February 26, 2010

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE BOARD

In the Matter of	)	
	)	
TENNESSEE VALLEY AUTHORITY	)	Docket No. 50-391-OL
	)	
(Watts Bar Unit 2)	)	

NRC STAFF'S RESPONSE TO REQUEST BY SOUTHERN ALLIANCE FOR CLEAN ENERGY ("SACE") FOR WAIVER OF 10 C.F.R. §§ 51.53(b) AND 51.95(b) WITH RESPECT TO ADMISSION OF CONTENTIONS REGARDING NEED FOR POWER AND CONSIDERATION OF ALTERNATIVE ENERGY SOURCES

INTRODUCTION

On February 4, 2010, the Southern Alliance for Clean Energy ("SACE") filed a petition, pursuant to 10 C.F.R. § 2.335(b), requesting waiver ("Waiver Request") of 10 C.F.R. §§ 51.53(b)[1] and 51.95(b)[2] with respect to Tennessee Valley Authority's (TVA) application for an operating license for Watts Bar Nuclear Plant Unit 2.[3] Pursuant to the Atomic Safety and

[1] 10 C.F.R. § 51.53(b) governs the content of the supplemental environmental report submitted by the applicant at the operating license stage. It states in part that "No discussion of need for power, or of alternative energy sources, . . . is required in this report." 10 C.F.R. § 51.53(b).

[2] 10 C.F.R. § 51.95(b) governs the content of the supplement to the final environmental impact statement prepared by NRC Staff in connection if the issuance of an operating license. It states in part that "Unless otherwise determined by the Commission, a supplement on the operation of a nuclear power plant will not include a discussion of need for power, or of alternative energy sources, ..." 10 C.F.R. § 51.95(b).

[3] SACE's request included: "Petition For Waiver Of 10 C.F.R. §§ 51.53(b) and 51.95(b) With Respect To Admission Of Contentions Regarding Need For Power And Consideration Of Alternative Energy Sources," (February 4, 2010), "Declaration of Dr. Arjun Makhijani in Support of Southern Alliance for Clean Energy's Petition for Waiver of or Exception to 10 C.F.R. §§ 51.53(b) and 51.95(b) With Respect to Need for Power and Consideration of Alternative Energy Sources (February 3, 2010) (continued. . .)

Licensing Board's (Board's) Order, the Staff hereby files its response to SACE's Waiver Request.

The Staff opposes the Waiver Request, because, for the reasons discussed below, SACE has not made a *prima facie* showing of special circumstances needed to support a waiver.

BACKGROUND

This proceeding involves Watts Bar Unit 2, a partially-complete reactor located near Spring City, Tennessee. On May 1, 2009, the U.S. Nuclear Regulatory Commission ("NRC") published a Notice of Opportunity for Hearing on the operating license ("OL") application of Tennessee Valley Authority ("TVA") for the Watts Bar Nuclear Plant, Unit 2.[4] The net electrical output of Watts Bar Unit 2 is proposed to be 1,160 MWe. Final Safety Analysis Report (FSAR), Amendment 97, at Section 1.1.1, p 1.1-1 (available at ML100191500).

On July 13, 2009, Petitioners Southern Alliance for Clear Energy ("SACE"), Tennessee Environmental Council ("TEC"), We the People ("WTP"), Sierra Club, and Blue Ridge Environmental Defense League ("BREDL") filed a single combined petition ("Petition") to intervene and hearing request for the operating license application of Watts Bar Unit 2.

(. . .continued)

("Makhijani Declaration"); Dr. Makhijani's Curriculum Vita, a report prepared by Dr. Makhijani titled :Watts Bar Unit 2: Analysis of Need and Alternatives" (July 10, 2007); the originally-filed "Declaration by Dr. Arjun Makhijani in Support of Petitioners' Contentions" (July 11, 2009) and a portions of the previously-filed "Petition to Intervene and Request for Hearing" (July 13, 2009).

[4] *Tennessee Valley Authority [TVA]; Notice of Receipt of Update to Application for Facility Operating License and Notice of Opportunity for Hearing for the Watts Bar Nuclear Plant, Unit 2 and Order Imposing Procedures for Access*, 74 Fed. Reg. 20,350 (May 1, 2009) ("Notice"). Pursuant to that Notice, requests for a hearing and petitions to intervene were due by June 30, 2009. *See* 74 Fed. Reg. at 20351. Upon request, the Secretary of the Commission extended SACE's filing deadline without comment to July 14, 2009. Order (June 24, 2009) (unpublished).

On November 19, 2009, the Board granted party status to SACE, but not the other petitioners, and admitted two environmental contentions, while denying admission of the remaining contentions, including Contention 4 which alleged that TVA provided an inadequate discussion of the need for power and energy alternatives." *Tennessee Valley Authority* (Watts Bar Unit 2), LPB-09-26, 70 NRC __, (November 19, 2009) (slip op.). In denying Contention 4, the Board stated that absent an adequately supported waiver request under 10 C.F.R. § 2.335, the contention was inadmissible under the Commissions regulations which did not require need for power or energy alternatives to be discussed at the OL stage. *Id.* at Slip op. 43 - 44.

On March February 4, 2010, SACE filed its request to waive 10 C.F.R. § 51.53(b) and 10 C.F.R. § 51.95(b) to the extent the regulations bar consideration of the need for power and alternative energy sources in the Watts Bar proceeding. Waiver Request at 1.

