UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF THE SECRETARY

ATOMIC SAFETY AND LICENSING BOARD

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

In the Matter of	)	
	)	Docket No. 50-0219-LR
AMERGEN ENERGY COMPANY, LLC	)	
	)	ASLB No. 06-844-01-LR
(License Renewal for the Oyster Creek Nuclear Generating Station)	)	December 20, 2006
	)	

MOTION FOR LEAVE TO ADD CONTENTIONS AND MOTION TO ADD CONTENTIONS

PRELIMINARY STATEMENT

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 (collectively "Citizens") submit this Motion because AmerGen Energy Co. LLC ("AmerGen") has, for the fourth time, amended its proposals for managing the corrosion of the drywell shell, and has, for the first time, proposed to use ultrasonic ("UT") testing to monitor the thickness of the drywell shell in the embedded region. This region is below the sandbed, where the shell is sandwiched between concrete on the inside and the outside. Because many aspects of the proposed UT monitoring for the embedded region are wholly inadequate, Citizens seek leave to add a new contention concerning the proposed UT monitoring in the embedded region.

With regard to the sandbed region, AmerGen reported on December 3, 2006 that significant water has penetrated into the interior floor of the drywell and wet conditions on the inside are the normal operating environment. This means that corrosion at rates similar to those observed in the sandbed could be occurring on the inside of the drywell below the intersection of the interior floor and the steel. Although AmerGen has just committed to taking UT measurements in the sandbed region from the

outside, it has failed to include adequate monitoring of this area. Therefore, Citizens seek leave to add a new contention concerning the inadequacy of the proposed UT monitoring in the sandbed region from the outside.

NEW INFORMATION AVAILABLE

The enclosure to a letter from Gallagher to NRC, dated December 3, 2006, Ex. ANC 1 ("Supplemental Information") and other information recently disclosed by AmerGen includes new commitments to carry out UT testing of the embedded region and the lower sandbed region in addition to new information about the current thickness of the drywell shell, routine wet conditions on the inside of the shell, and likely pathways for water to get to the exterior of the shell in the embedded region. This section summarizes this information.

I. New Thickness Measurements

Prior to the outage in October 2006, no thickness measurements had even been carried out in the embedded region. During the October outage AmerGen deepened an existing trench in Bay 5 by six inches to expose a limited area of the embedded region. Supplemental Information at 19. AmerGen then took 42 UT measurements in the newly exposed area. Id. The results showed that the average thickness had decreased from a nominal 1.154 inches to 1.113 inches, a loss of 0.041 inches.

The Supplemental Information is not as specific about the measurements that were taken from the outside of the shell in the sandbed region. It merely states that the thinnest point measured in 2006 was 0.602 inches versus 0.618 inches in 1992. Supplemental Information at 14. More detailed information recently submitted to the Advisory Committee on Reactor Safeguards ("ACRS") shows an apparent thinning of up to 0.039 inches. AmerGen ACRS Information Package, Ex. ANC 2 at 6-12. AmerGen attributes the cause of this thinning primarily to a change in measurement techniques and uncertainty, but acknowledges that corrosion could also be occurring on the inner surface of the drywell. Id. To address this concern, it has committed to repeating these measurements in 2008 and periodically thereafter. Id. at 14-15.

II. New Commitments Regarding UT Monitoring

On December 3, 2006, AmerGen committed to taking UT measurements in the trench in Bay 5 in 2008 "at the same locations examined in 2006." Supplemental Information at 52-53. As discussed above, these locations included 42 UT measurements in the embedded region. AmerGen further committed to repeating these measurements "at refueling outages during the period of extended operation until the trenches are restored to the original design configuration. . . ." Id. at 53. In addition, AmerGen committed to repeating all the UT measurements taken from the outside of the sandbed in 2008. Id. at 52. Thereafter, AmerGen proposed to repeat the measurements for two bays per outage starting with Bays 1 and 13 in 2010, unless the examinations yield "unacceptable results," in which case all the bays will be inspected. Id. It is unclear from the commitment what AmerGen means by "unacceptable results."

