

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

DOCKETED
USNRC

January 31, 2006 (8:23am)

**Before Administrative Judges:
E. Roy Hawken, Chair
Dr. Paul B. Abramson
Dr. Anthony J. Baratta**

**OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF**

In the Matter of:)	
)	January 30, 2006
AmerGen Energy Company, LLC)	
)	Docket No. 50-219-LR
(License Renewal for Oyster Creek Nuclear)	
Generating Station))	
)	

**AMERGEN'S BRIEF IN RESPONSE TO ORDER
DIRECTING SUPPLEMENTAL BRIEFING ON METAL FATIGUE**

AmerGen Energy Company, LLC ("AmerGen") hereby submits its supplemental brief in response to the Atomic Safety and Licensing Board's ("Board") January 23, 2006 "Order (Directing Supplemental Briefing on Hearing Request)" ("Order") in the above-captioned proceeding. AmerGen's response is provided below.

I. INTRODUCTION

In its Order, the Board asks AmerGen, the NRC Staff, and the New Jersey Department of Environmental Protection ("NJDEP") to address one question related to NJDEP's proposed Contention 2. The Board characterizes Contention 2 as a challenge to AmerGen's use of a cumulative usage factor ("CUF") of 1.0 rather than 0.8 for fatigue evaluations for reactor coolant pressure boundary and associated components in the license renewal application ("LRA") for Oyster Creek Nuclear Generating Station ("OCNGS"). Order at 2. The Board acknowledges

that as indicated in Exhibit 1 of AmerGen's Answer,¹ AmerGen has docketed a commitment to revise the Updated Final Safety Analysis Report ("UFSAR") by changing the CUF from 0.8 to 1.0. Order at 3. The Board is concerned, however, "that until this revision is implemented, the license renewal application is not based upon the now-effective CLB as required by 10 C.F.R. § 54.21(a)(3)." *Id.* The Board has asked for supplemental briefing "addressing the requirements of the governing regulations with regard to this issue." *Id.*

II. THE LRA IS BASED UPON THE "NOW-EFFECTIVE" CLB AND COMPLIES WITH SECTIONS 54.21(a)(3) AND 54.21(c)(3)

At the outset, it is important to recognize that since AmerGen treats metal fatigue as a time-limited aging analysis ("TLAA") in the LRA, the immediately applicable regulation is Section 54.21(c)(3). This regulation requires license renewal applicants to demonstrate that TLAA's remain valid, have been projected through the extended period of operation, *or* the aging effects on the intended functions will be adequately managed for that period. AmerGen has prepared the requisite analysis for metal fatigue of reactor coolant pressure boundary components in compliance with Section 54.21(c)(3). *See* LRA, Section 4.3.

In addition, the Board is mistaken that until AmerGen revises the UFSAR by changing the CUF to 1.0, that the LRA on this issue is inconsistent with the "now-effective" CLB and 10 C.F.R. § 54.21(a)(3). Section 54.21(a)(3) requires a license renewal applicant to demonstrate for certain components, including the reactor coolant pressure boundary components at issue here, "that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation." In order to

¹ "AmerGen's Answer Opposing NJDEP's Request For Hearing And Petition To Intervene," Dec. 12, 2005.

determine consistency with the CLB, it is important to recognize that the term “CLB” is not static² and is defined in 10 C.F.R. Part 54 as:

the set of NRC requirements applicable to a specific plant and a licensee's *written commitments* for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis (including all modifications and additions to such commitments over the life of the license) that are *docketed and in effect*. The CLB includes the *NRC regulations* contained in 10 CFR Part[] . . . 50 . . . and appendices thereto; orders; license conditions; exemptions; and technical specifications.

10 C.F.R. § 54.3(a) (emphasis added). This definition covers a plant's UFSAR, ASME Codes incorporated by reference into NRC regulations per amendments to Section 50.55a, and a licensee's commitments that are written, docketed, and in effect.

