

RAS 13960

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Before Administrative Judges:

E. Roy Hawken, Chair

Dr. Paul B. Abramson

Dr. Anthony J. Baratta

In the Matter of:)	August 1, 2007
AmerGen Energy Company, LLC)	Docket No. 50-219
(License Renewal for Oyster Creek Nuclear Generating Station))	

**AMERGEN'S ANSWER TO CITIZENS' MOTION FOR
CLARIFICATION AND MOTION IN LIMINE
AND ANSWER TO THE STAFF'S MOTION IN LIMINE**

I. INTRODUCTION

In accordance with 10 C.F.R. §§ 2.1204, 2.323 and 2.337, as well as the Atomic Safety and Licensing Board's ("Board") Orders of April 19, 2006,¹ and April 17, 2007,² AmerGen Energy Company, LLC ("AmerGen") hereby files its Answer to "Citizens"³ Motion for Clarification and Motion in Limine," ("Citizens' Motion") and the NRC Staff's "Motion in Limine Regarding Citizens' Presentation on Drywell Contention" ("Staff's Motion"), both dated July 27, 2007. For the reasons set forth below, the Board should grant the Staff's Motion and deny Citizens' Motion in their entirety. In particular, Citizens' Motion is without merit because

¹ Memorandum and Order (Prehearing Conference Call Summary, Initial Scheduling Order, and Administrative Directives) (unpublished).

² Memorandum and Order (Prehearing Conference Call Summary, Case Management Directives, and Final Scheduling Order) (unpublished) ("April 17 Order").

³ "Citizens" are: Nuclear Information and Resource Service; Jersey Shore Nuclear Watch, Inc.; Grandmothers, Mothers and More for Energy Safety; New Jersey Public Interest Research Group; New Jersey Sierra Club; and New Jersey Environmental Federation.

it incorrectly argues that AmerGen's expert witness testimony is "unsupported," and incorrectly asserts that portions of AmerGen's testimony are "out of scope."

II. LEGAL STANDARDS

In this proceeding, the parties must "set out in detail sufficient for comprehension and confirmation by another expert the specific data and analyses supporting the authoring expert's conclusions."⁴ As a general matter, however, only "relevant, material, and reliable evidence" will be admitted.⁵ Moreover, NRC precedent generally follows the Federal Rules of Evidence in admitting expert witness testimony.⁶

In this regard, expert testimony is admissible if: (1) the testimony "will assist the trier of fact to understand the evidence or to determine a fact in issue";⁷ and (2) the expert is qualified "by knowledge, skill, experience, training, or education."⁸ Expert testimony may be "in the form of an opinion or otherwise,"⁹ and is typically is a mixture of scientific principles, data derived from analysis or perception, and the expert's opinions based on these principles and data.¹⁰ References to documentary evidence supporting expert opinions need not be provided for expert

⁴ April 17 Order at 5.

⁵ 10 C.F.R. § 2.337(a).

⁶ See *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 & 2), CLI-04-21, 60 N.R.C. 21, 27-28 (2004) (citing *Duke Power Co.* (William B. McGuire Nuclear Station, Units 1 & 2), ALAB-669, 15 N.R.C. 453, 475 (1982); *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-01-9, 53 N.R.C. 239, 250 (2001)); see also *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 & 2), ALAB-819, 22 N.R.C. 681, 720 n.52 (1985).

⁷ *Catawba*, 60 N.R.C. at 27-28; see also Fed. R. Evid. 702.

⁸ *Catawba*, 60 N.R.C. at 27; see *Louisiana Power & Light* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 N.R.C. 1076, 1091 (1983); see also Fed. R. Evid. 702.

⁹ Fed. R. Evid. 702; *Limerick*, 22 N.R.C. at 720 n.52.

