UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

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DOCKETED 12/12/05

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In the Matter of	)	
EXELON GENERATION COMPANY, LLC	)	Docket No. 52-007-ESP
(Early Site Permit for Clinton ESP Site)	)	

CLI-05-29

MEMORANDUM AND ORDER

Intervenors (Environmental Law and Policy Center, Blue Ridge Environmental Defense League, Nuclear Energy Information Service, Nuclear Information Resource Service, and Public Citizen) seek Commission review of a Licensing Board decision granting summary disposition of the last remaining contested issue in this early site permit (ESP) proceeding – relating to alternative energy sources – and refusing to admit for hearing an amended contention.[1] We deny review.

I. BACKGROUND

In 2003, Exelon filed an application for an ESP for a new nuclear power reactor at the site of an existing reactor in DeWitt County, Illinois. Exelon's environmental report identified the purpose of the project as providing baseload power.[2] The environmental report examined non-

[1] LBP-05-19, 62 NRC 134 (2005).

[2] *See* Exelon Generation Company, Environmental Report for the EGC Early Site Permit, at 9.2.1 (2003).

nuclear power sources, such as wind, natural gas and coal, as "alternatives" to the project.[3] It noted that NRC regulations do not require a discussion of the "need for power,"[4] although it included a discussion of the related issue of the "no action alternative."[5]

A special "Contentions" Board admitted a single contention, Contention 3.1, which challenged Exelon's analysis of alternatives.[6] That contention asserted that the environmental report failed to consider a combination of "clean" energy alternatives that would generate an equal amount of power and failed to consider energy conservation as an "alternative" to building a new power plant. In admitting the contention, the "Contentions" Board narrowed it to include only alternatives that would generate power; the Board did not include energy conservation or efficiency as an alternative.[7] Such an inquiry, the "Contentions" Board reasoned, "essentially equates to a 'need for power' analysis that is outside the scope of this proceeding."[8] Intervenors sought interlocutory Commission review on the energy efficiency issue, but the Commission turned down the petition without reaching the merits.[9]

In 2004, in response to an NRC staff request for additional information (RAI), Exelon submitted additional analysis on the subject of alternative technologies for generating power. The analysis considered combinations of wind and solar technology with coal and natural gas fueled facilities that could generate baseload power equivalent to the proposed nuclear facility.

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[3] *See id.,* ch. 9.

[4] *See* 10 C.F.R. 52.17(a)(2).

[5] *See* Environmental Report, 9.1-1.

[6] LBP-04-17, 60 NRC 229, 252 (2004).

[7] *Id.* at 245-46.

[8] *Id.*

[9] CLI-04-31, 60 NRC 461 (2004).

Some months later, when the NRC staff issued its draft environmental impact statement (DEIS), the staff included as alternatives the combination technology facilities that Exelon had analyzed in its RAI response. The DEIS reached two conclusions that intervenors now challenge. First, the DEIS said that "wind and solar power, alone or in combination with other alternatives, are not reasonable alternatives to the proposed ESP facility."[10] (The DEIS found that any reasonable alternative would have to be primarily fossil fuel fired.[11]) Second, the DEIS concluded that the environmental impacts of a new nuclear facility at the site would be no more than any reasonable combination of power generation technologies because the combination would necessarily involve fossil fuel technologies.[12]

Exelon moved for summary disposition of Contention 3.1. Exelon maintained that its RAI response had cured the original environmental report's claimed failure to analyze alternative power sources.[13] The NRC staff supported Exelon's motion for summary disposition. Intervenors opposed it, and they also moved to amend their contention to include a challenge to the "alternatives" analysis in the RAI response and in the NRC staff's DEIS.[14] In addition, they reasserted their previous argument that the National Environmental Policy Act (NEPA) requires the NRC to consider energy conservation as an alternative to the proposed project.

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[10] LBP-05-19, 62 NRC at 149, citing NUREG 1815, Environmental Impact Statement for an Early Site Permit (ESP) at the Exelon ESP Site, Draft Report for Comment, at 8-16 to 8-18. The DEIS found that solar power would require more land than is available at the Clinton site. DEIS at 8-18. And the DEIS pointed out that the closest region in Illinois with sufficient winds to make a wind farm practicable is 25 miles north of the Clinton site. *Id*. at 8-17. The DEIS also noted that the intermittent nature of wind power and the lack of adequate storage technologies limit wind as a source of baseload power. *Id.*

[11] DEIS at 8-22.

[12] *Id*.

[13] *See* Exelon's Motion for Summary Disposition of Contention 3.1 (Mar. 17, 2005).