In Section 4.3 of the LRA, AmerGen demonstrates consistency with the CLB for metal fatigue for reactor coolant pressure boundary components. Specifically, in the TLAA for those components where the 60-year fatigue usage (based on the use of projected cycles for 60 years) was predicted to be greater than the acceptance limit of 0.8 specified in UFSAR Section 5.2.2.1, AmerGen re-analyzed the fatigue using more refined methods to demonstrate fatigue usage less than the acceptance limit for 60 years. *See* LRA Section 4.3.1, at 4-25, and Section 4.3.4, at 4-34 and -35. In doing so, AmerGen re-analyzed the fatigue usage for these components in accordance with ASME Section XI, which allows a CUF ≤ 1.0 and has been adopted through 10 C.F.R. § 50.55a. *See id.* at 4-26 and Table 4.3.1-2 Notes 2 and 5 at 4-28, and Table 4.3.4-1, Notes 1 and 2 at 4-37; Final Rule, Industry Codes and Standards; Amended Requirements, 64 Fed. Reg. 51,370, at 51,381 (Sept. 22, 1999); *see also* NUREG-1800, Section 4.3.2.1.1.2 and Section 4.3.3.2, Rev 1 (Sept. 2005).

² The CLB “represents the evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety.” Final
(footnote continued)

As demonstrated in AmerGen's Answer (at 19-23), and as supported by the NRC Staff, AmerGen is not required to retain a CUF of 0.8, but rather may elect to use an NRC-approved ASME Code which provides for a CUF of 1.0. Because the metal fatigue analyses in the LRA for the period of extended operation for some reactor coolant pressure boundary components are consistent with the existing UFSAR (for a CUF of 0.8)—and the remaining components are consistent with the existing ASME Code Section XI as adopted by Section 50.55a (for a CUF of 1.0)—these TLAAs are consistent with the CLB and 10 C.F.R. § 54.21(a)(3).

AmerGen has committed to revise the UFSAR to reflect that a CUF of 1.0 will be used in fatigue analysis for reactor coolant pressure boundary components as endorsed by the NRC in Section 50.55a. AmerGen docketed this written commitment to revise the UFSAR with the NRC on December 9, 2005. *See* AmerGen Answer, Exhibit 1. Since the CLB as defined by Part 54 also includes “a licensee’s *written commitments* for ensuring compliance with and operation within applicable NRC requirements and the plant-specific design basis ... that are *docketed and in effect*,”³ 10 C.F.R. § 54.3(a) (emphasis added), this commitment to revise the UFSAR is part of the now-effective CLB and is additional evidence of consistency with 10 C.F.R. § 54.21.

Furthermore, Part 54 expressly addresses the timing of the commitment’s implementation. Section 54.21(b), titled “CLB changes during NRC review of the application,” requires a license renewal applicant to submit to the NRC any changes to the CLB that materially affect the LRA annually after submitting the LRA and at least three months before scheduled

Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. 22,461, 22,473 (May 8, 1995).

³ The Statements of Consideration clarify that “in effect” was intended to ensure that only those “written commitments *remaining in effect* that were made in docketed licensing correspondence” were included within the definition of CLB in 10 C.F.R. § 54.3(a). Final Rule, Nuclear Power Plant License Renewal, 56 Fed. Reg. 64,943, 64,949 (Dec. 13, 1991) (emphasis added); *see also*, 60 Fed. Reg. at 22,473 (“the conclusions made in the [Statements of Consideration] for the previous rule [for the CLB] remain valid”).

completion of the NRC review. This requirement is consistent with the definition of the CLB which contemplates the inclusion of written commitments that are docketed *after* the LRA is filed. See 56 Fed. Reg. at 64,949 (“the Commission has revised the definition of the CLB by removing the phrasing that limited the CLB to that defined at the time of submittal of the renewal application”). Accordingly, AmerGen’s December 9, 2005, commitment to revise the UFSAR is authorized by Part 54.

Even if the commitment is not implemented prior to issuance of the renewed license, but prior to the period of extended operation, then the LRA still complies with Part 54. Section 54.29(a) states that the standards for issuing a renewed license can include a finding that actions related to aging management “*will be taken . . . such that there is reasonable assurance that the activities authorized by the renewed license will [] be . . . in accordance with the CLB.*”

Emphasis added. This regulation squarely contemplates and authorizes a finding that is based on the implementation of a future commitment.

Respectfully submitted,



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Dated in Washington, D.C.
this 30th day of January 2006

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
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AmerGen Energy Company, LLC

(License Renewal for Oyster Creek Nuclear
Generating Station)

January 30, 2006

Docket No. 50-219

CERTIFICATE OF SERVICE

I hereby certify that copies of AmerGen's Brief in Response to Order Directing Supplemental Briefing on Metal Fatigue were served this day upon the persons listed below, by E-mail and first class mail, unless otherwise noted.

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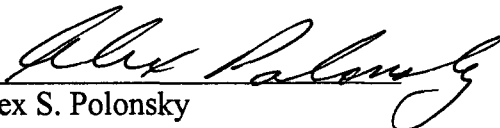
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