commonwealth Edison Company, the public utility serving more than 3.3 million electricity customers in Northern Illinois. Exelon Generating claims to be a wholesale power generating company, which sells electricity in the open market, rather than a public utility obligated to serve the power needs of retail residential, commercial and governmental consumers in Illinois. Exelon Generating states that it has no obligation to provide the power generated by its proposed new nuclear plant to Illinois consumers and that it will seek to sell the power wherever it can obtain the best market price. (Transcript of Pre-Hearing Conference at 217).[1]

In order to achieve the twin goals of fully informing the public and ensuring well-considered agency decisionmaking, *Vermont Yankee*, 435 U.S. at 558, the

[1] As required by Federal Rule of Appellate Procedure 28(e), citations to documents that Petitioners have not included in the Appendix are to the page numbers of the original documents. Citations to documents in the Appendix are to the Appendix page numbers, in the format A-__.

National Environmental Policy Act ("NEPA") requires an agency to "rigorously explore and objectively evaluate all reasonable alternatives" to a proposed action, 40 C.F.R. § 1502.14, and to take a "hard look" at the environmental impacts of the proposed action and its alternatives. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). NEPA is designed to encourage public participation and better inform governmental decision-making processes.

Petitioners moved to intervene in opposition to the permit, seeking a hearing on what the NRC calls "contentions" challenging the sufficiency of the ESP application and ER.[2] (Petitioners' Hearing Request and Petition to Intervene, Jan. 12, 2004; Petitioners' Supplemental Hearing Request and Petition to Intervene, May 3, 2004). The NRC provides for a hearing when an intervenor demonstrates that a "genuine dispute exists with the applicant/licensee on a material issue of law or fact." 10 C.F.R. § 2.309(f).

Petitioners' Contention 3.1 – the "Clean Energy Alternatives Contention" – challenged Exelon Generating's ("Exelon") failure under NEPA to adequately consider energy efficiency and clean energy resources, both individually and in combination, as alternatives to the proposed new nuclear plant. (Petitioners' Supplemental Hearing Request at 1-14). In support of Contention 3.1, Petitioners submitted a number of studies demonstrating that energy efficiency, wind power,

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[2] A revised version of 10 C.F.R. Pt. 2, which governs the NRC's licensing procedures, went into effect on February 14, 2004. While Exelon's application and Petitioners' intervention motion were filed pursuant to the old version of the Part 2 regulations, on March 8, 2004, the Board granted Exelon's motion to apply the new version of the regulations to this proceeding.

solar energy, natural gas, and "clean coal" in various combinations are reasonable alternatives to a new nuclear plant because they can meet future energy needs with more environmental benefits, more safely and at lower economic costs. (*Id.* at Ex. 1-17).

The NRC utilizes its Atomic Safety and Licensing Board ("Board") panels, which typically include both an attorney and technical members, to hear ESP and other contested permit and licensing cases. The Board assigned to this case issued an Order on August 6, 2004, granting Petitioners' motion to intervene and admitting for consideration, in part, Contention 3.1, in the following amended version:

> The Environmental Review fails to rigorously explore and objectively evaluate all reasonable alternatives. In Section 9.2 of the Environmental Report, Exelon claims to satisfy 10 C.F.R. § 51.45(b)(3), which requires a discussion of alternatives that is "sufficiently complete to aid the Commission in developing and exploring" "appropriate alternatives . . . concerning alternative uses of available resources," pursuant to the National Environmental Policy Act. However, Exelon's analysis is premised on several material legal and factual flaws that lead it to improperly reject the better, lower-cost, safer, and environmentally preferable wind power and solar power alternatives, and fails to address adequately a mix of these alternatives along with gas-fired generation and "clean coal" resource alternatives. Therefore, Exelon's ER does not provide the basis for the rigorous exploration and objective evaluation of all reasonable alternatives to the ESP that is required by NEPA.

(Aug. 6, 2004 Board Order at A-88 to A-89, A-96).

The Board, however, excluded a critical portion of Petitioners' proposed Contention 3.1 by rejecting the consideration of energy efficiency alternatives. (*Id.* at A-88 to A-89). The Board accepted Exelon Generating's argument that its own business purpose is building base load power generation, and that the NRC's

consideration of energy efficiency alternatives would constitute an analysis of the public's "need for power." (*Id.*, *citing* 10 C.F.R. §§ 52.17(a)(2), 52.18).

Petitioners sought interlocutory review by the full NRC because the Board's exclusion of energy efficiency alternatives is inconsistent with the NEPA requirement that the permit applicants' self-interested purpose cannot constrain the alternatives analysis. *Simmons*, 120 F.3d at 667. (Petitioners' Petition for Interlocutory Review, Aug. 23, 2004, at 6-12). Petitioners contended that the private energy companies' business goals could not limit or control the full and fair consideration of alternatives as required by NEPA. The NRC, however, ruled that interlocutory review was not appropriate. (Commission Memorandum and Order, CLI-04-31, Nov. 10, 2004).

On August 23, 2004, the NRC Staff sent Exelon a Request for Additional Information ("RAI") regarding the issues raised in Contention 3.1. On September 23, 2004, Exelon filed its RAI Response purporting to examine clean energy alternatives. (RAI Response at A-157 to A-195). Exelon acknowledged that a combination of wind power, solar power, and natural gas or clean coal "could be used to generate baseload power and would serve the purpose of" the proposed Clinton 2 nuclear plant. (*Id.* at A-174). But Exelon rejected wind power and solar power, both alone and in combination with natural gas and "clean coal" generation, arguing that they are not environmentally preferable and are more costly than new nuclear power. (*Id.* at A-175). The RAI Response, again, did not consider energy

efficiency either alone or in combination with other clean energy generation alternatives.