¹⁰ *Limerick*, 22 N.R.C. at 720.

testimony to be admissible.¹¹ Finally, the Board “normally has considerable discretion in making evidentiary rulings.”¹²

Furthermore, parties to NRC proceedings may present evidence for one limited purpose without opening that evidence to challenge for an entirely different purpose. Thus, parties may introduce background information without reopening issues that are outside the scope of the admitted contention.¹³ In this proceeding, for example, the Board has required AmerGen to satisfy its burden by demonstrating the adequacy of its UT periodicity through its established techniques, but has “foreclosed” Citizens from countering with arguments that have been excluded from the admitted contention.¹⁴

III. CITIZENS’ MOTION IN LIMINE IS WITHOUT MERIT

Citizens’ Motion includes twelve separate challenges to AmerGen’s direct testimony, four of which are essentially repetitive. Citizens’ Motion also includes one challenge to the Staff’s direct testimony. The following discussion addresses Citizens’ challenges, and provides the specific reasons why each is without merit.

A. Sources of Water

Citizens claim that AmerGen’s testimony in Part 1, A.20 and Part 4, A.13, regarding the sources of water in the sand bed region, is “wholly unsupported.”¹⁵ Citizens are seeking documentary support which is not required here, because AmerGen’s expert witnesses are

¹¹ See Fed. R. Evid. 703 (“facts or data need not be admissible in evidence in order for the [expert] opinion or inference to be admitted”).

¹² *Catawba*, 60 N.R.C. at 27.

¹³ See, e.g., *Louisiana Energy Services, L.P.* (National Enrichment Facility), Licensing Board Memorandum and Order (Ruling on In Limine Motion) (Jan. 11, 2006) at 7 (unpublished) (“LES”) (“While a portion of Dr. Makhijani’s testimony may appropriately be considered background information . . . this does not mean the testimony is necessarily ‘unduly repetitious’ or irrelevant . . .”).

¹⁴ Memorandum and Order (Clarifying Memorandum and Order Denying AmerGen’s Motion for Summary Disposition) at 3-4 (July 11, 2007) (unpublished) (“July 11 Order”).

¹⁵ Citizens’ Motion at 4, 6.

testifying as to their knowledge. Messrs. Gallagher and Polaski, for example, are knowledgeable on this topic, having already testified on it before the Advisory Committee on Reactor Safeguards (“ACRS”) License Renewal Subcommittee on October 30, 2006, and January 18, 2007. Also, Mr. Ray, as the Engineering Programs Manager at Oyster Creek Nuclear Generating Station (“OCNGS”), is familiar with the documented extensive investigations that isolated the source of water leakage into the sand bed region as the reactor cavity liner. These investigations also are discussed in detail in Citizens’ *own* Exhibit 21: a 1990 letter describing OCNGS’ “past actions to investigate, identify, and correct leak paths into the drywell gap” from 1985 to 1990.¹⁶ Thus, it is Citizens’ claim that is unsupported.

B. Volumetric Nature of the Local Buckling Acceptance Criterion

Citizens aver that AmerGen’s testimony regarding the “volumetric” nature of the local buckling acceptance criterion in Part 2, A.15, and Part 3, A.33, A.34, and A.35, is “totally unsupported.”¹⁷ Again, they are wrong. This testimony appears in a discussion of “Background Information on the Acceptance Criteria.”¹⁸ Thus, this description is background information that AmerGen must be permitted to address in order to provide context for the remainder of its testimony.¹⁹ The fact that the established local buckling criterion is volumetric is derived from General Electric (“GE”) analyses which are not subject to challenge in this proceeding, and thus, were not included as exhibits.²⁰

¹⁶ Applicant’s Exhibit 3, at 6-3, for example, also describes the “[e]xtensive examination and testing of potential water sources” to determine the source of water leakage into the sand bed region.

¹⁷ Citizens’ Motion at 4, 6.

¹⁸ AmerGen Dir. Part 2, at A.15.

¹⁹ See July 11 Order at 3; *LES* at 7.

²⁰ *AmerGen Energy Company, LLC* (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 N.R.C. 229, 240 (2006) (“LBP-06-22”); Licensing Board Memorandum and Order (Denying Citizens’ Motion for Leave to Add a Contention and Motion to Add a Contention) at 6 (Apr. 10, 2007) (“April 10 Order”); Licensing Board Memorandum and Order (Denying AmerGen’s Motion for Summary Disposition) at 2 n.4 (June 19, 2007) (unpublished) (“June 19 Order”).

