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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

OFFICE OF THE
GENERAL COUNSEL

September 18, 2007

E. Roy Hawkens, Chair
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Anthony J. Baratta
Administrative Judge
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Paul B. Abramson
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

In the Matter of
AMERGEN ENTERGY COMPANY, LLC
(Oyster Creek Nuclear Generating Station)
Docket No. 50-0219-LR

Dear Administrative Judges:

In accordance with the "Memorandum and Order (Prehearing Conference Call Summary, Case Management Directives, and Final Scheduling Order)" (Apr. 17, 2007) (unpublished), please find enclosed "NRC Staff Proposed Questions For Evidentiary Hearing" (Aug. 24, 2007).

Pursuant to 10 C.F.R. § 2.1207(a)(3)(i), the enclosed questions are being submitted only to the Board at this time. The Staff understands that, consistent § 2.1207(a)(3), the questions will be confidential until propounded by the Board or until issuance of an initial decision, at which time they will be forwarded to the Secretary of the Commission for inclusion in the official record of this proceeding.

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In addition, in order to address the Board questions about reasonable assurance in "Memorandum and Order (Hearing Directives)" (Sept. 12, 2007) (unpublished) at 3, the Staff is adding A. Louise Lund and Kamal Manoly to its witness panel. Enclosed are statements of professional qualifications for Ms. Lund and Mr. Manoly.

Sincerely,

Mary C. Baty
Counsel for the NRC Staff

Enclosures: 1. NRC Staff Proposed Questions Regarding Surrebuttal Testimony
2. Professional Qualifications of A. Louise Lund
3. Professional Qualifications of Kamal Manoly

cc w/ encl 1, 2, & 3: D. Wolf, Esq.

cc w/ encl 2 & 3 : Suzanne Leta Liou
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September 18, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
AMERGEN ENERGY COMPANY, LLC	)	Docket No. 50-219-LR
	)	
(Oyster Creek Nuclear Generating Station)	)	

NRC STAFF PROPOSED
QUESTIONS REGARDING SURREBUTAL TESTIMONY

Pursuant to 10 C.F.R. § 2.1207(a)(3) and "Memorandum and Order (Prehearing Conference Call Summary, Case Management Directives, and Final Scheduling Order)" (Apr. 17, 2007) (unpublished), at 6 n.4, the staff of the U.S. Nuclear Regulatory Commission ("Staff") hereby submits proposed questions for the Board to pose to witnesses in this proceeding.

I. Questions Regarding Dr. Hausler's Expertise

Citizens rely on the expert opinion of Dr. Haulser to support their contention that the frequency of AmerGen's UT measurements is not adequate to ensure an "adequate safety margin." *See* LBP-06-22, 64 NRC 229, 240. Citizens particularly rely on his expertise as a statistician. The objective of the following questions seek to determine what weight, if any, should be given to Dr. Hausler's opinions on statistical analysis of ultrasonic testing (UT) data results and to clarify discrepancies between his April 25, 2007 Memorandum (Citizens Exhibit 12) and the "Prefiled Sur-Rebuttal Written Testimony of Dr. Rudolph H. Hausler Regarding Citizens' Drywell Contention ("Sur-rebuttal Testimony"). The questions below also probe whether Dr. Hausler understands what is meant by a confidence interval and how to interpret confidence intervals.

1. In your Sur-rebuttal Testimony at A16 you state that AmerGen's Rebuttal

Testimony, Part 3, at A31, which quoted your April 25 Memorandum, is not correct, indicating that you assumed "that the standard error of the mean was 0.03. Thus, the lower 95% confidence interval for the mean is approximately the (stated hypothetical) mean minus two times 0.03. This is another example of AmerGen's multiple attempts to misread and misrepresent statements." Isn't AmerGen correct that your April 25 Memorandum stated, "[I]f an average of 10 measurements over a specific area results in a thickness of .750 inches with a variability (standard deviation) for the average of 0.03 inches, the lower 95% confidence limit for this average would be 0.69 (0.75 – 0.06)"?

2. Haven't you confused the standard error of the mean — which is the standard deviation of the sampling distribution of the mean — with the standard deviation of the underlying population?