On March 8, 2005, the NRC Staff issued a Draft Environmental Impact Statement ("Draft EIS") for Exelon Generating's ESP application. (*See* A-196 to A-220). First, the Draft EIS relied upon Exelon's argument that its own goal is to generate baseload power and, thus, rejected energy efficiency, wind power, and solar power alternatives as supposedly not meeting this purpose. (*Id.* at A-199). Then, relying heavily on Exelon's discussions of alternatives, the Draft EIS argued that new nuclear power plants are "preferable" to producing energy from coal, natural gas, or a combination of alternatives that use natural gas. (*Id.* at A-218).

On March 17, 2005, Exelon filed a Motion for Summary Disposition of Contention 3.1 pursuant to 10 C.F.R. § 2.1205. Exelon argued that the shortfalls in its Environmental Report that were identified in Contention 3.1 had been cured by the RAI Response. (hereinafter "Exelon Motion"). Exelon attached an affidavit from a project manager and a consultant discussing clean energy alternatives. Exelon argued that the affidavit, along with the RAI Response and the Draft EIS, satisfied the NEPA-required exploration and evaluation of all reasonable alternatives, and that there were no genuine issue of material law or fact regarding clean energy alternatives. (*Id.*)

Petitioners filed a Response to Exelon's Motion for Summary Disposition and a Motion to Amend Contention 3.1 on April 6 and April 22, 2005, respectively.[3]

[3] Petitioners filed both a response to Exelon's Motion for Summary Disposition and a Motion to Amend Contention 3.1 because of the Board's view that Contention 3.1 was a

Petitioners contended that Exelon was not entitled to summary disposition because the "rigorous exploration and objective evaluation" of reasonable energy efficiency and clean energy alternatives required by NEPA had not been conducted. (Petitioners' Response to Exelon's Motion at 6-16). Petitioners explained that the discussions of alternatives in the RAI Response and Draft EIS relied on by the Board were flawed in four primary ways.

First, the RAI Response and Draft EIS improperly excluded reasonable energy efficiency alternatives contrary to the NEPA's requirements. *Simmons*, 120 F.3d at 667; *Vermont Yankee*, 435 U.S. at 532, 550-56. (Petitioners' Motion to Amend Contention 3.1 at 8-10). Second, they overestimated the environmental impacts of clean energy alternatives and underestimated the impacts of a nuclear plant, leading to the flawed conclusion that nuclear power is environmentally preferable to wind power, solar power and other clean energy alternatives. (*Id.* at 10-14). Third, they improperly rejected evidence that the clean energy alternatives would be less costly than a new nuclear plant. (*Id.* at 14-17). Fourth, they inadequately assessed combinations of reasonable clean energy alternatives. (*Id.* at 17-20).

"contention of omission," alleging only that Exelon had omitted the required alternatives analysis. If Contention 3.1 were a contention of omission, then any response to the substance of the additional discussions of clean energy alternatives found in Exelon's filings and the Draft EIS had to take the form of a Motion to Amend Contention 3.1 rather than a response to Exelon's motion. (Board Order, Mar. 23, 2005 at 2-3; Board Order, Mar. 30, 2005 at 5-6). Petitioners believed that Contention 3.1 was not a contention of omission, but, instead, challenged the substance of Exelon's consideration of alternatives. Therefore, Petitioners also addressed the substance of Exelon's additional analysis in a response to the Motion for Summary Disposition.

Petitioners supported their responses by submitting a detailed expert affidavit from Bruce Biewald of Synapse Energy Economics, Inc. (*See* Biewald Affidavit, A-97 to A-125). Biewald's affidavit presented a detailed explanation of the comparative environmental benefits and economic costs of a new nuclear plant and various clean energy alternatives.

On July 28, 2005, the Board issued an Order granting Exelon's Motion for Summary Disposition and denying Petitioners' Motion to Amend Contention 3.1. (*See* A-16 to A-72). The Board ruled that there were no genuine issues of material law or fact regarding the clean wind power, solar power, natural gas and "clean coal" energy alternatives, having already excluded any consideration of energy efficiency alternatives. The Board terminated the contested portion of the ESP proceeding without holding an evidentiary hearing in which Petitioners would have an opportunity to be heard and question and cross-examine witnesses providing the basis for Exelon's arguments and also would be able to put on additional responsive expert witness testimony.

Petitioners then filed a Petition for Review with the NRC, and, on December 12, 2005, the NRC issued an Order affirming the Board's ruling. (*See* A-1 to A-15). On February 8, 2006, Petitioners filed this appeal.

SUMMARY OF THE ARGUMENT

The NRC violated NEPA and the APA in summarily dismissing Petitioners' Clean Energy Alternatives Contention 3.1 without holding a full evidentiary

hearing by relying upon Exelon's self-serving and constrained definition of the project purpose that foreclosed the "rigorous exploration and objective evaluation of all reasonable alternatives." *Simmons*, 120 F.3d at 669. No party in this proceeding disputed the fact that energy efficiency is a viable and cost-effective way to satisfy future energy needs (Petitioners' Supplemental Hearing Request at 7-8 and Ex. 3-13), and Exelon actually acknowledged that a combination of wind, solar, and natural gas or "clean coal" "could be used to generate baseload power and would serve" Exelon's purpose for the proposed Clinton 2 facility. (RAI Response at A-174).

However, rather than grant a hearing at which these alternatives could be "rigorously explored and objectively evaluated," the NRC and its Board declined to even consider energy efficiency alternatives at all because they did not "achieve Exelon's goals," and rejected clean energy alternatives because they are purportedly not environmentally preferable and are supposedly more costly than new nuclear power. The NRC's conclusion that there is no genuine dispute with Exelon on a material issue of law or fact is arbitrary and capricious, and contrary to law. The NRC's "no look" on energy efficiency alternatives is contrary to NEPA's required "hard look."