III. Wet Conditions on the Inside of the Embedded Shell

Previously, AmerGen had considered water on the interior drywell floor a temporary outage condition. Id. at 18. However, when the filler material was removed from the existing trench in Bay 5approximately 5 inches of standing water was discovered in the bottom of the trench. Id. When AmerGen pumped water from the trench, it refilled at a slow rate. Ex. ANC 3. AmerGen thus decided to assume that under normal operating conditions the interior of drywell shell at or below the interior floor level is in contact with water. Supplemental Information at 21.

IV. Pathways for Water to Reach the Exterior of the Drywell Shell in the Embedded Region

AmerGen's latest submission to the ACRS reveals that the bottom of the drywell is below the level of the groundwater table. AmerGen ACRS Information Package, Ex. ANC 2 at 7-4. To respond to the concern that groundwater could contribute to corrosion in the embedded region, AmerGen claims that groundwater could not seep onto the exterior of the shell, but fails to provide any back up information. Id. For example, although AmerGen argues that leakage from groundwater would also penetrate the Torus room, it fails to provide any figures for the rate at which water is being pumped from sumps in the Torus room. Id. at 7-5. Furthermore, as Dr. Hausler notes, the specifications for construction at Oyster Creek have not always provided a good guide to what was actually constructed. Memorandum of Dr. R.

H. Hausler, dated December 19, 2006 ("Sixth Hausler Memo"), Ex. ANC 4 at 7. Thus, in the absence of any measurements of whether wet conditions prevail on the exterior of the drywell below the water table, this source of water to the lower portion of the exterior embedded region cannot be eliminated. Id.

Turning to the potential for water to come from above, AmerGen's latest submission to the ACRS acknowledges that in 1992 the concrete floor on the exterior of the drywell was "cratered with some craters adjacent to the shell. A few craters were big, about 12-13 feet long, 12-20 inches deep, and 8-12 inches wide." Ex. ANC 2 at 7-3. The reactor operator repaired the floor with epoxy in 1992, but an AmerGen document entitled "Determine Proper Sealant for DW Sandbed Floor Voids" generated on October 25, 2006 notes that "since 1996 inspections have found indications of the epoxy separating from the concrete." Ex. ANC 5. The document goes on to note that "the separated seams could potentially allow some water to get under the epoxy coating repair." Id. at 2.

Although AmerGen and the previous reactor operator failed to properly monitor for water draining from the sandbed drains, an NRC inspection in March 2006 found that water had been present in the sandbed drains but that AmerGen improperly disposed of the water before it could be sampled. Letter from Conte to Webster, dated November 9, 2006, Ex. ANC 6. Thus, water infiltrated into the exterior sandbed floor at times between 1969 and 1992, and between 1996 and 2006 and may do so again.

ARGUMENT

I. Specific Statement of the Contentions

Petitioners must "provide a specific statement of the issue of law or fact to be raised or controverted." 10 C.F.R. § 2.309(f)(1)(i). The first new contention is:

> The proposed UT monitoring program for the embedded region of the drywell shell is inadequate to ensure that safety margins will be maintained for any extended licensing period because the spatial scope of the monitoring is too restricted, a reasonable potential corrosion rate has not been developed, the proposed frequency of monitoring is not justified, and the monitoring could cease if AmerGen filled in the trench from which it proposes to do the monitoring.

The second new contention is:

The proposed UT monitoring program for monitoring the lower portion of the sandbed region from the outside of the shell is inadequate to ensure that safety margins will be maintained for any extended licensing period because it fails to provide systematic monitoring of potential corrosion occurring from the inside of the drywell shell in the sandbed region.

II. Explanation of Basis

A. Legal Requirements

At this preliminary stage, Citizens do not have to submit admissible evidence to support their contention, rather they have to "[p]rovide a brief explanation of the basis for the contention," 10 C.F.R. § 2.309(f)(1)(ii), and "a concise statement of the alleged facts or expert opinions which support the ... petitioner's position." 10 C.F.R. § 2.309(f)(1)(v). This rule ensures that "full adjudicatory hearings are triggered only by those able to proffer ... minimal factual and legal foundation in support of their contentions." In the Matter of Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 N.R.C. 328, 334 (1999) (emphasis added). Thus, the Commission has indicated that where petitioners make technically meritorious contentions based upon diligent research and supported by valid information and expert opinion, the requirement for an adequate basis is more than satisfied.

