

the applicable requirements regarding untimely petitions, and fails to meet the applicable substantive standards for admissibility contrary to 10 C.F.R. § 2.309.

I. PROCEDURAL HISTORY

Citizens are seeking to add two new contentions to this proceeding based on allegedly new and material information disclosed by AmerGen as a result of activities performed during the October 2006 Oyster Creek refueling outage. The proposed contentions concern planned ultrasonic testing (“UT”) of the sand bed and embedded regions of the drywell shell.³ Because the first proposed contention (regarding the embedded region) is directly related to Citizens’ numerous prior failed attempts to expand the scope of the sole contention admitted in this proceeding concerning UT of the shell in the sand bed region, and the second proposed contention is related to that admitted contention, a summary of the relevant procedural history of this matter is warranted here. Doing so highlights the repetitive, duplicative, and non-meritorious nature of Citizens’ oft-repeated attempts to expand the scope of this proceeding and introduce delay.

On November 14, 2005, Citizens filed their original Request for Hearing and Petition to Intervene (“Original Petition”) in this proceeding. In the Original Petition, Citizens alleged that the Application was deficient:

by failing to adequately and reasonably assure the continued integrity . . . [of] the drywell liner or drywell shell, by providing confirmatory ultrasonic testing (UT) measurements at all critical

³ The “embedded region” is that region of the drywell shell that is below the former sand bed region and is encased in concrete on both sides. The term “embedded,” however, refers to any part of the drywell shell that is adjacent to concrete on one or two sides. This includes the “embedded region” as well as the interior of the drywell up to the interior concrete curb. *See Ex. ANC 2 at 37 (Figure 5).*

areas of the known degraded component to determine the actual remaining wall thickness

Original Petition at 3. On December 12, 2005, AmerGen filed its Answer Opposing [Citizens'] Request for Hearing and Petition to Intervene, arguing among other things, that Citizens did not define "critical levels" or provide any support for their demand that UT measurements be greatly expanded into areas not previously inspected. AmerGen Answer to Original Petition at 25 (referencing Citizens' Original Petition at 3-4). In the Combined Reply of Petitioners ("Reply Brief"), filed on December 19, 2005, Citizens stated that "all critical levels" included the sand bed region as well as several elevations above the sand bed region, Reply Brief at 6, and that "the steel drywell liner just below the concrete is obviously another critical level." *Id.* at 14.

AmerGen filed a Motion to Strike new arguments and new supporting information contained in Citizens' Reply Brief on December 29, 2005 ("AmerGen Motion to Strike"). In pertinent part, AmerGen argued that Citizens had not challenged the integrity of the drywell shell below the sand bed region in their Original Petition, and that Citizens were prohibited from amending their contention in their Reply Brief by expanding the bases to cover the area of the drywell shell embedded in concrete below the sand bed region. AmerGen Motion to Strike at 4.

On February 7, 2006, Citizens filed a Motion for Leave to Add Contentions or Supplement the Basis of the Current Contention ("Motion to Add or Supplement"). In it, Citizens attempted to add a new contention regarding the monitoring regime for the inaccessible areas of the drywell, including the embedded area below the concrete floor. Motion to Add or Supplement at 11-13. In support of the new contention, Citizens cited

to exhibits included in their Original Petition that allegedly demonstrated that the concrete floor adjacent to the drywell had “cracks,” “crevices,” and “craters.” *Id.* at 12.

The Licensing Board granted Citizens’ Original Petition, but narrowed the contention to apply *only* to the aging management program for corrosion in the sand bed region of the drywell shell. Memorandum and Order, LBP-06-07, 63 N.R.C. 188, 211 (2006). Importantly, the Board rejected Citizens’ assertion “developed for the first time in its Reply Brief” that the original contention should be construed as encompassing the drywell shell *below* the sand bed region (*i.e.* the embedded region). *Id.* at 217 n.28 (holding that Citizens, “having failed to develop this argument in [their Original] Petition, [are] foreclosed from doing so in the first instance in [their] Reply Brief”).