The NRC's ruling is legally and factually flawed on four grounds. First, the NRC's exclusion of energy efficiency as inconsistent with Exelon's limited business goal of generating baseload power is "a losing proposition in the Seventh Circuit," *Simmons*, 120 F.3d at 669, and contrary to the holding in *Vermont Yankee*, 435 U.S. at 552-53, that "the concept of alternatives is an evolving one." The rejection of

energy efficiency is also contrary to the NRC's role as an independent regulatory agency – an objective evaluator under NEPA. It is based on an erroneous view of the NRC's required rigorous exploration of alternatives under NEPA and is based on the improper assumption that Exelon cannot arrange through its other subsidiaries or otherwise to implement energy efficiency programs and technologies.

Second, the NRC failed to engage in the rigorous exploration and objective evaluation of clean energy alternatives required by NEPA and, instead, adopted Exelon's flawed analysis of alternatives without holding a hearing to enable questioning and rebuttal, once again in violation of *Simmons* and *Vermont Yankee.*

Third, the NRC violated NEPA by refusing to consider the comparative costs and benefits of clean energy alternatives versus a new nuclear power plant.

Fourth, the NRC's consideration of a combination of alternatives was flawed because it ignored any beneficial role for wind power or energy efficiency.

Petitioners are not now asking this Court to rule on the ultimate merits of siting this new nuclear plant versus the energy efficiency and clean energy alternatives. Instead, Petitioners respectfully request that the Court reverse the NRC's order finding that there is no genuine dispute regarding material issues of law or fact on the reasonableness of alternatives. The NRC's Order was arbitrary and capricious, and contrary to the law under NEPA and the APA in this regard and should be reversed and remanded. Furthermore, the Court should reverse the NRC's Order excluding consideration of energy efficiency alternatives and remand for a full hearing on Petitioners' Amended Clean Energy Alternatives Contention

3.1, with energy efficiency alternatives included. The Court should direct the NRC to provide a full and fair evidentiary hearing allowing for a rigorous exploration and objective evaluation of energy efficiency alternatives and clean energy alternatives, alone and in combination, with comparative costs, safety and environmental impacts analyzed. Such a hearing would allow for the "fully informed and well-considered" decisionmaking required by NEPA. *Vermont Yankee*, 435 U.S. at 558.

The NRC's ruling, if allowed to stand, could make it essentially impossible for any party to obtain a hearing on reasonable alternatives to new nuclear power in NRC licensing proceedings. With energy efficiency excluded, the applicant's limiting self-serving own business purpose deemed to be controlling, and comparative costs not even considered, an intervenors meaningful opportunity to raise reasonable alternatives is unduly constrained and largely negated. This result is plainly inconsistent with the "searching inquiry into alternatives" that is mandated by NEPA, *Simmons*, 120 F.3d at 666, and the well-informed decisionmaking that NEPA envisions, *Vermont Yankee*, 435 U.S. at 558.

ARGUMENT

Judicial review here is pursuant to the Administrative Procedure Act ("APA"), which requires this Court to reverse the NRC's decision if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." 5 U.S.C. § 706(2)(A). While an agency is entitled to some deference under this standard, APA review is "not toothless," *City of West Chicago v. U.S. Nuclear*

Regulatory Comm'n, 701 F.2d 632, 648 (7th Cir. 1983), and requires a "thorough, probing, in-depth review." *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415 (1971). The standards of the APA are violated if the "agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983). Under the APA, "the reviewing Court shall decide all relevant questions of law." 5 U.S.C. § 706; *Smith v. Office of Civilian Health & Medical Program of the Uniformed Services*, 97 F.3d 950, 954-55 (7th Cir. 1996).

"The federal courts cannot condone an agency's frustration of Congressional will. If the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS [Environmental Impact Statement] cannot fulfill its role. Nor can the agency satisfy the [National Environmental Policy] Act." *Simmons*, 120 F.3d at 666, *citing* 42 U.S.C. § 4332(2)(E).

I. THE NRC'S REJECTION OF ENERGY EFFICIENCY ALTERNATIVES VIOLATES NEPA, AS APPLIED BY THIS COURT IN *SIMMONS* AND IS CONTRARY TO THE NRC'S ROLE AS AN INDEPENDENT REGULATORY AGENCY REQUIRED TO MAKE A RIGOROUS EXPLORATION AND OBJECTIVE EVALUATION OF REASONABLE ALTERNATIVES.

This Court of Appeals held in *Simmons v. U.S. Army Corps of Engineers* that "NEPA mandates a searching inquiry into alternatives" and that an agency may not so narrowly define the purpose of a project that it excludes full and fair consideration of reasonable alternatives. *Simmons,* 120 F.3d at 666. "The broader the purpose, the wider the range of alternatives; and vice versa. The 'purpose' of a project is a slippery concept, susceptible of no hard-and-fast definition. One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing "reasonable alternatives" out of consideration (and even out of existence)." *Id.*

That is largely what the NRC did in this case. The NRC rigged the rules to completely refuse to consider energy efficiency as an alternative to siting and operating a new nuclear plant. Petitioners made a strong showing that energy efficiency is a cheaper, safer, and environmentally cleaner way to meet future energy needs (Biewald Affidavit, A-97 to A-125; Petitioners' Supplemental Hearing Request, Ex. 3-17), and neither Exelon nor the NRC Staff disputed that showing.

The Board, however, concluded that energy efficiency alternatives should be excluded because they do not fit Exelon's self-defined limited purpose of creating baseload generating power, they would require analysis of the need for power, and Exelon Generating supposedly cannot arrange to implement energy efficiency

efforts. (Board Order at A-32 to A-38). The NRC affirmed these findings. (Commission Order at A-5 to A-8). The NRC's reasoning violates NEPA and its own regulations, as a matter of law, and is factually erroneous as well.