B. Issues Already Addressed by the ASLB

As recognized by the ASLB in its decisions admitting the initial contention, Citizens had ample basis for the following points, which are also included in the bases for the new contentions:

i) the drywell shell is a safety structure, LBP-06-07 at 26;
ii) water intruded into the sandbed region in the past causing severe corrosion; id. at 33.
iii) water either is intruding, or could intrude in the future, leading to corrosive conditions on the outside of the drywell shell in the sandbed region, id. at 36; and
iv) Citizens have adequately demonstrated representational standing. Id at 3-6.

C. Deficiencies in the Proposed Embedded Region Monitoring Regime

Even though the measured corrosion in the embedded region in Bay 5 was not very severe, it nonetheless affirms Dr. Hausler's previous assessments that such corrosion is possible. E.g. Memorandum of Dr. Hausler, dated February 6, 2006, submitted as Ex. C to Motion to Add to Contentions, dated February 7, 2006. It also undercuts previous assertions from AmerGen that corrosion in the embedded region was unlikely. Furthermore, AmerGen established during the recent outage that water is routinely in contact with the inside of the drywell shell. Thus, it is possible that the thinnest areas

of the embedded region of the drywell shell have corrosion that is occurring from the inside and the outside. Finally, AmerGen has also recently revealed its assessment that water could have infiltrated into the floor at the bottom of the sandbed region for all but four of the thirty seven years that the reactor has been operating. Thus, as AmerGen has apparently recognized, UT monitoring of the embedded region is necessary.

As outlined in the contention, Citizens have identified many deficiencies in the proposed monitoring regime. Most glaring is that AmerGen did not choose to monitor the embedded region in a bay where the lower sandbed region is highly corroded. In fact, measurements taken in Bay 5 in 1992 show much less corrosion in the lower sandbed than measurements in Bays 1 or 13. Compare Ex. NC 3 at 15-16 with Ex. NC 3 at 10-12, 24-29. AmerGen has failed to even discuss whether the results in Bay 5 represent worst case conditions in the embedded region. As Dr. Hausler notes, "bay 5 was and is the least corroded, and is not the bay where the trench should have been deepened to assess the outside embedded area corrosion." Sixth Hausler Memo, Ex. ANC 4 at 4.

Recent NRC guidance requires applicants for license renewal to develop or establish a corrosion rate from past UT measurements or representative samples and then "demonstrate that the shell will have sufficient wall thickness to perform its function through the period of extended operation." 71 Fed. Reg 67,923 (November 24, 2006). Unfortunately, AmerGen has only one set of measurements of corrosion in the embedded region from the trench in Bay 5. This is insufficient to establish a corrosion rate because there is no way of knowing over which time period the corrosion occurred.

To establish the frequency of monitoring in the embedded region, AmerGen should establish the current smallest margin and apply a worst case corrosion rate and a projection of uncertainty to determine how quickly the region could lose margin. In the Supplemental Information AmerGen applies an acceptance criterion of 0.736 inches. Supplemental Information at 20. However, because neither the worst case current condition nor a worst case corrosion rate has been established, AmerGen is unable to determine what would be an appropriate monitoring frequency.

Finally, it appears from the text of the commitment that if AmerGen decided to fill in the trench in Bay 5, the embedded region monitoring program would cease. Supplemental Information at 52-53. This is facially unsatisfactory. AmerGen must commit to undertaking UT testing of the embedded region

until it is shown to be unnecessary. Having decided that the monitoring is necessary, AmerGen cannot cease the monitoring simply because it decides to fill in the trench.