DISCUSSION

I. Legal Standards

A. Waiver Requests

The legal requirements governing waiver requests are well established, and are currently set forth in 10 C.F.R. § 2.335. The rule allows only one reason for a waiver: "special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted." 10 C.F.R. § 2.335(b). If, upon review of the waiver petition, associated responses and affidavits, the Board determines that the petitioning party has not made a *prima facie* showing that the application of the rule would not serve the purpose of the rule, then no further consideration of the matter will be permitted. 10 C.F.R. § 2.335(c). If, on the other hand, the Board determines that a *prima facie* showing has been made that application of the regulations would not serve the underlying purpose of the rules, the Board will certify the matter to the Commission without ruling on the petition. 10 C.F.R. § 2.335(d). Upon

certification, the Commission will determine if a waiver should be made and direct further proceedings as it deems appropriate. *Id.*

To make a *prima facie* showing required for a successful waiver of the rules, the requestor must provide information that reflects a "persuasive evidentiary showing that application of the rule to the exceptional facts of this case would not serve the purposes for which the rule was adopted." *Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2080 (1982) (discussing and rejecting a single-sentence need for power waiver request).

B. Rules on Need for Power and Alternative Energy

1. Proposed Rules

In 1981, the Commission proposed rules to state clearly that need for power and alternative energy source issues will not be considered in an operating licensing proceeding, explicitly to "avoid unnecessary litigation of issues." Need for Power and Alternative Energy Issues in Operating Licensing Proceedings, 46 Fed. Reg. 39,440 (proposed August 3, 1981) (to be codified at 10 C.F.R. pt. 51).

The Commission explained that under the Commission's two-step licensing process (i.e. a Construction Permit, and subsequently an Operating License), the construction permit proceeding was the appropriate forum for resolution of environmental issues involving the need for power and alternatives to nuclear power. *Id.* This was appropriate because, prior to construction, little environmental disturbance had occurred, and little had been invested. *Id.* Also, real alternatives, including the no-action (i.e. no new power) options existed. *Id.*

By contrast, the Commission stated that at the operating license stage, the plant is essentially complete, with that associated environmental disturbances and costs already incurred. *Id.* at 39,441. Further, the Commission observed that differences in financial costs do

not enter into the NEPA process unless the plant has environmental disadvantages when compared with a reasonable alternative. *Id.* Then, the cost difference is considered as part a cost-benefit analysis to determine if cost savings off-set any environmental costs. *Id.*

The rulemaking notice discussed how an exception would be made, and accordingly a need for power and alternative energy sources would be required, if special circumstances were shown in accordance with the Commission's waiver regulation 10 C.F.R. § 2.758.[5] *Id*. The proposed rule stated that "special circumstances could exist if, for example, it could be shown that nuclear plant operations would entail unexpected and significant adverse environmental impacts or that an environmentally and economically superior alternative existed." *Id.*

2. Final Rules

a. Content of Applicant's Environmental Documents

Following a comment period, the Commission published its final rule removing the need for power from consideration during an operating licensing proceeding. Final Rule, Need for Power and Alternative Energy Issues in Operating License Proceedings, 47 Fed. Reg. 12940 (March 26, 1982) (to be codified in 10 C.F.R. Part 51). The Commission precisely stated:

> As discussed in the statement of considerations which accompanied the proposed rule, the purpose of these amendments is to avoid unnecessary consideration of issues that are not likely to tilt the cost-benefit balance by effectively eliminating need for power and alternative energy source issues from consideration at the operating license stage. In accordance with the Commission's NEPA responsibilities, the need for power and alternative energy sources are resolved in the construction permit proceeding. The Commission stated its tentative conclusion that while there is no diminution of the importance of these issues at the construction permit stage, the situation is such that at the

[5] The waiver provisions in 10 C.F.R. § 2.758 were relocated to 10 C.F.R. § 2.335 when the Commission revised 10 C.F.R. Part 2 in 2004. *See* Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2218 (January 14, 2004).

> time of the operating license proceeding *[1] the plant would be needed to either meet increased energy needs or [2] replace older less economical generating capacity and [3] that no viable alternatives to the completed nuclear plant are likely to exist which could tip the NEPA cost-benefit balance against issuance of the operating license.* Past experience has shown this to be the case. In addition, this conclusion is unlikely to change even if an alternative is shown to be marginally environmentally superior in comparison to operation of a nuclear facility because of the economic advantage which operation of nuclear power plants has over available fossil generating plants. An exception to the rule would be made if, in a particular case, special circumstances are shown in accordance with 10 CFR 2.758 of the Commission's regulations.

Id. (emphasis added).

In addressing comments on the proposed rule, the Commission provided guidance relevant to the current waiver request. It made clear that the rule applied to all pending operating license proceedings. *Id*. at 12,941.