A. The NRC's Adoption Of Exelon's Limited Project Purpose Is Contrary To The Independent Objective Evaluation Required By NEPA As This Court Held in *Simmons.*

The NRC's primary error in rejecting consideration of energy efficiency alternatives was by limiting its analysis of alternatives only to those that would "achieve Exelon's goal" of creating baseload power. (Commission Order at A-5). This Court has held that such blind adoption of the applicant's goals is "a losing proposition" because it does not allow for the full consideration of alternatives required by NEPA. *Simmons*, 120 F.3d at 669; *see also Van Abbema v. Fornell*, 807 F.2d 633, 636 (7th Cir. 1986); *Southern Utah Wilderness Alliance v. Norton*, 237 F. Supp. 2d 48, 53 (D.D.C. 2002); *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, 46 Fed. Reg. 18026, 18027 (1981) ("reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant").

NEPA requires an agency "to exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project," and look at the general goal of the project rather than only those alternatives by which a particular applicant can reach its own specific goals. *Simmons*, 120 F.3d at 669. Here, the

NRC simply adopted Exelon's business goal of generating baseload power and used that limited purpose to exclude an objective evaluation of energy efficiency alternatives.

In assessing the potential environmental impacts of a new nuclear plant in Central Illinois, the NRC must take a "hard look" at reasonable alternatives. Energy efficiency presents a reasonable, feasible and cost-effective alternative – alone, and in combination with other clean energy alternative resources. (Petitioners' Supplemental Hearing Request at 7-9). In fact, both the State of Illinois and the United States Government have recognized that energy efficiency plays a key role in addressing future energy needs. *See e.g.*, 20 ILCS 1120/2 (policy of Illinois is "to become energy self-reliant to the greatest extent possible, primarily by the utilization of the energy resources available within the borders of this State, and by the increased conservation of energy"); 42 U.S.C. § 6201 *et seq.* The Board's acceptance of a purpose that excludes this reasonable energy efficiency alternative is, therefore, inconsistent with NEPA. *Simmons*, 120 F.3d at 669; *Southern Utah Wilderness*, 237 F. Supp. 2d at 53.

The NRC attempts to justify its adoption of Exelon's narrow goal by citing to *Citizens Against Burlington v. Busey*, 938 F.2d 190 (D.C. Cir. 1991), to claim that it must defer. (Commission Order at A-6). This Court, however, rejected *Busey's* constrained view of NEPA in *Simmons*, 120 F.3d at 669. In addition, to the extent that *Busey* is relevant, it requires only that an agency take the goals of an applicant into account. The agency must still independently identify a purpose that is broad

enough to allow for the consideration of all reasonable alternatives. *Southern Utah Wilderness*, 237 F. Supp. 2d at 53 ("An agency is obligated to take the needs and goals of the project applicant in mind when considering alternatives [*Busey*], but that obligation does not limit the scope of the agency's analysis to what the applicant says it needs.").

In *Simmons,* this Court held that the Army Corps of Engineers violated its duty to fully consider alternatives because it looked only at a dam applicant's constrained purpose, which favored its preferred project plan. "If NEPA mandates anything, it mandates this: a federal agency cannot ram through a project before first weighing the pros and cons of the alternatives. In this case, the officials of the Army Corps of Engineers executed an end-run around NEPA's core requirement. By focusing on the single source idea, the Corps never looked at an entire category of reasonable alternatives and thereby ruined its environmental impact statement." *Simmons*, 120 F.3d at 670.

Here, the NRC has likewise stacked the deck against reasonable alternatives by adopting Exelon's limited business purpose, which favors its proposed new nuclear plant and prevents full and fair consideration of energy efficiency alternatives in combination with clean wind power, solar power, natural gas and "clean coal" alternatives. The NRC has "executed an end-run around NEPA's core requirement" and "never looked at an entire category of reasonable alternatives." *Simmons*, 120 F.3d at 670.

The NRC's approach is also inconsistent with its role as an independent regulatory body. NRC regulations require that licensing proceedings be conducted in a manner that is "receptive to environmental concerns and consistent with the Commission's responsibility as an independent regulatory agency for protecting the radiological health and safety of the public." 10 C.F.R. § 51.10(b). In this role, the agency is to "independently consider" and "determine" whether NEPA has been complied with and whether the ESP license should be issued, denied, or conditioned. 10 C.F.R. § 51.105(a)(1)-(3). These regulations make clear that the NRC should have independently defined the purpose and range of alternatives and "rigorously explored and objectively evaluated" them, as NEPA requires, rather than blindly adopting Exelon's business goal as a means of excluding reasonable energy efficiency alternatives that offer cost, environmental and safety benefits.

B. The NRC's Rejection Of Energy Efficiency Alternatives Runs Contrary To The Evolving Concept Of Alternatives Recognized In *Vermont Yankee.*

The NRC's exclusion of energy efficiency alternatives also turns the U.S. Supreme Court's holding in *Vermont Yankee* on its head. In that case, the NRC engaged in "a thorough examination of the record" to determine if energy efficiency alternatives were "reasonably available" and capable of sufficiently reducing energy needs to a point that the proposed new nuclear plant would not be needed. *Vermont Yankee*, 435 U.S. at 533. While the NRC ultimately rejected the energy efficiency alternatives, it did so only after numerous failed attempts to get the petitioner to

provide more information regarding the alternative. *Id.* In affirming, the Court noted that energy efficiency was a new and relatively undeveloped idea and held that "the concept of 'alternatives' is an evolving one, requiring the agency to explore more or fewer alternatives as they become better known and understood." *Id.* at 552-53.