Citizens' argument on this point, moreover, demonstrates—once again—their fundamental lack of understanding of the phenomenon of buckling that is the central technical issue in this proceeding. Pinhole-sized corrosion would have an effect on the pressure criterion. GE's analyses determined that corrosion of a certain depth over a specified area (*i.e.*, volume) is required to implicate buckling. Judge Abramson observed similar deficiencies earlier in this proceeding in his concurring opinion in the Board's February 9, 2007 Memorandum and Order.²¹ Citizens' inability to comprehend the fundamental nature of a central technical issue at this point in the proceeding appears to confirm these prior reservations about "the degree to which it seems Citizens are able to contribute to the formation of a record in this proceeding."²²

C. Exterior Grid Measurements Would Reduce Existing Margin

Citizens argue that Part 3 A.18 and 29 of AmerGen's testimony are "unsupported and out of scope" to the extent they state that "larger grids cannot be taken on the exterior of the drywell shell without reducing the existing safety margin."²³ The support for this statement is obvious and is in A.18 itself: the UT probe requires a smooth surface upon which to sit and the very uneven surface of the exterior drywell shell in the sand bed region would need to be ground to create a smooth surface.

²¹ (Denying Citizens' Motion for Leave to Add Contentions and Motion to Add Contentions) at 21 (unpublished) (observing that Citizens had "failed . . . to provide a scintilla of factual or technical support from their own experts for their (therefore bare) proposition that the sort of localized corrosion which has been observed here can lead to buckling failure" of the drywell.).

²² *Id.* Volume, in this context, equals area multiplied by thickness. With that principle in mind, the text of Citizens' Motion proves that "volumetric" is an accurate description of the local buckling criterion: "Despite the SER discussing the acceptance criteria as requiring severely corroded areas to meet criteria on both *thickness* and *extent*, AmerGen now asserts that these criteria are actually volumetric." Citizens' Motion at 4 (emphasis added). Thus, Citizens have themselves independently confirmed that the "volumetric" term is correct.

²³ Citizens' Motion at 4, 5.

As for purpose and scope, the entirety of this discussion was provided as background information. Such information is admissible, and does not reopen issues that are outside the scope of the admitted contention.²⁴

D. Thinnest Points

Next, Citizens argue that AmerGen “provides no support for” the proposition that “the UT points measured from the exterior were ‘determined to be the thinnest locations in the sand bed region,’” as discussed in AmerGen’s direct testimony, Part 3, A.18 A.22, A.23, A.29 and A.30.²⁵ Messrs. Tamburro and Abramovici can testify to this based on their personal experience at OCNCS. Nor have Citizens challenged their qualifications on this topic, which are demonstrated in AmerGen Dir. Part 2 A.1-A.5, and Applicant’s Exhibit 1. Thus, this testimony is admissible. In the alternative, if documentary support is required, Applicant’s Exhibit 12, at 14 of 74, states, “[t]he locations of these [external] measurements were established in 1992 as being the thinnest local areas based on visual inspection of the exterior surface of the drywell shell before it was coated.” Further, as Citizens’ expert acknowledges (in Citizens’ Exhibit 13 at 7), Applicant’s Exhibit 16, at 4 of 183, also states, “[t]hese 1992 inspections also began with visual inspections to identify the thinnest areas in each bay.”²⁶ Thus Citizens are well aware of the documentary support for AmerGen’s testimony.

E. External Data to Support Averaging

Citizens challenge AmerGen’s expert testimony, in Part 3, A.29, that, “[t]here is not sufficient information from external UT measurements to compare against the general buckling

²⁴ See July 11 Order at 3; LES at 7.

²⁵ Citizens’ Motion at 4, 5.