The Commission stated that the required *prima facie* showing needed to support a waiver request was a "much stricter standard then the current requirements for raising need for power and alternative energy sources in OL proceedings." *Id.*

In response to comments about the potential for the Board, *sua sponte*, initiating consideration of the need for power and alternative energy sources, the Commission declined to prohibit such action by the Boards, but noted that such *sua sponte* actions were limited to "serious safety, environmental or common defense and security matters." *Id.*

In its final rule, the Commission addressed the interplay between time passage, new technology, changes in power demand, and alternative energy sources, and repeated that even in the light of such changes, the waiver request still must make a *prima facie* showing of special circumstances, as shown below:

> Comments—Seventeen of the commenters who were opposed to the rule change stated generally that changed conditions between the time of the construction permit proceeding (CP) and the operating license proceeding (OL) such as increased costs, lower

> demand, new information, and new technologies warranted a consideration of these issues at the OL stage and a new determination made on need for power and alternative energy sources.
>
> Response—While it is true that certain factors may change between the CP and the OL proceeding, the notice of proposed rulemaking sets forth why it is unlikely that these changes would tip the NEPA cost-benefit balance against issuance of the operating license. As more fully set forth in the notice, experience shows that completed nuclear power plants are used to their maximum availability and that there has never been a finding in a Commission OL proceeding that a viable environmentally superior alternative to operation of the nuclear facility exists. The Commission expects this to be true for the foreseeable future and hence, in the absence of a showing of special circumstances, consideration of these issues in individual OL proceedings is not necessary.

Id.

b. Content of Staff's Supplemental EIS

Petitioners seek a waiver of the rules governing the Staff's EIS at 51.95(b). Regarding the content of the Staff's EIS, the final rule included a conforming change to 10 C.F.R. Part 51[6] to make clear that the Commission's EIS at the OL stage would generally not include need for power or alternative energy. *Id.* at 12,941.

Regarding the reasons for the rule governing the content of the Staff's EIS, the Commission stated:

> The Commission does not intend that these issues [need for power and alternative energy sources] be reexamined in every

[6] The rule was codified at 10 C.F.R. § 51.23(e). *See* 47 Fed. Reg. at 12943. Through subsequent rulemaking, the equivalent regulation was relocated to 10 C.F.R. § 51.95(a). *See* Final Rule, Requirements for Licensee Actions Regarding the Disposition of Spent Fuel Upon Expiration of Reactor Operating Licenses, 49 Fed. Reg. 34668, 34694 (August 31, 1984). The rule was renumbered one more time to 10 C.F.R. § 51.95(b) through additional rulemaking. *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28467, 28489 (June 5, 1996). With regards to need for power and alternative energy, the subsequent rulemakings were not directed towards these issues, and did not affect the discussions in the 1981-82 rulemaking.

> environmental impact statement prepared at the operating license stage. Accordingly, to avoid possible confusion, the final rule has a conforming change to generally exclude treatment of these issues in the EIS by modifying § 51.23. However, in very unusual cases, such as where it appears that an alternative exists that is clearly and substantially environmentally superior, the Commission would be obligated under NEPA to address these issues in its environmental impact statement. In such cases the Commission would address the issues in the environmental impact statement and would require the license applicant to address these issues in its environmental report as well. Accordingly, §§ 51.21 and 51.23 have been revised to make clear that while discussion of need for power and alternative energy source issues is generally not needed in environmental statements and reports at the operating license stage, discussion may be required by the Commission. *The purpose of this change is to give the Commission the same latitude to consider environmental issues in special circumstances where no hearing is involved or before a hearing as it has under § 2.758 where a hearing is involved.*

Id. (emphasis added).

B. Three-Part Test for Waiver Requests for Need for Power and Alterative Energy

Although it has been many years since this issue was last before a Board, the case law governing waivers of need for power and alternative energy rules is well established and applicable, as evidenced by the following case history.

Shortly after the rule changed in the early 1980s, a Board carefully considered the Commission's rulemaking and found a three-part test which mirrored the rulemaking to use when considering a waiver:

> As the regulation was formulated, to make the *prima facie* showing of special circumstances a petitioner would have to establish that Beaver Valley Unit 2 would not be needed: *(1) to meet increased energy needs; (2) to replace older, less economical generating capacity; and (3) that there are viable alternatives to the completed nuclear plant likely to exist which could tip the NEPA cost-benefit balance against issuance of the operating license.* It envisions showing that the nuclear plant operations would entail unexpected and significant environmental impacts or that environmentally and economically superior alternatives exist. The Commission had predicated the regulation on a finding that nuclear plants are environmentally superior and

> lower in cost to operate than fossil plants. It places a formidable [b]urden on one seeking waiver.

Duquesne Light Company, et al. (Beaver Valley Power Station, Unit 2), LBP-84-6, 19 NRC 393, 401 (1984) (emphasis added). All three elements were needed for a successful waiver; failing to establish one element is fatal to the waiver. *Id.* Cursory and general comments and speculation are insufficient to show the existence of viable alternatives that tip the NEPA cost-benefit balance against issuance of the operating license. *Id.* at 402. Attacking matters already considered by the Commission in formulating the regulation, or assumptions made by the Commission during the rulemaking, are insufficient for a successful waiver. *See id.* (noting such claims are more appropriately made through requests to amend or rescind a regulation, instead of a request for a waiver).