[14] *See* Intervenor's Motion to Amend Contention 3.1 (Apr. 22, 2005). *See also* DEIS.

The Board, however, agreed with Exelon (and the NRC staff) that the additional information in Exelon's RAI response cured the omissions described in Contention 3.1.[15] The Board declined to revisit the "Contentions" Board's earlier ruling that a NEPA inquiry into energy conservation was outside the scope of this proceeding.[16] The Board also held that intervenors' proposed amended contention did not raise material issues of fact warranting an evidentiary hearing.[17]

II. DISCUSSION

In deciding whether to accept review of a Board decision, the Commission grants review, in its discretion, where the petition for review raises a substantial issue of law, a clearly erroneous finding of fact, or a prejudicial procedural error.[18] Here, intervenors' petition for review raises a series of detailed and complex questions. In our view, the Board's comprehensive, 57-page decision provides adequate answers to those questions. We see no basis for further Commission review. Consequently, we will instead briefly discuss the chief reasons why we find the Board's decision persuasive.[19]

A. *Energy Efficiency as an "Alternative."*

At the outset of this proceeding, the special "Contentions" Board found that a provision in

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[15] *See* LBP-05-19, 62 NRC at 181-83.

[16] *See id.* at 156-60.

[17] *See id.* at 160-79.

[18] *See* 10 C.F.R. § 2.341(b)(4).

[19] Intervenors (*e.g.,* Pet. 2-3) and Exelon (*e.g.,* Exelon Answer, at 2-3) argue this case as if we should decide whether the Board may have rendered "clearly erroneous" findings of fact. But the Board held no evidentiary hearing and made no "findings of fact" as such. This case was decided on summary disposition, and on the inadmissability of intervenors' late contention. This Board decision warrants considerable deference, however. The Board heard from the parties at oral argument, worked with the record over a period of many months, and issued a lengthy and thorough opinion.

our regulations that an ESP applicant need not discuss "benefits," such as "need for power," precluded any need for Exelon to discuss energy efficiency.[20] In their motion to amend their contention, intervenors again raised an energy efficiency claim. In rejecting intervenors' amended contention, the Board elaborated on the reasons why NEPA did not require analysis of the energy efficiency "alternative."[21] First, the Board reiterated that energy efficiency is a surrogate for the "need for power," an inquiry our regulations expressly declare unnecessary.[22] Second, the Board said that alternatives (like energy efficiency) that would not achieve Exelon's goal (providing additional power to sell on the market) were outside the scope of alternatives that require consideration in an ESP proceeding.[23]

These reasons are sufficient to eliminate further consideration of energy efficiency from the environmental analysis here. We agree with the Board that energy conservation or efficiency – or, as it is sometimes called, "demand side management" – is not a reasonable alternative that would advance the goals of the Exelon project.[24] Intervenors complain that the Board "blindly adopted" Exelon's goal of creating baseload power in defining the scope of the project.[25] Energy

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[20] *See* LBP-04-17, 60 NRC at 245-46.

[21] *See* LBP-05-19, 62 NRC at 156-60.

[22] See *id.* at 159, citing 10 C.F.R. §§ 52.17(a)(2), 52.18.

[23] *See id.* at 156-58.

[24] Arguably, the parties and the Board need not have considered alternative energy sources at all. In *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), *et al.*, CLI-05-17, 62 NRC 5 (2005), we held that licensing boards conducting "mandatory hearings" in ESP cases must consider alternate *sites*, not alternate energy sources. *Id.* at 48. As indicated in our prior decision, a Board need not address alternate energy sources in a mandatory ESP hearing, consistent with 10 C.F.R. §§52.17(a)(2) and 52.18. Similarly, an ESP applicant need not address alternate energy sources in its environmental report. However, when (as here) an ESP applicant chooses to address alternate energy sources and to obtain agency consideration of its alternate energy source assessment, that issue becomes material to the adjudication and is appropriate for litigation on properly-grounded contentions.

[25] Pet. 11.

efficiency would be a possible "alternative" to the project only if the project's purpose was recast (as intervenors would have it) as meeting "future energy needs in the area."[26] But, as the Board indicated, Exelon has a limited purpose – selling electricity; it is not "engaged in the whole panoply of electric industry functions."[27]

The Board cited extensive case law supporting the proposition that a reviewing agency should take into account the applicant's goals for the project.[28] The lead case is *Citizens Against Burlington v. Busey*,[29] where the D.C. Circuit held that "[a]n agency cannot redefine the goals of the proposal that arouses the call for action; it must evaluate the alternative ways of achieving its goals, shaped by the application at issue and by the function that the agency plays in the decisional process."[30] "When the purpose is to accomplish one thing," the court said in *City of Burlington*, "it makes no sense to consider the alternative ways by which another thing might be achieved."[31]

Here, the Board rightly stressed that neither the NRC nor Exelon has the mission (or power) to implement a general societal interest in "energy efficiency."[32] As the Board indicated, all that is before the NRC is Exelon's application for an ESP for a potential nuclear plant to generate additional power to sell on the open market: Exelon's "sole business is that of the

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[26] *Id.*

[27] LBP-05-19, 62 NRC at 152.