²⁶ Dr. Hausler, moreover, has independently confirmed the accuracy of AmerGen’s testimony. On page 4 of Citizens’ Exhibit 12, he states, “the average outside measurements are significantly lower at comparable elevations [than the interior measurements]. This is probably because the choice of location for the external measurements was deliberately biased towards thin spots.”

criterion.”²⁷ Again, Citizens have not challenged the demonstrated qualifications of Messrs. Tamburro, Polaski, or Abramovici to testify as expert witnesses on this topic. Thus, this expert opinion testimony is admissible because it assists the trier of fact and is rendered by a properly qualified expert.²⁸

Strikingly, Citizens’ purported expert appears to “comprehend” and “confirm”²⁹ the accuracy of AmerGen’s testimony: “in general . . . the locations chosen for UT measurements on the outside of the Dry Well Liner are few and far between, and . . . calculating averages between them cannot possibly lead to results with a high degree of confidence.”³⁰ Citizens simply cannot be heard to argue that AmerGen’s expert opinion is unsupported when their own “expert” testimony makes the same point. Thus, this testimony is admissible.

F. Taking External UT Data Required Grinding of Metal

Citizens argue that AmerGen’s testimony in Part 3, A.42 regarding the removal of metal through grinding at external data points, resulting in “additional conservatism,” is “vague and unsupported.”³¹ First, this is simply background information that Citizens are foreclosed from challenging.³² Second, AmerGen is not required to show “exactly how many points were actually ground or whether the grinding led to any significant removal of metal.”³³ Any removal of metal would reduce the thickness of the drywell shell, and any uneven exterior surface would have necessarily needed to have been ground for the UT probe to provide an accurate measurement, as explained in Part 3, A.18 of AmerGen’s direct testimony.

²⁷ Citizens’ Motion at 5.

²⁸ *Catawba*, 60 N.R.C. at 27-28.

²⁹ See April 17 Order at 5.

³⁰ Citizens’ Exhibit 13, at 5.

³¹ Citizens’ Motion at 5.

³² July 11 Order at 3-4.

³³ Citizens’ Motion at 5.

Moreover, Citizens base this challenge on purported “anecdotal reports” that “a few points” were “over-ground.”³⁴ Citizens do not attach or otherwise identify these “reports.” Such unspecified “reports” cannot serve as an appropriate basis to exclude testimony.³⁵

G. Micrometer Readings of Epoxy Molds

Citizens argue that AmerGen failed to provide reference to the underlying data taken from micrometer readings of epoxy molds of the sand bed region in Bay 13, in Part 3, A.42.³⁶ This is simply wrong: AmerGen’s direct testimony, Part 3, A.42 cites to Applicant’s Exhibit 17, page 3 of 54. Page 3 then cites data in Appendix A, which begins on page 39 of Exhibit 17.

H. Epoxy Coating System Performance

Citizens challenge AmerGen’s expert testimony regarding the expected performance of the epoxy coating system in Part 5, A.7 and A.9 as “unsupported.”³⁷ As a threshold matter, Citizens have not challenged Mr. Cavallo’s qualifications to testify as an expert witness on the topic of epoxy coating systems, which are set forth in AmerGen Dir. Part 5, A.1-A.5 and Applicant’s Exhibit 1. Thus, this testimony represents the opinion of AmerGen’s qualified expert witness—Mr. Cavallo—based on his decades of established expertise and experience in the industry, and his review of data.³⁸ Mr. Cavallo’s testimony mentions an Electric Power Research Institute survey, but his testimony is based on his “participat[ion]” in that study, *not* the study itself.³⁹ Finally, the manufacturers’ data sheet Mr. Cavallo references is publicly

³⁴ *Id.*

³⁵ See 10 C.F.R. § 2.323(b) (requiring motions to “state with particularity the grounds and . . . be accompanied by any affidavits or other evidence relied on”).

³⁶ Citizens’ Motion at 5-6.

³⁷ *Id.* at 6.

³⁸ *Limerick*, 22 N.R.C. at 720.