Later in 1984, another Board considered a wavier request for Voglte Units 1 and 2. *Georgia Power Company, et al.* (Vogtle Electric Generating Plant, Units 1 and 2), LBP-84-35, 20 NRC 887 (1984). The Vogtle Board rejected the request and provided additional guidance on what a successful waiver request would need to show. *See id*. For element (1), meeting increased energy needs, the Board noted that petitioner failed to provide any probative information regarding the applicants' electrical energy requirements and production capacity, and if the plant will meet the needs. *Id.* at 893. For element (2), replacing older capacity, the Board found that petitioner had not sustained its burden of proof, and made no showing that the plant would not be used to replace older plants. *Id.* Last, for element (3), regarding viable alternatives, the Board *rejected* conservation as a viable alternative, finding:

> To be a viable alternative power source for the subject plant the substitute must be capable of serving the consumers in an equivalent manner that the power from the Vogtle Plant could be used. Consumers must be able to utilize the power from the substitute source in whatever varied ways they see fit.
>
> Petitioner has not offered an alternative power source for the proposed plant. It proposes conservation and installation of solar

> water heating systems. Neither of these offers the consumer an alternative power source in the manner indicated. Petitioner only offers conservation in various forms, which the Commission concludes does not negate a need for the new plant. The Commission stated in its rulemaking on need for power at 47 Fed. Reg. 12,941:
>
> > If conservation lowers demand, then utility companies take the most expensive operating plants off-line first. Thus a completed nuclear plant would be used as a substitute for less economical generating capacity.

Id. at 894.[7]

Also in 1984, the Atomic Safety and Licensing Appeal Board considered an appeal from a Board's need for power waiver decision in Byron, and provided the same three factors of need for power to meet demand or replace older plants, and no cost-beneficial alternative exists. *See Commonwealth Edison Company* (Byron Nuclear Power Station, Units 1 and 2) ALAB-793, 20 NRC 1591, 1614-16 (1984). The Appeal Board provided additional guidance on the issues of "fairness" to the requestor and what to do if the constructed plant looks to be excess capacity or, in hindsight, a poor choice. On the former, the Appeal Board described the requestor's burden thusly:

> Stated otherwise, the laying by intervenors of a proper foundation for their waiver or exemption request necessitated a substantial concrete demonstration that, notwithstanding the enormous economic investment in Byron, the NEPA cost-benefit balance might now tip in the direction of abandoning this essentially completed facility. For, assuredly, that proposition is far from self-evident. There may well be room for legitimate doubt regarding whether warrant exists to undertake the erection of a particular nuclear facility—i.e., whether the need for the electricity that the

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[7] Nonetheless, the Board in Vogtle considered, for the sake of argument, conservation as an alternative, but rejected the petitioner's proffered unsupported conclusions. *Vogtle*, LBP-84-35, 20 NRC at 894.

> facility would generate is sufficient to justify assuming the environmental and other costs associated with its construction and operation. Thus, as the Commission pointed out, need for power and alternative energy sources issues remain of importance at the construction permit stage. But it is difficult to perceive many sets of circumstances that might lead one to a reasoned conclusion that the environmental costs of operating an already built facility would exceed the benefit to be derived from utilization of the electric power that the facility is capable of producing. Accordingly, *it does not seem unfair to expect a threshold particularization on the part of a party claiming the presence of such circumstances and, therefore, an entitlement to litigate whether NEPA requires that the facility be mothballed or dismantled.* Once again, such particularization was absent here.

Id. at 1615-1616 (footnote omitted) (emphasis addeed).

Regarding the latter, the Appeal Board also indicated that it would reject the concept of automatically abandoning a plant that may provide excess capacity, and that it would also reject not using an already-constructed nuclear plant on the basis that a different plant (e.g. a coal plant) appears retrospectively preferable. *Id.* at 1615 n. 106.

A second Appeal Board provided guidance on conservation and replacement power. The lower Board denied a petition in particular for failing to show that Shearon Harris would not be used to displace existing coal plants. *Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency* (Shearon Harris Nuclear Power Plant), LBP-85-5, 21 NRC 410, 437 (1985). Upon Appeal, the Appeal Board affirmed. *Carolina Power and Light Company and North Carolina Eastern Municipal Power Agency* (Shearon Harris Nuclear Power Plant), ALAB-837, 23 NRC 525 (1986) (finding, *inter alia*, that the NRC's EIS satisfied NEPA). The appeal concerned alleged errors regarding showings of replacing existing fossil generation, and the Board's treatment of conservation; the Appeal Board applied the familiar three-part test. *See id.* at 547-548. In consideration of conservation, the Appeal Board stated that the waiver must show that "after applying the conservation-based alternative, there no longer remains an amount of fossil fuel baseload generation equal to that of the capacity of Shearon Harris that is

less efficient than the nuclear plant." *Id.* at 5478-548. It is not sufficient merely to show that the proposed alternative will displace an amount of fossil fuel generated baseload equivalent to that produced by nuclear plant. *Id.* at 548.

C Application of the Three Part Test Shows a Waiver is Not Supported

The request by SACE fails to provide a *prima facie* showing that the Commission's rules should be waived and litigation over the need for power and energy alternatives should be commenced at the operating license stage. SACE does not address the requirements for a successful waiver clearly laid out in previous Board and Appeal Board decisions. To that end, SACE seems unaware of the cases, and makes no mention of them in its arguments.

Analyzing the Waiver Request using the appropriate standards first enumerated in Beaver Valley shows that SACE fails to meet is burden, in that SACE does not show that Watts Bar Unit 2 will not be used (1) to meet increased energy needs; (2) to replace older, less economical generating capacity; and (3) that there are viable alternatives to the completed nuclear plant likely to exist which could tip the NEPA cost-benefit balance against issuance of the operating license. *See Beaver Valley*, LBP-84-6, 19 NRC 393, 401. These topics are addressed in detail below.