[28] *See id.* at 156-58.

[29] 938 F.2d 190 (D.C. Cir. 1991), *cert. denied*, 502 U.S. 994 (1991).

[30] *Id.* at 199. *Accord Hydro Resources, Inc*., CLI-01-4, 53 NRC 31, 55-56 (2001).

[31] *Citizens Against Burlington*, 938 F.2d at 195. As an example the court said that requiring the NRC to discuss "imports of hydropower from Quebec" as an alternative to locating a nuclear reactor in Vermont would reduce the EIS to "frivolous boilerplate." *Id*. at 195.

[32] LBP-05-19, 62 NRC at 152, 156-60.

generation of electricity and the sale of energy and capacity .. at wholesale. [It] has no transmission or distribution system of its own and no direct link to the ultimate consumer."[33] Thus, while it makes some sense to inquire into various non-nuclear options for generating power – and Exelon and the NRC staff have done so – the NEPA "rule of reason" does not demand an analysis of what the Board called the "general goal" of energy efficiency.[34]

Trying to demonstrate a flaw in the Board's legal analysis, intervenors point to a few cases where reviewing courts indicated that an agency may not define a project's goal too narrowly. But intervenors' cases do not undercut the Board's result in this case.

For example, *Simmons v. U.S. Army Corps of Engineers*[35] involved an application by the City of Marion, Illinois, for Army Corps of Engineers' approval of a new reservoir to provide water to both Marion and a nearby water district. Stating that NEPA requires a look at "alternative means to accomplish the general goal of an action," the Seventh Circuit rebuked the Army for its "wholesale acceptance" of the city's proposal to build a single reservoir.[36] The court held that the Army should also have considered the "not absurd" alternative of supplying water "from two or more sources."[37] In our case, though, where the problem is supplying additional power, Exelon and the NRC staff indisputably already *have* examined various power sources as alternatives to Exelon's proposed nuclear plant – including fossil, solar, wind, and "combined" technologies. To require consideration of conservation as well would ignore entirely the purpose of Exelon's proposed facility – producing more power. It would be as if in *Simmons* the Seventh Circuit

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[33] *Id.* at 152.

[34] *See id*. at 159.

[35] 120 F.3d 664 (7th Cir. 1997).

[36] *Id.* at 669.

[37] *Id.*

ordered the Army not only to consider alternate ways to supply more water but also to examine whether Marion and the water district could reduce their need for water by prohibiting lawn-watering or requiring low-flow toilets. Nothing in *Simmons* requires a NEPA inquiry so far afield from the original proposal.

Another of intervenors' authorities, *Colorado Environmental Coalition v. Dombeck*,[38] serves them no better. In that case, the applicant wanted, over the objection of the Colorado Environmental Coalition, to expand a ski area on United States Forest Service land in Vail, Colorado. Although the Tenth Circuit stated as a general principle that the agency cannot blindly adopt an applicant's articulated purpose, it rejected the Coalition's argument that the Forest Service should have considered the Coalition's proposed "conservation biology alternative," which would not have significantly increased the terrain available for skiing. The court said that the agency's alternatives analysis, which focused only on those alternatives that would increase the area available for skiing, was adequate under NEPA.[39]

The same is true here. Just as it was reasonable in *Colorado Environmental Coalition* to confine the NEPA "alternatives" inquiry to potential ski areas, it is reasonable here to confine the inquiry to potential sources of power. Exelon and the NRC staff were not obliged to examine general efficiency or conservation proposals that would do nothing to satisfy this particular project's goals.

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[38] 185 F.3d 1162 (10th Cir. 1989).

[39] *Colorado Environmental Coalition* is different from our case in that the Forest Service apparently had within its power the option to implement a conservation biology alternative on land under its control. The NRC, of course, has no means to enforce energy efficiency in Illinois. Neither, to all appearances, does Exelon. Intervenors maintain that because Commonwealth Edison, a public utility in Illinois, is a subsidiary of the same parent company as Exelon's parent company, Exelon in fact is in a position to implement energy efficiency programs. *See* Pet. 14-15. But intervenors made no showing that Exelon has a peculiar ability to influence its sister corporation, Commonwealth Edison, or that the conservation proposals that intervenors favor – such as tax incentives by the state and federal governments – lay within Exelon's (or Commonwealth Edison's) purview.