Twenty-eight years after *Vermont Yankee*, energy efficiency is no longer an undeveloped idea. It has, indeed, "evolved" significantly. Petitioners have shown that energy efficiency is a feasible alternative, alone and in combination with clean energy generation alternatives, to meet energy needs at a lower environmental and economic cost than a new nuclear plant and can do so without radiological and other nuclear safety hazards. However, while energy efficiency is "better known and understood," *id.*, the NRC has not even engaged here in the thorough review of that alternative that it did in the 1970s. The NRC approach in this case is plainly contrary to the Supreme Court's holding in *Vermont Yankee* and must be reversed.

C. The NRC's Refusal To Consider The "Need For Power" Violates NEPA Because "Need" Must Be Objectively Evaluated As Part Of The Alternatives Process.

The NRC also attempted to justify its exclusion of energy efficiency alternatives on the ground that this consideration "is a surrogate for examination of the 'need for power'" which NRC regulations, 10 C.F.R. §§ 52.17(a)(2), 52.18, do not require. (Commission Order at A-5; Board Order at A-36 to A-37). The NRC's regulations actually do not foreclose consideration of the need for power. In reality, the regulations are permissive, providing only that an EIS "need not include" an

assessment of benefits such as the need for power. 10 C.F.R. §§ 52.17(a)(2); 52.18. In any event, the NRC's argument fails for two basic reasons.

First, the identification and discussion of the need or purpose for a project is a required and critical component of an alternatives analysis under NEPA. As this Court explained in *Simmons*, 120 F.3d at 666, an agency must first identify the need for the project because that forms the baseline by which the reasonableness of various alternatives are measured. *See also* 40 C.F.R. § 1502.13; *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

Second, even if NEPA did not require consideration of the need for power in all cases, that consideration is necessary here because the Board, Exelon, and the NRC Staff have all identified and relied on a presumed need for power – i.e., the generation of baseload power – to guide their consideration and rejection of better, cheaper, safer and cleaner alternatives to a proposed new nuclear plant. Where a need has been identified as the basis for the consideration of alternatives, NEPA requires that the identified need be analyzed. *Natural Resources Defense Council v. U.S. Forest Serv.*, 421 F.3d 797 (9th Cir. 2005) (reliance on erroneous projections of need for timber rendered EIS for forest plan invalid); *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446-48 (4th Cir. 1996); *North Carolina Alliance for Transp. Reform, Inc. v. U.S. Dept. of Transp.*, 151 F. Supp. 2d 661, 688 (M.D.N.C. 2001) (EIS invalid where need statement based on inflated traffic projections). It was plainly arbitrary and capricious for the Commission to identify a need for power in order to reject some alternatives, but then to decline to consider

the energy efficiency alternatives because they could mitigate and help avoid the need for power.

D. The NRC's Conclusion That Exelon Cannot Implement Energy Efficiency Efforts Is Clearly Erroneous And Does Not Justify Rejection Of Energy Efficiency Alternatives Under NEPA.

Finally, the NRC erroneously suggests that energy efficiency need not be considered because Exelon Generating cannot carry out energy efficiency efforts under Illinois' somewhat deregulated utility system. (Commission Order at A-6 to A-7; Board Order at A-37). This ruling is incorrect for three reasons.

First, Commonwealth Edison, a public utility affiliate of Exelon Generating, and a fellow subsidiary of Exelon Corporation, the ESP applicant's parent company, is fully capable of arranging to implement energy efficiency programs that would help to reduce future energy needs. Exelon Generating could also arrange with an outside party to conduct energy efficiency programs. Exelon's apparent desire not to do so is not sufficient reason to preclude the NRC's required "rigorous exploration and objective evaluation" of this reasonable alternative.

Second, as a governmental agency acting on the public's behalf, the NRC should not refuse to consider energy efficiency alternatives just because the nuclear plant site permit applicant does not itself want to do so. Indeed, that responsibility goes to the very core of an independent, "objective" public agency's role.

Third, the NRC's conclusion violates NEPA case law requiring the consideration of reasonable alternatives even if they are outside the scope of the

applicant's or agency's authority. *See, e.g.*, 40 C.F.R. § 1502.14(c); *Forty Questions*, 46 Fed. Reg. at 18027; *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 814 (9th Cir. 1999); *Cf. Natural Resources Defense Council, Inc. v. Hodel*, 865 F.2d 288, 295-96 (D.C. Cir. 1988). This requirement makes sense because NEPA is designed not to dictate a certain result, but to ensure that all relevant information regarding the wisdom of a proposed action and possible alternatives are "rigorously explored and objectively evaluated." Therefore, even if energy efficiency alternatives were somehow outside Exelon Generating's desire and ability to implement, which they are not, they must be examined by the NRC as a reasonable alternative, alone and in combination with other clean energy sources, to siting a new nuclear plant in Clinton, Illinois. The NRC's conclusion to the contrary is erroneous as a matter of law.

For the foregoing reasons, the Court should reverse the NRC's order and remand to the agency for a full and fair evidentiary hearing providing a rigorous exploration and objective evaluation of energy efficiency alternatives, alone, and in combination with the other clean energy alternatives raised by the Petitioners in Amended Clean Energy Alternatives Contention 3.1.

II. THE NRC VIOLATED NEPA BY FAILING TO HOLD A FULL EVIDENTIARY HEARING FOR A RIGOROUS EXPLORATION AND OBJECTIVE EVALUATION OF CLEAN ENERGY ALTERNATIVES.

The NRC next erred as a matter of law by failing to engage in a rigorous exploration and objective evaluation of reasonable clean energy alternatives –

energy efficiency, wind, solar, natural gas, and "clean coal." The requirements and goals of NEPA are clear: an agency must "rigorously explore and objectively evaluate all reasonable alternatives," 40 C.F.R. § 1502.14(a), and to take a "hard look" at the environmental impacts of the proposed action and its alternatives. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). This "searching inquiry," *Simmons*, 120 F.3d at 666, is designed to ensure that agency decisions are "fully informed and well-considered," *Vermont Yankee*, 435 U.S. at 558, and that the public understands the "comparative merits" of the proposed action and its alternatives. 40 C.F.R. § 1502.14(b); *Robertson*, 490 U.S. at 350.