The Licensing Board also denied Citizens’ proposed new contention challenging AmerGen’s monitoring regime for the embedded region. Memorandum and Order, LBP-06-11, 63 N.R.C. 391 (2006). Specifically, the Board held that Citizens failed “to satisfy the regulatory requirements for admitting a new contention based on previously unavailable information, because the information is neither new (10 C.F.R. § 2.309(f)(2)(i)), nor materially different than information that was previously available (*id.* § 2.309(f)(2)(ii)).” LBP-06-11, 63 N.R.C. at 397. The Board also noted that Citizens previously—and unsuccessfully—sought to raise the issue of corrosion in the embedded region in their Reply Brief. *Id.*

On April 25, 2006, AmerGen filed motions seeking, among other things, to dismiss Citizens’ admitted contention as moot on the basis of AmerGen’s docketed commitment to conduct periodic UT measurements in the sand bed region of the drywell shell throughout the period of extended operation. AmerGen’s Motions to Dismiss

Drywell Contention as Moot and to Suspend Mandatory Disclosures, at 2-3. The Board granted AmerGen's Motion, but allowed Citizens to seek leave to file a new contention within 20 days of the Order, the substance of which had to be limited to AmerGen's UT program for the sand bed region. LBP-06-16, 63 N.R.C. at 744.

Citizens filed their new contention on June 23, 2006 and subsequently supplemented it on July 25, 2006. The Licensing Board admitted only that part of Citizens' new contention pertaining to whether AmerGen's scheduled UT monitoring frequency in the sand bed region is sufficient to maintain an adequate safety margin. Memorandum and Order, LBP-06-22, slip op. at 9 (Oct. 10, 2006). On December 20, 2006, Citizens filed the instant Motion, seeking admission of two late-filed contentions, as discussed below.

II. LEGAL STANDARDS GOVERNING ADMISSIBILITY OF CITIZENS' NEW CONTENTIONS

The standards governing admissibility of Citizens' new contentions are set forth in the Board's March 22, 2006 ruling denying Citizens' Motion to Add or Supplement. *See* LBP-06-11, 63 N.R.C. at 395-396. Where, as here, the regulatory time limit has long since expired for filing a petition to intervene, a petitioner may submit a new contention only with leave of the presiding officer 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.

See 10 C.F.R. § 2.309(f)(2)(i)-(iii). If a new contention meets the above three criteria, then it is considered “timely” and the petitioner is not required to satisfy the requirements of 10 C.F.R. § 2.309(c)(1) for non-timely filings. LBP-06-11, 63 N.R.C. at 396 n.3.

If, however, the information underlying the proposed contention is not new or materially different from previously available information, then to be admitted the new contention must satisfy Section 2.309(c)(1) as well. *Id.* If Citizens are required to address Section 2.309(c) in their filings and fail to do so, then the non-timely aspects of the contention are to be rejected.⁴

Additionally, to add a new contention, a petitioner must satisfy the following standard admissibility requirements in 10 C.F.R. § 2.309(f)(1): (1) specify the issue to be raised; (2) briefly explain the basis for the contention; (3) demonstrate that the issue is within the scope of the proceeding; (4) demonstrate that the issue is material to the proceeding; (5) provide a concise statement of the alleged facts or expert opinion that support the petitioner’s opinion; and (6) demonstrate that a genuine dispute exists on a material issue of law or fact, and include specific references to allegedly deficient portions of the application.

III. CITIZENS’ CONTENTIONS ARE UNTIMELY AND MUST BE REJECTED

A. Proposed Contention 1 is Inadmissible

Proposed Contention 1: 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

⁴ In this proceeding, the Board, on several occasions, has put Citizens on notice that non-timely contentions must satisfy Section 2.309(c) and that they should address the Section 2.309(c) factors for any contention that reasonably might be viewed as non-timely. *E.g.* LBP-06-22, slip op. at 6 n. 7. Failure to do so acts as a waiver, which forecloses Citizens from making an untimely attempt to satisfy Section 2.309(c). *Id.*

monitoring program 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.

Motion at 4.