B. Information in the DEIS

The remainder of Intervenors' petition for review claims, in essence, that the Board erred in ordering summary disposition, and in rejecting intervenors' proposed amendment of their petition, in the face of material issues of fact. We disagree. Intervenors overlook their obligation under our pleading regulations to offer "specific" contentions on "material" issues, supported by "alleged facts or expert opinion."[40] NRC contention-pleading rules are "strict by design,"[41] and contemplate "a clear statement as to the basis for the contentions and the submission of ... supporting information and references to specific documents and sources which establish the validity of the contention."[42] Mere "notice pleading" does not suffice. [43]

The Board's decision considered each of intervenors' claims, point-by-point, and thoroughly explained why they fell short of raising a material issue requiring further litigation. It is not necessary for us to recapitulate the Board's reasoning in detail.

At the outset, it is worthwhile to list several aspects of the record that provided the underpinnings of the Board's "materiality" analysis:

- In order to satisfy the purpose of the project, and thus to constitute a reasonable alternative, the combined facility must be able to generate power in the amount of 2180 MW at all times.[44]
- Because wind and solar power cannot reliably generate power at all times the

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[40] *See* 10 C.F.R. § 2.309(f).

[41] *Dominion Nuclear Connecticut, Inc.* (Millstone Power Station), Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

[42] *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2 & 3), CLI-91-12, 34 NRC 149, 155-56 (1991).

[43] *See Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 428 (2003).

[44] *See* LBP-05-19, 62 NRC at 157-58.

fossil-fueled portions of the facility would have to have a capacity of 2180 MW.[45]

- Due to the impacts of fossil-fueled facilities, a combination of wind and solar with a 2180 MW fossil-fueled facility is not environmentally preferable to the proposed nuclear power plant.[46]

- The DEIS found that the wind or solar *portions* of the analyzed combination facility would have no environmental impacts.[47]

With these considerations in mind, we turn now to the specific "materiality" points intervenors raise in their petition for review. .

1. Number of Areas Affected

Intervenors claim that the Board ought to have recognized that an alternative that (as the NRC's DEIS found) has "small" impacts on fewer resources must be environmentally preferable to an alternative that has "small" impacts on a greater number of resources.[48] In the DEIS, the staff looked at the impact of the various energy-generating alternatives on a range of environmental resources, characterizing the impacts on those resources as "small," moderate," or "large." While the impacts for both the proposed nuclear plant and the "clean" alternatives that intervenors prefer were characterized as "small" in most areas, intervenors argue that the sheer number of resources affected – greater for nuclear power plants – determines which alternative is environmentally preferable.

But as the Board pointed out, the DEIS did not compare the proposed nuclear facility to an exclusively solar- or wind-powered facility – such facilities cannot reliably supply power at all times – but to a combination facility that would generate baseload power equivalent to a nuclear

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[45] See *id.* at 165 ("there are undoubtedly times at night (no solar power production) when the wind will not be blowing").

[46] *See id. at* 166, 170.

[47] *See id.* at 172.

[48] Pet. 15-16.

power plant's power production.[49] Combination facilities are powered (in part) by fossil fuel technologies and it was that aspect of such facilities that tilted the environmental analysis away from the combination facility.[50] Because a solely wind- or solar-powered facility could not satisfy the project's purpose, there was no need to compare the impact of such facilities to the impact of the proposed nuclear plant. And, most significantly, despite our pleading rule requiring factual or expert support for contentions, intervenors "presented no impact analyses whatsoever to support their proposition that because one or another alternative has numerically more areas impacted, the overall environmental impact is greater."[51] As the Board concluded, this portion of intervenors' contention amounts to "bare assertion."[52]

The Board therefore reasonably rejected intervenors' "comparative impacts" claims, and we see no basis for examining the issue further.

2. Overstatement of Environmental Impact of a "Combination" Facility

Intervenors argue that although the DEIS examined a facility that could "combine" technologies to create the desired amount of baseload power, it overestimated the environmental impact of such a combination.[53] Specifically, intervenors argue that: (1) the Board's decision rested on a "faulty premise" that natural gas would have greater environmental impact than nuclear power; (2) the "combination" the staff used should have allocated a greater proportion to wind power; and (3) the Board should have acknowledged that a facility having a full 2180 MW of fossil fuel-fired capacity *with an additional* wind or solar component would have greater benefits

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[49] *See* LBP-05-19, 62 NRC at 169-71.