Unfortunately, the NRC did not engage in a "searching inquiry" of clean energy alternatives. Petitioners made a strong showing that energy efficiency, wind, solar, natural gas, and "clean coal" power, individually and in combination, are cheaper, safer and more environmentally sound than a new nuclear power plant for meeting future energy needs. (Biewald Affidavit, A-97 to A-125; Petitioners' Supplemental Request for Hearing, Ex. 3-13). The NRC, however, did not rigorously explore and objectively evaluate these clean energy alternatives further by holding a hearing at which a full evidentiary record regarding the "comparative merits," 40 C.F.R. § 1502.14(b), could be developed and Exelon Generating's claims could be challenged through cross-examination and additional direct expert testimony. Instead, the NRC simply dismissed these alternatives on the basis of the flawed claims of Exelon and the NRC Staff (in their Draft EIS, which largely adopted Exelon's analysis) that such alternatives were not environmentally preferable to a

new nuclear power plant. This is not the rigorous and objective analysis required by NEPA. *Simmons*, 120 F.3d at 669. The NRC's conclusion that there is no genuine dispute on material issues of law and fact is clearly erroneous. (Commission Order at A-9 to A-15).

As with the agency's wholesale rejection of energy efficiency, the NRC's approach to clean energy alternatives turns *Vermont Yankee* on its head. The Supreme Court affirmed the NRC's consideration of alternatives in that earlier case, but only after concluding that the agency had engaged in an extensive and careful review of impacts and alternatives. *Vermont Yankee*, 435 U.S. at 533-34 (noting that NRC engaged in "thorough examination of the record" and made numerous attempts to get additional information from petitioners). The Court held that the thorough inquiry was sufficient to ensure that the NRC's decision was fully-informed and well considered. *Id.* at 558. By contrast, in the present case, the NRC rejected clean energy alternatives on the basis of Exelon's arguments (and the repetition of those claims in the Draft EIS), without even holding a hearing where the disputed claims and arguments could be effectively tested and challenged.

The NRC's legal error is especially egregious given the flaws in the Exelon filings (and the Draft EIS) that the agency deferred to. Exelon used terminology developed for existing nuclear plant license extension proceedings, 10 C.F.R. Pt. 51. The environmental and cost impacts of siting, building, and operating an entirely new nuclear plant are both qualitatively and quantitatively different, in large measure. Nonetheless, Exelon and the NRC Staff concluded that all of the impacts

of a new nuclear plant are SMALL, while the impacts of clean energy alternatives range from SMALL to LARGE. They did concede that, for at least some combinations, the clean energy alternatives impacts would be SMALL.[4] (RAI Response at A-164, A-169, A-171; Draft EIS at A-211 to A-212). (To be clear, energy efficiency alternatives were totally excluded.)

That "analysis" borders on the absurd. Moreover, as Petitioners explained to the Board and NRC, that "analysis" nonetheless failed for two reasons to demonstrate that clean energy alternatives were not environmentally preferable to a new nuclear plant:

First, the Exelon and NRC Staff discussions ignored the facts that a new nuclear plant would impact significantly more resources than the clean energy alternatives. A new nuclear plant would have land use, air quality, thermal, aesthetic, water use and quality, human health, accident, ecological, and waste management impacts. (Exelon's Statement of Facts in Support of Motion for Summary Disposition at 4-10, ¶¶ I.E.1-14; Draft EIS at 5-80 to 5-82, Table 5-15). By contrast, wind power would have only land use, bird, aesthetic, and noise impacts, while natural gas would have only air quality, water quality, aesthetics, and ecological impacts. (Biewald Affidavit at A-108, A-120; Draft EIS at A-210, A-211, A-219). With all of the impacts of a new nuclear plant and the alternatives

[4] The Draft EIS asserts that the ecological, water quality and aesthetic impacts of natural gas could be MODERATE or even LARGE. (Draft EIS at A-210, A-211, A-219). This claim that the impacts of natural gas on these resources might be greater than that of nuclear power is, however, arbitrary and capricious as no reason is provided for why building a natural gas plant on the Clinton site would have any greater ecological, aesthetic or water impacts than a new nuclear power plant. (Biewald Affidavit at A-109)

categorized as SMALL, it was plainly erroneous to conclude that wind and natural gas – which would impact only four resources – are not environmentally preferable to nuclear power – which would impact at least 10 resources including human health. (Biewald Affidavit at A-108)

The NRC concluded that this argument amounted to nothing more than a "bare assertion," which could be rejected because an alternative that impacts only one resource very severely could have a greater total impact than an alternative that impacts many resources only minimally. (Commission Order at A-11; Board Order at A-55). The severity of impacts, however, are already accounted for by the fact that both Exelon and the NRC Staff categorized all of the environmental impacts for both a new nuclear plant and clean energy alternatives as SMALL. With each of the various impacts characterized as SMALL, it is clear that the number of resources impacted is the relevant factor for determining the total environmental impact of the proposed new nuclear plant project versus alternatives. The NRC's conclusion to the contrary was arbitrary and capricious.