1. The First Proposed Contention Fails to Satisfy the Requirements for a New Contention in 10 C.F.R. § 2.309(f)(2)

As a preliminary matter, the first proposed contention is not based on new information. Citizens have, time and time again, tried and failed to introduce a new contention on the monitoring regime for the portion of the drywell shell embedded in the concrete—first in their December 19, 2005 Reply Brief, and then again in their February 7, 2006 Motion to Add or Supplement. In each case, the Board rejected the proposed new “embedded” contention and noted that the NRC Staff’s first revision to the GALL Report, which was published in September 2005, addresses potential corrosion of inaccessible areas of the drywell shell that are “embedded” in concrete, and thus, the allegedly new information underlying Citizens’ proposed new contention was in existence when they submitted their Original Petition. LBP-06-11, 63 NRC at 398. The Board, therefore, already has held that Citizens failed “to satisfy the regulatory requirements for admitting a new contention based on previously unavailable information, because the information is neither new (10 C.F.R. § 2.309(f)(2)(i)), nor materially different than information that was previously available (*id.* § 2.309(f)(2)(ii)).” *Id.* at 397. That same rationale holds true today.

The fact that AmerGen recently committed to conduct UT monitoring of the embedded shell does not erase the Board’s binding legal conclusion that Citizens previously waived their right to address monitoring of the embedded region by not raising it in their Original Petition. As a matter of law and logic, if—as Citizens allege—

AmerGen’s enhanced monitoring program for the embedded region is inadequate, then the absence of a monitoring program in that same region was *a fortiori* inadequate, and Citizens had a regulatory obligation to challenge it in their original petition – which they did not. *See* LBP-06-22, slip op. at 23. Further, as a matter of policy, AmerGen’s decision to improve the existing drywell monitoring program does not confer upon Citizens an automatic opportunity to advance new contentions. *Id.*

Citizens recite the following pieces of allegedly new and material information as the basis for their proposed first contention. As described below, this information is neither new nor materially different than information previously available.

(a) New Commitments Regarding UT Monitoring: The new information cited by Citizens in support of their first new proposed contention is that “[o]n December 3, 2006, AmerGen committed to taking UT measurements in the trench in Bay 5 in 2008 ‘at the same locations examined in 2006.’” Motion at 3, citing Ex. ANC 1 Enclosure (“LRA Supplement”) at 52-53. They note that “AmerGen further committed to repeating these UT measurements ‘at refueling outages during the period of extended operation until the trenches are restored to the original design configuration” *Id.*, citing LRA Supplement at 53. As this enhanced commitment simply expands upon and augments the existing Aging Management Program, it is not the kind of new information that can support admission of the first late-filed contention. *See* LBP-06-22, slip op. at 23 (holding that an applicant’s decision to *improve* an *existing* program to promote health and safety or to boost public support and confidence should not be viewed as conferring Citizens with an automatic opportunity to advance a new contention).

(b) Pathways for Water to Reach the Exterior of the Drywell Shell in the Embedded Region: Another category of purportedly new information identified by Citizens begins with the misstatement—cloaked as a new revelation—that “AmerGen’s latest submission to the ACRS reveals that the bottom of the drywell is below the level of the groundwater table.” Motion at 3. The depth of the drywell (*i.e.*, 29.6 feet below mean sea level) is by no means new information as it has not changed since original construction of the reactor in the 1960s. In fact, Citizens raised the issue of groundwater intrusion into the embedded region in their presentation to the ACRS license renewal subcommittee on October 3, 2006, clearly demonstrating that this information is not new. E-mail from M. Junge to D. Ashley at slide 6 (Oct. 3, 2006), *available at* ADAMS Accession No. ML063030109 (“Citizens’ ACRS Presentation”).

In addition, “[t]urning to the potential for water to come from above,” Citizens reference a 1992 repair to the epoxy on the concrete floor of the drywell and Exhibit ANC 5, an Engineering Action Request (AR) that AmerGen generated during the 2006 refueling outage to evaluate repair of the epoxy covering the concrete floor in the sand bed region. Motion at 4. The AR states that “since 1996 inspections have found indications of the epoxy separating from the concrete” shield wall. Motion at 4, citing Ex. ANC 5. Citizens go further, however, and seemingly attempt to argue that the AR is somehow germane to their first proposed contention because “[t]he document goes on to note that ‘the separated seams could potentially allow some water to get under the epoxy coating [floor] repair.’” *Id.*