D. Deficiencies in the Proposed UT Monitoring of the Sandbed Region from the Outside of the Shell

As discussed above, AmerGen has acknowledged that interior corrosion is possible because of the wet conditions on the inside of the shell below the interior floor. Supplemental Information at 14. Because the new measurement registered an apparent thinning of the shell and interior corrosion is now a recognized issue, AmerGen has proposed to continue taking measurements from the outside of the shell at the same locations as it did in the October outage. Id. at 14-15. Dr. Hausler wholeheartedly concurs with AmeerGen that interior corrosion needs to be monitored. However, he points out that the points monitored from the outside of the shell in October were originally selected in 1992 on the basis of visual inspection of corrosion on the exterior, not on the basis of where interior corrosion would be most likely. Sixth Hausler Memo at 4, Ex. NC 3 at 5.

In fact, interior corrosion would more likely occur as a "bathtub ring" below the concrete curb. Id. Thus, any monitoring effort for interior corrosion should first focus on scanning the shell in the region of the sandbed immediately below the interior floor. Furthermore, the latest NRC guidance states that "when ultrasonic thickness measurements are performed, one foot square grids must be used, unless justified otherwise." 71 Fed. Reg. 67,923 (November 24, 2006). AmerGen should therefore do more than just take single measurements at points that were visually identified as having exterior corrosion. Instead, it should systematically search areas that are most likely to be corroded from the interior using one foot square grids.

III. The Scope of License Renewal Includes Corrosion of the Drywell Liner

Petitioners are required to demonstrate that the issues raised in their contentions are within the scope of the proceeding, 10 C.F.R. § 2.309(f)(1)(iii). After extensive briefing of this issue, the ASLB concluded that corrosion of the drywell shell is within the scope of license renewal proceedings. In the Matter of AmerGen Energy Company (License Renewal for Oyster Creek Nuclear Generating Station), LBP-06-07 (slip op. at 39-40) (February, 26, 2006). That finding directly applies to the current contentions, because they also concern corrosion of the drywell shell. Thus, the issue of scope is currently res judicata in this proceeding and is not subject to further dispute.

IV. The New Contentions Raise Material Disputes

The regulations require petitioners to "[d]emonstrate that the issue raised in the contention is material to the findings the N.R.C. must make to support the action that is involved in the proceeding." 10 C.F.R. § 2.309(f)(1)(iv). A showing of materiality is not an onerous requirement, because all that is needed is a "minimal showing that material facts are in dispute, indicating that a further inquiry is appropriate." Georgia Institute of Technology, CLI-95-12, 42 N.R.C. 111, 118 (1995); Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,171 (Aug. 11, 1989).

Here, AmerGen boldly concludes that at the end of the period of extended operation a margin of 0.336 inches would remain in the embedded region. Supplemental Information at 20. However, Dr. Hausler concludes that AmerGen's scant knowledge about corrosion in the embedded region leads to great uncertainty about the integrity of this part of the drywell shell. Sixth Hausler Memo at 6. This dispute is clearly material because it cuts to the heart of relicensing proceedings, which are designed to ensure that applicants demonstrate that their age management regimes can maintain adequate safety margins. Because Citizens' expert disputes AmerGen's conclusion that the monitoring regime for the embedded region will ensure that safety margins are maintained throughout any period of extended operation, the first new contention raises a material dispute.

With regard to the second new contention, AmerGen does not explicitly state that the proposed monitoring regime will ensure that margins will be maintained for any extended period of licensed operation. However, AmerGen has asserted that "there are no additional revisions required to the LRA [License Renewal Application]." Letter from Gallagher to NRC, dated December 3, 2006. In contrast, Citizens believe that because all parties agree that corrosion from the inside of the drywell shell is a possibility, the spatial scope of the UT monitoring from the outside of the sandbed region must be expanded to fully take account of this newly identified corrosion mechanism. Sixth Hausler Memo at 4. Thus, the second new contention raises a material dispute.