1. No Showing Regarding Increased Energy Needs

To satisfy the first of the three waiver factors needed to demonstrate that the purpose of the Commission's rule against needless litigation at the operating license stage is not served by its application in this case, SACE must establish that the Watts Bar Unit 2 plant is not needed to meet increased energy demand. *See Shearon Harris,* ALAB-837, 23 NRC at 547. SACE has the burden of proof, and must provide a *prima facie* showing that TVA would not use the plant to meet increased energy needs. *See Vogtle,* LBP-84-35, 20 NRC at 893. This prima facie showing must be a persuasive evidentiary showing. *See Shearon Harris,* LBP-82-119A, 16 NRC at 2080.

SACE argues that the regulations purpose are not satisfied because TVA has demonstrated that it does not need Watts Bar Unit 2 by the fact that Watts Bar Unit 2 has not been operated. Waiver Request at 8.

The argument misses the mark for several reasons. First, it misapplies the burden of proof, which is on SACE to show *prima facie* that the plant will not be used. *Vogtle*, LPB-84-35, 20 NRC at 893. SACE must overcome the fact, noted by the Commission in its rulemaking, that experience has shown that nuclear plants are used to their maximum capacity. *See* 47 Fed. Reg. 12940. SACE has misapplied the burden of proof needed for the waiver by claiming that TVA must now make such a demonstration.

SACE makes no evidentiary showing in this area, but instead uses a somewhat circular argument that because TVA has not used the plant, it will not need the plant. Waiver Request at 8; Makhijani Delcaration at 4 para 14. The fact that TVA historically met its electricity needs without Watts Bar Unit 2 does not establish that its electricity will not be needed in the future during the planned life of the plant.

SACE alleges that TVA has idle capacity or overcapacity. Makhijani Declaration at 4-5 ¶ 15.[8] Under Commission case law, that claim is also insufficient to establish a *prima facie* showing that Watts Bar Unit 2 will not be needed. *See Vogtle,* LBP-84-34, 20 NRC at 893 (1984) ("making known that Georgia Power Company had unsuccessfully attempted to sell electricity out of State does not establish that Vogtle, when ready, will represent overcapacity."). SACE alleges that TVA currently finds it economical to purchase power. Makhijani Declaration

[8] SACE's expert paragraph on this topic lacks details and the sources for his data beyond TVA's own FSEIS. See Makhijani Delcaration at 4 para 15. Instead of specifics about TVA, he relies on general statements about current national demand. Furthermore, his discussions of TVA's need to purchase power demonstrates that TVA has a need for economical power generation. *See id*. Last, his discussions of power actually *generated* does not necessarily reflect the power *demand.* Indeed, as noted by Dr. Makhijani, TVA satisfied part of its demand by purchasing instead of generating. *See id.*

at 4-5 ¶ 15. Analogous to overcapacity or selling power, past purchases do not establish a prima facie showing that Watts Bar Unit 2 will be unused overcapacity over its lifetime. *Cf. Vogtle*, LBP-84-34, 20 NRC at 893 (1984).

To be successful, SACE must demonstrate through data that there is and would continue to be excess capacity in TVA's service area well into the future. *See Beaver Valley* at 402 (describing how a waiver requestor passed the first hurdle by establishing through data on the owners electrical system that the subject plant will not be needed to meet increased energy needs, as the system was shown to have excess capacity that would continue well into the future.).

SACE fails this test -- it provides no evidence or discussions of TVA's capacity well into the future. SACE highlights the current economic decline (Makhijani Declaration at 5 ¶ 17.a) but provides no showing that there will not be a recovery during the useful life of Watts Bar Unit 2. SACE never considers the peak loads well into the future, or the potential retirement of other older plants. Instead SACE's projection stops at three years into operation of Watts Bar Unit 2. *See* Makhijani Declaration at 7 ¶ 22 (disputing TVA's peak load projections for years 2012 and 2014). This near-term analysis is not sufficient to be a prima facie showing that TVA will have excess capacity well into the future. *See Beaver Valley* at 402.

Further, even if TVA's projections for near term turn out to be incorrect, under established Commission case law, the fact that a power company erroneously estimated its annual electricity sales growth and peak demand for a preoperational period does not establish that the power of the plant will not be needed during its planned life. *Vogtle,* 20 NRC at 893.

Because SACE has failed to establish that the Watts Bar Unit 2 will not be needed for increased energy needs, its petition must fail.

2. No Showing Regarding Replacing Less Economical Generating Capacity

To satisfy the second of the three waiver factors needed to demonstrate that the purpose of the Commission's rule against needless litigation at the operating license stage is not served by its application in this case, SACE must also establish that the Watts Bar Unit 2 plant will not be used to displace an equivalent amount of older, less economical capacity. *See Shearon Harris*, ALAB-837, 23 NRC at 547.

SACE again misunderstands the heavy burden needed to request a waiver, in that SACE alleges that TVA failed to provide an adequate discussion of alternatives (Waiver Request at 9) despite the fact that such discussions are not required unless the rules are waived. *See* 10 C.F.R. §§ 51.53(b) and 51.95(b). To support its request, SACE relies on its original petition, already rejected by the Board as an impermissible challenge to the rules. *See* Waiver Request at 9. This reasoning and reliance is both circular and flawed, and fails to address the purpose of the rules and the extensive caselaw showing what is needed for a waiver -- that the plant would not replace older less-economic capacity.