Second, the NRC ignored clear evidence that Exelon and the NRC Staff overestimated the impacts of clean energy alternatives and underestimated the impacts of the proposed new nuclear plant. (Biewald Affidavit at A-103 to A-105; Petitioners' Motion to Amend Contention 3.1 at 12-14). For example, the Board concluded that Exelon properly determined that wind power would impact approximately the same or more acres of land as a new nuclear plant would. (Board Order at A-57 to A-58). Yet this acre-by-acre comparison of land use impacts does

not account for the differences in the severity and duration of those impacts. (Biewald Affidavit at A-103 to A-105). The mining and enrichment of uranium, safety and operating risks of a nuclear plant, handling of highly radioactive nuclear fuel rods, and the storage and disposal of highly radioactive nuclear wastes are all incompatible with other land uses and can impact land for up to tens of thousands of years. By contrast, wind power facilities can be sited on agricultural lands with farm operations continuing, and can be removed without the need for significant remediation to the land. (*Id.*). Wind power and a nuclear plant plainly do not have comparable land use impacts.

NEPA requires the NRC to ensure that its analysis of alternatives was fully informed, rigorous and objective, and based on accurate information. The NRC did not do this. Nor were the Petitioners allowed to reasonably question, challenge and cross-examine Exelon's representatives who submitted written reports which the NRC relied upon. Therefore, the Court should reverse and remand the proceeding to the NRC for a hearing on Petitioners' Amended Clean Energy Alternatives Contention 3.1.

III. THE NRC VIOLATED NEPA BY REFUSING TO CONSIDER THE COMPARATIVE COSTS OF THE NEW NUCLEAR PLANT AND THE CLEAN ENERGY ALTERNATIVES.

The NRC also erred in refusing to consider the comparative costs of the new nuclear plant and the clean energy alternatives. The Courts have made clear that "NEPA requires agencies to balance a project's economic benefits against its adverse

environmental effects" as part of the EIS process, *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir. 1996), because costs are relevant to the consideration of the proposed project and its alternatives. *Id.*; *Communities, Inc. v. Busey*, 956 F.2d 619, 627 (6th Cir. 1992) (holding that alternatives may be rejected under NEPA if they involve extraordinary costs); *South La. Envtl. Council, Inc. v. Sand*, 629 F.2d 1005, 1011-12 (5th Cir. 1980). The Petitioners provided evidence that the U.S. Department of Energy and Massachusetts Institute of Technology both estimate that a new nuclear plant would be uneconomical, and that Exelon's claim that the nuclear plant would be cheaper than other alternatives is based on overly optimistic assumptions. (Biewald Affidavit at A-110 to A-114). In direct conflict with established law under NEPA, however, the NRC refused to even consider costs in comparing alternatives in this proceeding.

The NRC asserted that costs need not be considered during the ESP proceedings because they will be addressed at a later construction permit proceeding. (Commission Order at A-13; Board Order at A-48 n. 124, A-61). NEPA, however, does not exempt federal agency actions, including the ESP process, from economic analysis. Once an agency determines that preparation of an EIS is required by NEPA, the agency must provide a full discussion of the components critical to comparing alternatives. 40 C.F.R. § 1502.14.

Delaying consideration of costs is especially inappropriate here because the alternatives analysis would already have been completed by the time of the

construction permit proceeding. That would create the possibility that the later cost analysis would simply be used to "rationalize or justify decisions already made." 40 C.F.R. § 1502.5. This risk is especially acute because an ESP would enable Exelon to begin site preparation and preliminary construction activities in advance of actually seeking a construction permit. The ESP can be "banked" for 20 years with an opportunity to extend for an additional 20 years.

The NRC also claimed that its refusal to consider costs is justified by 10 C.F.R. § 52.18, but that regulation purports to allow exclusion of the analysis of "benefits," not costs. The Board's reading of the phrase "benefits" to include "costs" is inconsistent with the plain meaning of those terms; "costs" and "benefits" are antonyms, not synonyms.

More fundamentally, the NRC's whole approach is inconsistent with its own regulations, which require that a Draft EIS "include consideration of the *economic*, technical, and other *benefits and costs* of the proposed action and alternatives...". 10 C.F.R. § 51.71(d) (emphasis added). Had the NRC wished to try to exclude the consideration of costs (in contravention of NEPA), the agency would have included the word "costs" in 10 C.F.R. § 52.18 and not included it in 10 C.F.R § 51.71(d).

In addition, even if the word "benefits" in 10 C.F.R. § 52.18 does refer to costs, that regulation is permissive, not prohibitive. In particular, the regulation provides only that the Commission "need not" consider benefits, not that the consideration of benefits is foreclosed. Where, as here, both Exelon and the NRC Staff have claimed that only cost-effective alternatives are reasonable (RAI

Response at A-173 to A-174; Draft EIS at A-201, A-217), a consideration of costs is plainly required.

Finally, the NRC asserted that projecting costs is "an uncertain endeavor" and, therefore, that costs should be given less weight by the agency. (Board Order at A-64). In essence, having been presented with evidence that a new nuclear plant is not economically viable, the NRC decided to just dodge the issue by deeming it "uncertain." Plainly, uncertainty about an issue is not sufficient to exempt the agency from the requirements of the law.

The Petitioners have presented detailed projections, by respected experts, regarding the comparative costs of nuclear plant and clean energy alternatives, respectively. This evidence is sufficient to show a genuine dispute about the issue of cost, which is material to the evaluation of alternatives under NEPA. Therefore, the Court should reverse the NRC's refusal to consider cost issues as contrary to law, 40 C.F.R. § 1502.14, 10 C.F.R. § 51.71(d), *Hughes River Watershed*, 81 F.3d at 446, and order the NRC to grant Petitioners the hearing they are entitled to under 10 C.F.R. § 2.309(f)(1).

IV. THE NRC VIOLATED NEPA BY DISTORTING THE COMBINATIONS OF CLEAN ENERGY ALTERNATIVES AND THEREBY FAILING TO CONDUCT THE REQUIRED RIGOROUS EXPLORATION AND OBJECTIVE EVALUATION OF ALTERNATIVES.