V. This Request Is Timely

Petitioners may add new contentions after filing their initial petition, so long as they act in accordance with 10 C.F.R. § 2.309(f)(2). Entergy Nuclear Vermont Yankee, L.L.C. (Vermont Yankee

Nuclear Power Station), LBP-05-32, 62 NRC 813 (2005). The Commission's regulations allow for a "new contention" to be filed upon a showing that:

> (i) The information upon which the amended or new contention is based was not previously available;
> (ii) The information upon which the amended or new contention is based is materially different than information previously available; and
> (iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.

10 C.F.R. § 2.309(f)(2)(i)-(iii).

Now that AmerGen has committed to monitoring the embedded region during any extended licensing period and has committed to a new monitoring program for the exterior of the sandbed, the decisions of the Atomic Safety and Licensing Board ("ASLB") in this proceeding indicate that this motion in timely. For example, when the ASLB found that AmerGen's new commitment to increase the frequency of monitoring mooted Citizens' initial contention regarding the inadequacy of the proposed UT monitoring for the sandbed, the ASLB allowed Citizens to file a new contention, but required the new contention to be timely in accordance with 10 C.F.R. § 2.309(f). In the Matter of AmerGen Energy Company (License Renewal for Oyster Creek Nuclear Generating Station), LBP-06-16 (slip op. at 8-10), (June 6, 2006). Subsequently, the ASLB found that Citizens had made a timely new contention that the frequency of the UT monitoring was inadequate, because Citizens based their new contention on the new commitment. In the Matter of AmerGen Energy Company (License Renewal for Oyster Creek Nuclear Generating Station), LBP-06-22 (slip op. at 14-20, 28-30) (October 10, 2006).

Further clarifying the law on timeliness, on a motion for reconsideration regarding the rejection of a previous contention about the spatial scope of the UT measurements in the sandbed, the ASLB commented that "the appropriate time for a challenge by Citizens to the spatial scope of AmerGen's UT measurements was promptly after AmerGen had docketed its December commitment [to take UT measurements from the inside of the drywell in the sandbed region]." In the Matter of AmerGen Energy Company (License Renewal for Oyster Creek Nuclear Generating Station), LBP-06-844 (slip op. at 5-6) (November 20, 2006).

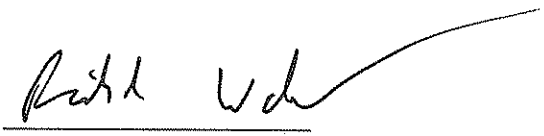
Citizens are now moving to add a contention about the inadequacy of the UT monitoring of the embedded region 17 days after AmerGen first committed to perform UT monitoring in the embedded region. In addition, Citizens are seeking to contend that the program of UT monitoring from the outside of the sandbed must cover all areas where potentially significant corrosion could occur 17 days after AmerGen first committed to performing UT measurements from the outside of the sandbed region and revealed that water is routinely in contact with the interior of the drywell shell in the sandbed region. Thus, like Vermont Yankee and in accordance with its rulings in this proceeding, the ASLB should now find that the new contentions meet the requirements of 10 C.F.R. § 2.309(f)(2)(i) and (ii) because they are based upon new commitments and information that were "not previously available," and are "materially different than information previously available."

Finally, the Commission interprets the "timely fashion," requirement of 10 C.F.R. § 2.309(f)(2)(iii) as being anywhere from twenty to thirty days from the availability of the new information upon which the new contention is based. In the Matter of Louisiana Energy Services, L.P., LBP 04-826 (June 30, 2005). Because this motion concerns the adequacy of new commitments made 17 days ago, it meets the 20 to 30 day requirement of 10 C.F.R. § 2.309(f)(2)(iii).

CONCLUSION

For the forgoing reasons, the ASLB should grant leave for Citizens to add the proposed new contentions and admit the new contentions into this proceeding.

Respectfully submitted



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Dated: December 20, 2006

UNITED STATES OF AMERICA
BEFORE THE NUCLEAR REGULATORY COMMISSION
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	)	

CERTIFICATE OF SERVICE

I hereby certify that I caused the foregoing motion for leave to add contentions and motion to add contentions to be sent this 20th day of December, 2006 via email and U.S. Postal Service, as designated below, to each of the following:

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Dated: December 20, 2006