This information is not materially different than information previously available. Prior to the floor repair in the early 1990s, water was in contact with the concrete floor in

the sand bed region, and likely in contact with the exterior embedded shell. *See* Letter, M. Gallagher (AmerGen) to NRC (June 20, 2006) at 11-12, *available at* ADAMS Accession No. ML063490294 (“June 20, 2006 RAI Response”)(cited in Ex. ANC 2, Reference Material, Vol. 4 (Dec. 8, 2006)). When corrective actions were taken in the late 1980s and early 1990s, the water above the floor was removed while the water below the floor was not.⁵ *See generally id.* at 12-13 (discussing insignificant impacts from water remaining in contact with the exterior embedded shell). Accordingly, the statement that water “could potentially” get under the epoxy that covers the concrete floor is not materially new information. Motion at 4, citing Ex. ANC 5; *see also id.* (“water infiltrated into the exterior sand bed floor at times between 1969 and 1992, and between 1996 and 2006 and may do so again”).

Citizens’ Exhibit ANC 6 also demonstrates that the presence of water on the sand bed floor, and potentially migrating into the floor, is not new information. That exhibit mentions the results of a March 2006 NRC inspection involving the disposition of water collected from the sand bed floor, and states that the associated NRC Inspection Report was issued on September 21, 2006 (three months before Citizens filed their Motion) and that the Inspection Report was publicly available on ADAMS (Accession No. ML062650059). *See also* Motion at 4 (“water infiltrated *into* the exterior sand bed floor . . . and may do so again”)(emphasis added). Citizens’ first proposed contention is, therefore, untimely.

⁵ AmerGen explained in its June 20, 2006 docketed submittal to the NRC that this water is not corrosive. *See* June 20, 2006 RAI Response at 11-12.

2. Citizens Failed to Address 10 C.F.R. § 2.309(c)(1)

Because the information underlying the proposed new contention is not new or materially different from previously available information, the new contention must satisfy Section 2.309(c)(1) to be admitted. Since Citizens have completely ignored the Board's explicit instructions to address the Section 2.309(c) factors for any contention that reasonably might be viewed as non-timely, *see* LBP-06-22, slip op. at 6 n.7, they have waived their right to demonstrate compliance with Section 2.309(c)(1), and accordingly, the first proposed contention should be denied.

3. The First Proposed Contention Also Fails to Satisfy the Requirements in 10 C.F.R. § 2.309(f)(1)

Even if the Board finds that Citizens have satisfied the requirements of Section 2.309(f)(2) for a new contention, Citizens have not demonstrated that a genuine dispute exists on a material issue of law or fact as required by Section 2.309(f)(1).

In support of the new contention, Citizens cite the following alleged deficiencies in the embedded region monitoring program: (1) the spatial scope of the monitoring program is too restricted; (2) a reasonable potential corrosion rate has not been developed; (3) the proposed frequency of monitoring is not justified; and (4) the monitoring could cease if AmerGen filled in the trench from which it proposes to do the monitoring. As demonstrated below, Citizens have failed to support these allegations with adequate factual or legal bases and thus, have not satisfied Section 2.309(f)(1).

(a) Potential for Corrosion: Citizens themselves acknowledge that “the measured corrosion in the embedded region in Bay 5 was not very severe. . . .” Motion at 5. Nevertheless, they claim that the mere existence of such corrosion “affirms Dr. Hausler’s previous assessments that such corrosion is possible.” *Id.* An “assessment” of the

possibility of a minute amount of corrosion, however, does not meet the stringent requirements of Section 2.309(f)(1), as it is non-specific, lacks basis, and does not raise a genuine dispute of material fact because the drywell shell can perform its intended functions even if there is a minute amount of ongoing corrosion (see discussion of remaining thickness in Section 3(c) below).

Citizens next jump to the conclusion that the potential for and existence of corrosion “undercuts previous assertions from AmerGen that corrosion in the embedded region was unlikely.” *Id.* Citizens provide no citations to AmerGen documents to support this allegation, thus failing to meet the minimum requirements of 10 C.F.R. § 2.309(f)(1)(vi). In any event, AmerGen has previously stated that “only limited corrosion would be anticipated for the drywell embedded shell.” June 20, 2006 RAI Response at 13. The detailed scientific argument supporting this conclusion was provided to the NRC in the June 20, 2006 RAI Response at 12-13.⁶ Moreover, laboratory analysis of water taken from the Bay 5 trench in October 2006 confirmed that the water in contact with the embedded shell is “non-aggressive” with respect to pH, chlorides and sulfates. LRA Supplement at 18.