Finally, the NRC's decision must be reversed because the agency failed to conduct a rigorous exploration and objective evaluation of a combination of clean energy alternatives. Most of the flaws in the consideration of a combination of

alternatives arise from the same errors identified above – i.e. the exclusion of energy efficiency from the combination, an inaccurate evaluation of the impacts of various alternatives, and a refusal to consider the comparative costs of a nuclear power plant and the clean energy alternatives. These legal and factual errors alone are enough to require this Court to reverse and order the Commission to grant Petitioners a hearing regarding the consideration of a combination of clean energy alternatives to the proposed new nuclear plant.

The NRC erred additionally, however, because the discussions of a combination of alternatives in Exelon's RAI Response and the Draft EIS that the agency relied upon are fundamentally flawed. They contrive to artificially diminish the significant potential role of wind power, which then skews the analysis. Exelon's "combination of alternatives" is to build a natural gas plant the size of the proposed new Clinton nuclear plant, and then to assume that the natural gas plant would operate at less than full capacity when wind power or solar power facilities are providing energy. (RAI Response at A-170 to A-171). The Draft EIS also gives short shrift to wind power in the combination of alternatives by including only 60 megawatts of that clean energy resource. (Draft EIS at A-217 to A-218).

These combinations of alternatives are "biased strongly against" clean energy alternatives for a number of reasons. (Biewald Affidavit at A-114 to A-119). First, Exelon's approach ignored the capacity value of intermittent resources such as wind power. (*Id.* at A-115). Most experts credit wind power with a 20% to 35% capacity factor, meaning that a 100 megawatt wind farm will be assumed to produce

between 20 and 35 megawatts of power. (*Id.*). Exelon, however, provided no power producing credit for wind power, instead assuming that it would have to be fully backed up by baseload generation. Crediting the wind power alternative with zero benefit can hardly be considered a consideration of that alternative.

Second, Exelon's approach ignored the reliability problems that large nuclear plants pose for operators of electricity grids. (*Id.* at A-116). The sudden and unplanned loss of a large single source of power can cause reliability problems and requires that a system have greater capacity margins than would be required in a system of smaller, more distributed sources such as wind power. (*Id.*) However, Exelon's analysis overlooked this reliability issue and did not factor the cost and impacts of back-up power for nuclear plants into its analysis. (*Id.*).

Third, Exelon's approach overstated the cost of the combination of alternatives by working from the "absurd" assumption that the operator of the natural gas plant would reduce its operation whenever the wind power and/or solar energy facilities were producing power. (*Id.* at A-117). In reality, the natural gas plant would continue operating even when the wind is blowing and/or the sun is shining and, therefore, Exelon's postulated combination of alternatives would either produce significantly more power than the proposed new nuclear plant or would require the creation of less natural gas capacity. (*Id.*).

Finally, the failure to provide an adequate role for wind power led to overestimated environmental impacts of the combination of alternatives. In particular, an increase in the amount of wind power used in the combination would

decrease the amount of natural gas needed and, therefore, reduce the air quality impacts of this alternative. (*Id.* at A-100). Therefore, more wind power should be included in any combination of alternatives in order to minimize the environmental impacts.

The NRC's failures in these multiple respects were arbitrary and capricious, and contrary to law. At the very least, the evidence shows that a "genuine dispute exists with the applicant/licensee on a material issue of law or fact." 10 C.F.R. § 2.309(f). The Court should reverse and remand, and order the NRC to grant Petitioners the hearing that they are entitled to under 10 C.F.R. § 2.309(f)(1).

CONCLUSION

For the foregoing reasons, the NRC violated the APA by acting contrary to law in failing to "rigorously explore and objectively evaluate all reasonable alternatives" as required by NEPA, 40 C.F.R. 1502.14, and in dismissing Petitioners' Clean Energy Alternatives Contention without holding a full and fair evidentiary hearing. The NRC violated the APA by acting contrary to law in excluding consideration of energy efficiency alternatives based on Exelon's self-serving business goals and thereby unlawfully avoiding the full and fair consideration of reasonable alternatives and "hard look" as NEPA requires. *Simmons,* 120 F.3d at 669; *Vermont Yankee,* 435 U.S. at 558. In addition, the NRC erred as a matter of law and acted arbitrarily and capriciously in refusing to consider the comparative costs of new nuclear power and clean energy alternatives,

Hughes River Watershed, 81 F.3d at 446, and in failing to provide a role for wind and energy efficiency in considering the combination of clean energy alternatives. The NRC's Order dismissing the Petitioners' Amended Clean Energy Alternatives Contention 3.1 based on the assertion that there was no genuine dispute on material issues of law and fact is thus clearly erroneous, arbitrary and capricious, and contrary to law.

Accordingly, this Court should reverse the NRC's and Board's Orders dismissing the contested portion of this proceeding and order the Board, on remand, to admit, Petitioners' Amended Clean Energy Alternatives Contention 3.1 with the inclusion of the energy efficiency alternatives consistent with NEPA's requirements as set forth above, pursuant to 10 C.F.R. 2.309(f), and hold a full and fair evidentiary hearing.

Dated: May 1, 2006

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CERTIFICATE OF COMPLIANCE WITH RULE 32(a)(7)(B)

Shannon Fisk, one of the counsel for the Petitioners, hereby certifies pursuant to Fed. R. App. P. 32(a)(7)(C) that the Opening Brief of Petitioners complies with the type-volume limitation set forth in Rule 32(a)(7)(B)(i). According to the word count feature on Microsoft Word, this brief contains 9,144 words.

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CERTIFICATE OF SERVICE

I, Shannon Fisk, hereby certify that copies of the Opening Brief of Petitioners and Appendix have been filed with the Clerk of the United States Court of Appeals for the Seventh Circuit via FedEx overnight delivery, and served on the following by email and FedEx overnight delivery, on this 1st day of May, 2006.

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