3. (If yes) Isn't it true, as AmerGen states, you should have divided by the square root of the sample size (i.e., you should have divided by $\sqrt{10} = 3.16$), getting approximately 0.019 (0.06/3.16 = 0.0189) as determined by AmerGen?

4. Shouldn't the lower confidence limit be .731 (.75-.019) and not .69 as you suggest?

5. Isn't it also true that AmerGen correctly stated that the confidence interval is about one-third as large as you state?

6. (If yes) Does your inappropriate use of statistics render your testimony incorrect and unreliable?

7. In your Sur-rebuttal Testimony at A14, you comment on AmerGen's Rebuttal Testimony Part 3, at A22, by stating that "requiring this limit to meet the acceptance requirement would mean that in one out of forty instances, the components could be below the requirements without us knowing it." Isn't it true that a 95% confidence interval means that if the procedure were repeated (with the same size

sample from the same distribution) 20 times, one of those intervals may not cover the true value of the population mean?

8. Dr. Hausler in your Sur-rebuttal Testimony, at A31, you use the expression "statistical likelihood" to indicate "that there would be a statistical likelihood that one of the parameters would be in violation." What do you mean by "statistical likelihood?"

9. Is there a specific numerical value associated with the expression?

II. Questions Regarding Drywell Corrosion

A. Questions for Dr. Hausler Regarding Drywell Corrosion

In Memorandum and Order (Denying AmerGen's Motion for Summary Disposition) (June 19, 2007) (SD Order) (unpublished) at 9 n.11, the Board stated that it expected the parties to address the pattern of corrosion in the sand bed region of the drywell and how that pattern of corrosion might affect the drywell's susceptibility to buckling. Dr. Hausler provided contour plots, which he asserts illustrate the pattern of corrosion. In his Sur-rebuttal Testimony, at A5, Dr. Hausler claims his contours are "definitive."

The Staff's position is that Dr. Hausler's plots overestimate the extent of corrosion and are not consistent with either the observations of the NRC inspector who physically entered the bays or AmerGen's documented UT inspection results. *See* Staff Rebuttal Testimony at A26, A27. The objective of the following proposed questions is to probe the bases for Dr. Hausler's refined contour plots and conclusions drawn from them.

1. Does your Sur-Rebuttal Testimony describe all data input assumptions and parameter adjustments you made to generate each contour plot in Exhibit 61? If not, please state them.

2. In Citizens Exhibit 61, you indicate you have constructed contour plots based on AmerGen's UT data. Is it a distortion of AmerGen's UT data to generate a contour around multiple locations depicting UT measurements less than 0.736 inch and then conclude that the drywell shell thickness of the entire area inside of the contours is uniformly thinned to less than 0.736 inch?

3. If you contend it is not a distortion, doesn't that approach ignore that there are a number of UT measurements inside of the contour area that are significantly higher than 0.736 inch?

4. In your Sur-Rebuttal Testimony at A28, you indicate that you used extrapolation techniques to make up for a lack of UT data. Did these techniques affect whether your contour plots represent the actual condition of the Oyster Creek drywell shell?

5. What assurance do you have that your contour plots accurately represent actual contours of wall thicknesses of the Oyster Creek drywell shell?

6. Why is extrapolated data better than actual UT data?

III. Questions For Dr. Hauser Regarding Epoxy Coating

Citizens assert that corrosion can occur beneath the epoxy coating and that there is a chance that some of the exterior of the drywell shell is not covered by the epoxy. The objective of the following questions is to probe Dr. Hausler's statement about the effectiveness of the epoxy coating.

1. In your Sur-Rebuttal Testimony at A28, you state that "widespread failure [of the epoxy coating] could occur between coating inspection." What do you mean by widespread failure of the coating?

2. Is pitting a widespread failure?

3. Have you ever observed the widespread failure of an epoxy coating

similar to that used on the Oyster Creek drywell shell?

4. If your postulated widespread failure occurs between inspections, does that mean that the drywell will no longer be able to perform its design function?

Respectfully submitted,

Mitzi A. Young
Counsel for NRC Staff

Dated at Rockville, Maryland
this 18th day of September, 2007