³⁹ See *Virginia Electric & Power Co.* (North Anna Nuclear Power Station, Units 1 & 2), ALAB-555, 10 N.R.C. 23, 27 (1979) (applying a “rule of reason” to the basis for expert testimony and requiring a witness to “make available, (*either* in his prepared testimony *or* on the stand) sufficient information . . . to permit the correctness

available,⁴⁰ and reference to it was previously submitted by Citizens.⁴¹ Yet again, Citizens have presented no basis to exclude Mr. Cavallo's testimony, so it is admissible.

I. Citizens' Challenge to the Staff's Testimony and "Motion for Clarification"

Citizens also seek to exclude the Staff's testimony, in A.7, that "the postulated wall thinning [in the General Electric ("GE") analyses] did not have a significant effect on the allowable buckling loads," as unsupported.⁴²

The Staff's testimony on this topic is background information that places in context its general position on whether the drywell shell can fulfill its intended function during the period of extended operation.⁴³ The Staff's presentation of this information for background purposes does not permit Citizens to question this evidence for an entirely different purpose,⁴⁴ when the Board has so clearly and repeatedly ruled that the Citizens may not challenge the adequacy of the acceptance criteria in this proceeding.⁴⁵

Citizens' Motion for Clarification relates to the same information, and the Board should deny this motion for the same reasons. Citizens have no "right to respond" to background

of his conclusion to be evaluated") (emphasis added); *see also* Fed. R. Evid. 703 (permitting admission of expert opinion even if underlying data is not admissible).

⁴⁰ *See, e.g.*, Oyster Creek License Renewal Project, Drywell Monitoring Program, Information for ACRS Subcommittee Reference Material, Volume 2, available in ADAMS at ML063490343.

⁴¹ "Motion for Leave to Add Contentions and Motion to Add Contentions," (Dec. 20, 2006), Exhibit ANC 2, at 6-25 (attaching chart referencing manufacturers' data sheet).

⁴² Citizens' Motion at 6.

⁴³ *See* "NRC Staff Testimony of Hansraj G. Ashar, Dr. James A. Davis, Dr. Mark Hartzman and Timothy O'Hara Concerning Drywell Contention" (July 20, 2007) at Q.7, A.7.

⁴⁴ *See* July 11 Order at 3-4 (requiring AmerGen to "satisfy its burden" by proving the accuracy of its established analysis techniques but "foreclos[ing]" Citizens from countering with arguments that are outside the scope of the admitted contention).

⁴⁵ LBP-06-22, 64 N.R.C. at 240; April 10 Order at 6; June 19 Order at 2 n.4.

information that is outside the scope of the admitted contention.⁴⁶ Moreover, Citizens' have already used their "Motion for Clarification" to *substantively* respond to the Staff on this point.⁴⁷

IV. STAFF'S MOTION IN LIMINE

AmerGen supports the Staff's Motion for the reasons stated therein. Further, AmerGen supports the arguments in the Staff's Motion regarding: (1) Citizens' challenge to the adequacy of the acceptance criteria and the spatial scope of UT; (2) alleged corrosion in the embedded region; (3) Dr. Hausler's expertise on epoxy coating systems; and (4) exclusion of Attachment 5 to Dr. Hausler's testimony, for the additional reasons set forth in "AmerGen's Motion in Limine to Exclude Portions of Citizens' Initial Written Submission" submitted on July 27, 2007.

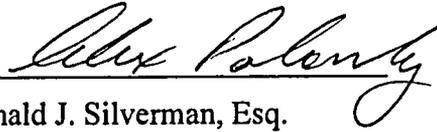
V. CONCLUSION

Because Citizens incorrectly argue that AmerGen's expert testimony is unsupported, and incorrectly asserts that portions of AmerGen's testimony are out of scope, it should be denied in its entirety. In the alternative, should the Board determine that there is insufficient support for the admission of any portion of AmerGen's direct testimony, AmerGen will cure such defects in its rebuttal testimony, giving Citizens the right to respond on surrebuttal. Also, for the reasons set forth above, the Board should grant the Staff's Motion in Limine in its entirety.

⁴⁶ See July 11 Order at 3-4; LES at 7.

⁴⁷ See Citizens' Motion at 2-3.

Respectfully submitted,



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Dated in Washington, D.C.
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