Citizens’ alleged deficiencies are magnified in their ensuing conclusion that since “water *is* routinely in contact with the inside of the [embedded] drywell shell . . . 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.” Motion at 5-6 (emphasis added). Citizens correctly note that “when the filler material was removed from the existing trench in Bay 5 approximately [sic] 5 inches of standing water was discovered in

⁶ This information was, of course, available to Citizens last summer.

the bottom of the trench.” *Id.* at 3. Citizens further observe that “[w]hen AmerGen pumped water from the trench, it refilled at a slow rate,” and conclude by stating that “AmerGen thus decided to *assume* that under normal operating conditions the interior of [the] drywell shell at or below the interior floor level is in contact with water.” *Id.* (emphasis added).

Citizens’ initial correct characterization of AmerGen’s *assumption* later devolves into the incorrect pronouncement that “AmerGen established during the recent outage that water *is* routinely in contact with the inside of the drywell shell.” *Id.* at 5 (emphasis added). This latter statement cannot serve as the factual basis for admission of a contention, because it is false on its face. Moreover, this statement does not raise a genuine issue of material fact because, even if true, the water is not corrosive and, as demonstrated by UT measurements, will not affect the intended functions of the drywell shell during the period of extended operation.

Similarly, Citizens speculate that “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.” *Id.* at 6. This speculation is fraught with errors. First, there is no such “recent” revelation, as demonstrated by a discussion of water collected from the sand bed drains in Exhibit ANC 6, dated November 9, 2006, and of which Citizens were aware in September 2006. Second, and more importantly, there is no “assessment” that water could have affected the drywell shell, since Exhibit ANC 5 clearly explains that seams/voids in the epoxy coating on the drywell floor in the sand bed region are located “*away from the drywell vessel*” and near the concrete shield wall. Emphasis added.

Finally, Citizens' assertions about groundwater affecting the embedded shell do not satisfy Section 2.309(f)(1) because they are based on a misreading of publicly-available documents. Such a misreading does not raise a genuine dispute on a material issue of law or fact. Specifically, Citizens boldly assert that "[t]o 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." Motion at 3, citing Ex. ANC 2 at 7-4. Yet, as plainly stated in the cited Exhibit ANC 2:

The Reactor Building Foundation floor is a 10 ft thick reinforced concrete slab. The bottom elevation of the slab is minus 29' 6" and its top elevation is minus 19' 6". There is a waterproof membrane at the bottom of the mat that extends up the outside of the exterior walls to an Elevation of 5' 0". . . . In order for ground water to reach the lowest point of the containment shell it would need to penetrate the waterproof membrane then migrate through the 10 ft concrete mat then migrate through the pedestal concrete. Since there is no waterproofing on this interior concrete pedestal...any water contained or migrating in the pedestal would seek the path of least resistance and flow into the Torus Room. *If* water was able to make its way along the path outlined above...the Torus Room would be flooded. There are sumps in the basement of the Reactor Building that collect any water in leakage and would prevent significant accumulation of water in the Torus Room (emphasis added).

Ex. ANC 2 at 7-4 to 7-5.

AmerGen also provided in that Package a figure showing the waterproof membrane (including a label pointing to the membrane) and the orientation of the torus room with respect to the drywell on page 3-6 of Exhibit ANC 2. This figure clearly shows why the torus room would need to be flooded for groundwater to reach the embedded region. AmerGen has established that design features prevent groundwater leakage onto the exterior of the shell. Apparently, Citizens simply failed to read the

ACRS Information Package that they cite in their Motion.⁷ Such an oversight does not support admissibility of the contention.