SACE fails to discuss and analyze the economics of TVA's existing coal-fired plants, and thus fails to address why Watts Bar Unit 2 could not be used to replace some of the coal-fired plants. TVA has 11 coal-fired fossil plants with a total of 59 generating units, all of which are many decades old. http://www.tva.com/power/fossil.htm last visited February 22, 2010.[9] TVA has invested over $5.5 billion to reduce emissions at the fossil plants. http://www.tva.com/power/fsslfax.htm last visited February 22, 2010. SACE fails to discuss

[9] The coal-fired fossil plants called Allen, Bull Run, Colbert, Cumberland, Gallatin, Jon Sevier, Johnsonville, Kingston, Paradise, Shawnee, and Widows Creek. All of the coal-fired plants are older, with the construction on the youngest, Cumberland, being completed almost forty years ago in 1973. See brochure called "Fossil Plants, The backbone of the TVA Power System," available at http://www.tva.com/power/pdf/fossil.pdf.

specifics of any of the coal-fired plants and thus fundamentally fails to make a prima facie showing that Watts Bar Unit 2 will not be used to replace an older coal-fired plant.[10]

TVA also has 87 combustion turbine generators located at nine sites. http://www.tva.com/power/fossil.htm last visited February 22, 2010.[11] The combustion turbine generators run on natural gas or fuel oil and are designed to start quickly during peak demand periods. *Id.* The combustion turbines are not economical when compared with TVA's other power sources because the combustion turbines cost more to operate. *See e.g.* http://www.tva.com/sites/allen.htm last visited February 22, 2010. Combustion turbines are also used by TVA to reduce the need to purchase higher-priced power from external sources during periods of high demand. *See e.g.* http://www.tva.com/sites/brownsville.htm last visited February 22, 2010. The combined capacity at each of the combustion turbine sites ranges from 374 MW for Kemper's four turbines to 1,372 MW for the 20 turbines at Johnsonville, for a total of 4,662 MW. http://www.tva.com/power/pdf/fossil.pdf. Therefore, the installed capacity of the less-economical combustion turbine generators is over four times the potential 1,160 MWe capacity of Watts Bar Unit 2.

SACE's request ignores this large, apparently-expensive installed power capacity. SACE fails to discuss by name any of the combustion turbine generator sites, and fails to provide any showing, *prima facie* or otherwise, that Watts Bar Unit 2 would not be used to replace some of the less-economical more expensive combustion turbine-generated power.

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[10] 10 of the 11 plants are not discussed by name in any of the SACE's material. The 11th, Shawnee, is only mentioned once as part of a quote from a 15-year-old Record of Decision prepared by TVA. See Dr. Arjun Makhijani, "Watts Bar Unit 2: Analysis of Need and Alternatives" (July 10, 2007) at 8.

[11] The combustion turbines called Allen, Brownsville, Caledonia, Colbert, Gallatin, Gleason, Johnsonville, Kemper, Lagoon Creek, Marshall, and Southaven. http://www.tva.com/power/fossil.htm last visited February 22, 2010.

SACE makes no showing that Watts Bar Unit 2 could not be used to replace 25% of the less economical capacity of the combustion turbine generators.

TVA also has three nuclear plants, twenty-nine hydroelectric dams, and a pumped storage plant. http://www.tva.gov/abouttva/keyfacts.htm last visited February 22, 2010. SACE makes no argument or provides no evidentiary support about why Watts Bar Unit 2 could not be used to replace any of these older facilities.

Furthermore, SACE highlights the fact that TVA is engaged in the practice of *purchasing power* and that "TVA has increased its purchased power substantially, even as demand for its electricity fell by about 7 percent." Makhijani Declaration at 6. SACE states this is due to the decrease in the price of purchased power. *Id.* TVA purchases when it cannot economically generate its own power from its combustion turbine generators. *See* http://www.tva.com/sites/brownsville.htm last visited February 22, 2010. These purchases, brought to the Board's attention by SACE, highlight the fact that TVA presently has older less economical power generating capacity and has a need for more economically produced power. SACE has provided no showing that Watts Bar Unit 2 would not be used to displace less economical combustion turbine generators.

Failure to make a *prima facie* showing on this topic of displacing older less-economical generating capacity is fatal to SACE's Waiver Request. See Beaver Valley, LBP-84-6, 19 NRC 393, 401. Thus, with respect to this factor, SACE's request should be denied.

3. No Showing Regarding Viable Alternatives.

As discussed above, SACE failed to make a prima facie showing for the first two elements needed for a successful waiver primarily by failing to provide any meaningful information or discussion.

The third element of a successful waiver requires SACE to make a prima facie showing that there are viable alternatives to the completed nuclear plant likely to exist which could tip the

NEPA cost-benefit balance against issuance of the operating license. *See e.g. Beaver Valley*, LBP-84-6, 19 NRC 393, 401 (1984). To be a viable alternative, the proposed power source must be capable of serving TVA's consumers in manner equivalent to Watts Bar Unit 2, allowing customers to use the power from the substitute source in whatever varied ways they see fit. *See Vogtle*, LBP-84-35, 20 NRC at 894.

SACE states that it is not a forgone conclusion that Watts Bar Unit 2 is preferable to alternatives. Waiver Request at 8-9 (citing Makhijani Declaration at ¶ 17. SACE must now show by compelling evidence what these alternatives are. See Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2080 (1982). In support of this, SACE repeats its earlier rejected claims that TVA's discussion about alternatives was lacking. See e.g. Makhijani Declaration at ¶ 17. This is unpersuasive to support a waiver of the rule, and instead reflects compliance with the rule.