[50] *See id.*

[51] *Id.* at 172.

[52] *Id.*

[53] Pet. 20-22.

because the wind or solar component could produce additional power even if the fossil fuel component were operating at capacity.

Again, though, intervenors' position comes down to "bare assertion lacking any support and the requisite specificity."[54] Intervenors point to a number of scenarios and supposed environmental effects, but in the end they offer "nothing ... to indicate that any of these effects have been even superficially analyzed by them to support their assertion."[55] And, as the Board held, intervenors' various claims fail to come to grips with fundamental points that can't be disputed: solar and wind power, by definition, are not always available; in combination plants the fossil-fired components certainly will run some of the time; and the DEIS gave full credit (it assumed *no* adverse environmental impacts) to wind and solar components of a combined plant.[56]

There may, of course, be mistakes in the DEIS, but in an NRC adjudication, it is intervenors' burden to show their significance and materiality. "Our boards do not sit to 'flyspeck' environmental documents or to add details or nuances. If the ER (or EIS) on its face 'comes to grips with all important considerations' nothing more need be done."[57] Intervenors' "environmental impact" claims are for the most part not specific and not grounded in fact or expert opinion. The claims do not suggest significant environmental oversights that warrant further inquiry at an evidentiary hearing.

3. Failure to Conduct a Cost-Benefit Analysis

Intervenors argue that the Board ought to have found a genuine material dispute

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[54] LBP-05-19, 62 NRC at 172.

[55] *Id.* at 173.

[56] *See id.* at 171.

[57] *Systems Energy Resources, Inc.* (Early Site Permit for Grand Gulf Site), CLI-05-4, 61 NRC 10, 13 (2005).

regarding the comparative cost of nuclear power and clean energy alternatives.[58] The Board found as a matter of law that no disputes concerning the relative costs of nuclear power versus other technologies could raise a material dispute.[59] The Board held that an economics-driven cost comparison among alternative technologies is a matter that our regulations postpone until the construction permit/operating license stage.[60]

The Board was correct that a cost-benefit comparison among the technological alternatives does not raise a material issue in an ESP proceeding. On the same day as the Board's decision, we issued our decision in CLI-05-17 (regarding issues to be considered at "mandatory hearings"). There, we expressly stated that because an ESP is only a "partial" construction permit and because our regulations expressly postpone any "benefits" analysis until later – when there are concrete plans actually to build and operate a nuclear power plant – the Board cannot perform a NEPA cost-benefit analysis in an ESP proceeding.[61] As permitted by our regulations, Exelon's Environmental Report did not include a "need for power" analysis – *i.e.,* the benefits of a nuclear plant – but deferred the issue until the future combined license proceeding. There is no apparent reason to analyze the "cost" side of the cost-benefit balance until it comes time – in the combined license proceeding – to consider benefits.

Intervenors argue that the granting of an early site permit constitutes a "major federal action" that requires a full NEPA analysis now, including a weighing of costs versus benefits. They argue that putting off this decision until Exelon applies for a combined license would "risk ...

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[58] Pet. 17-20.

[59] *See* LBP-05-19, 62 NRC at 168-69.

[60] *See id.* at 167, citing 10 C.F.R. §§ 52.17(a)(2), 52.18.

[61] *See* 62 NRC at 47.

post hoc rationalization."[62] This argument amounts to an impermissible collateral attack on our ESP regulations, which permit (and appear to encourage) deferral of the cost-benefit analysis.[63] Our regulations make obvious sense. The various factors affecting economic costs and benefits could change dramatically between the time that an early site permit is granted and a combined license is sought. There is no reason to require a cost-benefit analysis at the preliminary ESP stage of power plant licensing.

Intervenors point out that the regulation merely states that a discussion of benefits is not *necessary* at this time, but appears not to *prohibit* that discussion.[64] This argument is true, but it does not help intervenors here. At the most it means that Exelon might have included a cost-benefit analysis at this stage, opening the door to litigation on that subject. That would resolve cost-benefit issues at this stage, but the analysis would still be subject to revision at the combined license stage to reflect changes in technology and economic factors. But Exelon chose not to perform the analysis, and it is not intervenors' prerogative to introduce the issue at this juncture.

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[62] Pet. 19.

[63] *See* 10 C.F.R. § 2.335(a).

[64] *See id.*

CONCLUSION

For the foregoing reasons, the petition for review is *denied*.

IT IS SO ORDERED.

For the Commission

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, MD
this 12th day of December, 2005