SACE provides no meaningful discussion of a viable alternative, and made no *prima facie* showing of an alternative that will tip the cost balance. The proffered alternatives by Dr. Makhijani appear to be a conceptual (i.e. unproven) "baseload wind energy concept" that uses fossil fuel (natural gas) as "dispatchable wind" along with wind farms. Dr. Makhijani, "Watts Bar Unit 2: Analysis of Need and Alternatives (July 10, 2007) at 5-6. The discussions are generic in nature, and include off-shore generation and generation in other countries, and do not appear to address TVA's service areas. *Id.* at 4-7. Indeed, the wind data provided by SACE are for Indiana (*id*. 15-16) outside of TVA's southeaster service area.[12] Through these vague general

[12] TVA provides power for almost all of Tennessee, and for parts of Alabama, Georgia, Kentucky, Mississippi, North Carolina, and Virginia. See http://www.tva.gov/abouttva/keyfacts.htm last visited February 22, 2010.

assertions, SACE does not make a *prima facie* showing that TVA could now site, build, and deploy in the TVA service area one of these alternatives to produce the same power as Watts Bar Unit 2 with a lower overall environmental cost. *Cf. South Carolina Electric and Gas Co. and South Carolina Public Service Authority (also referred to as Santee Cooper)* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-01, __ NRC __(slip op. at 27-28) (January 7, 2010) (In a COL proceeding, affirming a Board's rejection of a contention based upon non-specific general assertions about wind and solar alternatives). None of these distant or conceptual ideas, which are based well outside TVA's service area in oceans, other countries or Indiana, have been shown by SACE to be viable alternatives as described in *Vogtle*, LBP-84-35, 20 NRC at 894.

In sum, SACE has failed to make a *prima facie* showing under the third test that there are viable alternatives available to TVA that would be less environmentally-costly than operation of Watts Bar Unit 2.

D. Issuance of Limited Staff RAI Does Not Waive Rules

It is settled that pursuant to 10 C.F.R. 51.95(b), unless otherwise determined by the Commission, the Staff's supplemental EIS will not include a discussion of need for power or of alternative energy sources. The Commission has not exercised its regulatory latitude to require the Staff to include a discussion of need for power or energy alternatives in the Staff's supplemental EIS. *See* 47 Fed. Reg. at 12,941 (discussing latitude to consider issues). The Commission has not directed the Staff to include need for power or alternative energy sources in the Staff's EIS.

Petitioners assert that the Staff has effectively waived the rules by requesting information[13] related to the need for power although petitioners do not claim that Staff asked about alternative energy sources. Waiver Request at 10; Makhijani Declaration at ¶ 19.

As a threshold matter, and as admitted by SACE, the questions do not elicit information on alternative energy sources, thus are not supportive of a waiver for this topic. Further, the Staff has yet to publish its supplemental EIS, thus it is premature to discuss compliance with 10 C.F.R. § 51.95(b), and it cannot be said that questions somehow acted as a waiver of the rules prohibiting the Staff's supplemental EIS from including a discussion of need for power, or of alternative energy sources.

SACE argues that the RAI makes the need for power relevant to the agency's licensing decision. Waiver Request at 10. However, the Staff's RAI simply does not have such power -- the RAI does not trump the existing rule governing the contents of the Staff's supplemental EIS and explicitly stating that the EIS "will not include a discussion of the need for power." 10 C.F.R. § 51.95(b).

While it is true that a recent Commission decision denied an appeal by the Staff over a contention based in part on a Staff RAI (*Southern Nuclear Operating Co.* (Vogtle Electric Generating Plant, Units 3 and 4), CLI-09-16, 70 NRC __, (July 31, 2009) (slip op.), that decision can be distinguished from the present set of facts for several reasons. First, the issue in that

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[13] The requests for additional information ("RAIs") at issue requested information related to "Benefit-Cost." "RAIs Watts Bar Unit 2" at 3 (undated) (ML093290073) (The RAIs were submitted as an enclosure to "Watts Bar Nuclear Plant, Unit 2 - Request for Additional Information Regarding Environmental Review (TAC No. MD8203)" (December 3, 2009) (ML093030148)). The questions ask about overnight capital costs, estimated operating costs, and, to assess the potential benefits of operating the plant, information related to power supply and demand provided in TVA's most recent "Long-Term Capacity Expansion Plan." *See id*.

case involved a contention related to 10 C.F.R. § 52.79(a)(3),[14] which the Commission described as not being explicit on its face, with further not being clear as to the scope of information required . *See Vogtle*, CLI-09-16, 70 NRC at __ (slip op. at 5-6). Thus given the ambiguity of the regulation and the Staff's RAI, the Commission held that the adjudicatory record would benefit with respect to the information required to satisfy the Commission's regulations. *Id.* at slip op. 7-8. By contrast, there is no ambiguity about the need for power regulation and its application to Watts Bar Unit 2 -- "No discussion of need for power, or of alternative energy sources" is required in the applicants report (10 C.F.R. § 51.53(b)); the Staff's supplemental EIS "will not include a discussion of need for power, or of alternative energy sources" (10 C.F.R. § 51.95(b)). There is no uncertainty in the scope of the need for power regulations that would be resolved through additional information, and an RAI does not overcome the plain-on-its-face regulation.

Second, the recent case is further distinguished because the question before the Commission involved a Board's decision on admission of a contention under the Commission's rules, not a waiver of the rules. The threshold for waiver of the need for power rule was explicitly made much stricter than the threshold for raising a contention. *Cf*. 47 Fed. Reg. at 12941 (In the final rule, responding to a comment regarding ease of raising the issue by stating, "This is a much stricter standard then the current requirements [i.e. contention admissibility] for raising need for power and alternative energy sources in OL proceedings."). Contentions do not require the *prima facie* showing of a waiver request. *See* 10 C.F.R. § 2.309(f)(1)(i-vii). Thus,

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[14] Under 10 C.F.R Part 52, an applicant for a "combined license" must submit a final safety analysis report in "sufficient" information regarding "The kinds and quantities of radioactive materials expected to be produced in the operation and the means for controlling and limiting radioactive effluents and radiation exposures within the limits set forth in part 20 of this chapter." 10 C.F.R. § 52.79(a)(3).

the Commission's decision on Vogtle not to disturb the Board's contention admissibility decision in light of the Staff's RAI and an open-ended regulation may be further distinguished from the present facts. The *prima facie* showing needed for the waiver request is not itself waived through a Staff RAI, and likewise the clear unambiguous regulation is not waived by an RAI.

SACE cannot rely upon the existence of an RAI as a substitute for the three-part test needed for a prima facie showing that the rules should be waived. *Cf.* Vogtle, CLI-09-16, 70 NRC __ (slip op at 7-8 n.25) citing *Duke Energy Corp*. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 336-337 (1999)) (finding that issuance of an RAI does not alone establish deficiencies in an application, and that a petitioner must do more than merely quote an RAI to justify admission of a contention into the proceeding)). The Commission has held that even numerous RAIs are not *prima facie* evidence that the application is incomplete. *Id.* at 336. SACE must still make the three-part demonstration to justify waiving the rules. *See id.* To that end, SACE's reference to a Staff RAI that inquired about costs, supply and demand fails to establish that Watts Bar Unit 2 will not be used to meet demand, that it will not be used to replace existing costly production, and that an environmentally preferable and viable alternative exists.

SACE argues that given that it would be unlawful for the Board to refuse a hearing based upon *Union of Concerned Scientists v. NRC*, 735 F.2d 1437 (D.C. Cir. 1984), *cert. denied sub nom Arkansas Power & Light Company v. Union of Concerned Scientists*, 469 U.S. 1132 (1985). *See* Waiver Request at 10. In *Union of Concerned Scientists ("USC")*, the court vacated an NRC rule that eliminated an emergency exercise as a prerequisite to authorization of a license because the court found the rule contravened Section 189(a) of the Atomic Energy Act, 42 U.S.C. § 2239(a) (1976) by denying a right to a hearing on a material factor relied upon by the Commission in making its safety licensing decisions. *Union of Concerned Scientists v. NRC,* 735 F.2d at 1440-1442 (noting that the NRC interpreted its rule as retaining emergency

exercises as a licensing prerequisite and part of pre-operational testing). *Id*. at 1451. The facts in *UCS* are different from the Watts Bar need for power issue. First, the need for power is not a safety issue. *See* Waiver Request at 3. Second, the need for power rule has not been challenged or vacated, and continues to remove revisiting the need for power demonstration from the licensing decision absent contrary direction from the Commission. *See* 10 C.F.R. § 51.95(b). Third, the NRC's rules do not deny a hearing right, but instead allow for a waiver request upon a successful showing by SACE. *See* 10 C.F.R. § 2.335. Thus, *UCS* does not support SACE's claim that, by law, the Board must grant a hearing on the need for power based upon the staff's RAI.

Indeed, consistent with the Appeal Board in *Byron*, fairness requires SACE to make a "threshold particularization" of the circumstances in sufficient for a waiver to be entitled to litigate whether NEPA requires that Watts Bar Unit 2 be mothballed or dismantled. *Byron*, ALAB-793, 20 NRC at 1616. Pointing to a single Staff RAI, while ignoring the three relevant factors developed in the Commission's rulemaking and subsequent Boards and Appeal Boards, is not a sufficient basis for a waiver of the rules.

E. Waiver of 10 C.F.R. § 51.95(b) Not Supported.

The Waiver Request contains no discussion about the purpose of 10 C.F.R. § 51.95(b) nor of the regulatory history and rulemaking behind this regulation. That omission alone is fatal, in that a prima facie showing cannot be made through silence, but must be a persuasive evidentiary showing. *See Shearon Harris*, LBP-82-119A, 16 NRC at 2080.

III. Conclusion

In conclusion, the Staff opposes granting of the Waiver Request. Petitioners have failed to make the required three-part prima facie showing that Watts Bar Unit 2 would not be used to meet demand, would not be used to replace less-economical power (i.e. combustion turbines), and that there is an environmentally better replacement available to TVA's customers. *See* 47 Fed. Reg. at 12940.

Respectively submitted,

/Signed (electronically) by/

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
TENNESSEE VALLEY AUTHORITY	)	Docket No. 50-391-OL
	)	
(Watts Bar Nuclear Plant, Unit 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NRC STAFF'S RESPONSE TO REQUEST BY SOUTHERN ALLIANCE FOR CLEAN ENERGY ("SACE") FOR WAIVER OF 10 C.F.R. §§ 51.53(b) AND 51.95(b) WITH RESPECT TO ADMISSION OF CONTENTIONS REGARDING NEED FOR POWER AND CONSIDERATION OF ALTERNATIVE ENERGY SOURCES" dated February 26, 2010, have been served upon the following by the Electronic Information Exchange, this 26th day of February 2010:

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