(b) Monitoring Program: Citizens claim that they have identified “many deficiencies in the proposed monitoring regime.” Motion at 6. First, and according to Citizens—“most glaring”—is the accusation that “AmerGen did not choose to monitor the embedded region in a bay where the lower sandbed region is highly corroded.” *Id.* Further to this charge, Citizens attribute material importance to the fact that “AmerGen has failed to even discuss whether the results in Bay 5 represent worst case conditions in the embedded region.” *Id.* There is no such material import stemming from Citizens’ claim, because they fail to recognize that there is no statutory, regulatory, or precedential requirement for such a “worst case” analysis. *See* 10 C.F.R. § 54.29, Standards for Issuance of a Renewed License (requiring only “*reasonable assurance*” that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB (emphasis added)).

Furthermore, the corrosion in the shell exposed in the Bay 5 trench would be expected to be greater than in Bay 17 because only the Bay 5 trench contained standing water when the filler material was first removed during the 2006 refueling outage.⁸

⁷ Citizens further complain that AmerGen did not provide any figures for the rate at which water is being pumped from sumps in the Torus room. As noted above, groundwater cannot credibly contribute to corrosion in the embedded region and groundwater leakage into the Torus room has not been a problem at Oyster Creek. Thus, there is no rational reason to provide any Torus room pump rate figures.

⁸ AmerGen decided to further excavate the Bay 5 trench because its base was at elevation 8’9”, while the Bay 17 trench base was at elevation 9’3”. *See* Ex. ANC 2 at 8-1. The exterior embedded region starts at approximately elevation 8’11”. *Id.* Accordingly, excavating the Bay 5 trench required removing only sufficient concrete to expose six additional inches of the drywell shell, while excavating the Bay 17 trench would have required removing more concrete than Bay 5.

Thus, there is no material dispute of fact that the Bay 5 data are, at a minimum, representative of corrosion caused by water that might be in contact with the interior embedded shell.

Relying on final Interim Staff Guidance (ISG),² Citizens next attempt to argue that it creates some sort of binding “requirement” that license renewal applicants “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.’” Motion at 6, citing 71 Fed. Reg. 67,923 (Nov. 24, 2006). The ISG, however, has no binding regulatory effect: the ISG includes “recommended actions” only and does not have the force of law unlike the regulations in 10 C.F.R. Part 54, “Requirements for Renewal of Operating Licenses for Nuclear Power Plans.” As a result, Citizens have yet again failed to articulate a material dispute of fact stemming from the ISG.

(c) Proposed Monitoring Frequency: Next, Citizens argue that the “one set of measurements of corrosion in the embedded region from the trench in Bay 5. . . is insufficient to establish a corrosion rate because there is no way of knowing over which time period the corrosion occurred.” Motion at 6. Citizens note that during the October 2006 outage, “AmerGen deepened an existing trench in Bay 5 by six inches to expose a limited area of the embedded region.” Motion at 2. AmerGen then took “42 UT

² License Renewal Interim Staff Guidance LR-ISG-2006-01: Plant-Specific Aging Management Program for Inaccessible Areas of Boiling Water Reactor Mark I Steel Containment Drywell Shell, (Nov. 16, 2006). Citizens have been involved in the development of this ISG, are knowledgeable of its content, and even used the draft in a prior attempt to support a new contention. Motion to Add or Supplement, at 3-4.

measurements in the newly exposed area,” which showed that “the average thickness had decreased from a nominal 1.154 inches to 1.113 inches, a loss of 0.041 inches.” *Id.*

What Citizens fail to do, however, is demonstrate why this information, even if it is accurate, is material or raises a genuine dispute of fact or law. UT measurements had never been taken from the embedded drywell shell prior to 2006, so any measurements, at first glance, could reflect loss of metal at any time between 1969 and 2006. But Citizens fail to appreciate that trained and qualified AmerGen personnel were able to look—with their eyes—at the interior surface of the drywell shell when the concrete was removed for the first time in 2006, and these personnel identified “no recordable (significant) corrosion on the inner surface of [sic] shell.” LRA Supplement at 19. Thus, the loss of 41 mils of metal *measured* by UT in 2006 is properly attributed to loss from the embedded exterior of the shell. And AmerGen has further concluded that essentially all of the loss of metal from the exterior would have occurred prior to 1992, when the sand, water, and corrosion byproducts were removed from the sand bed region, the concrete floor in the sand bed region was covered with an epoxy coating, and caulk was applied to seal the joint between the exterior drywell shell and the concrete floor.

The real crux of Citizens’ argument—that AmerGen cannot establish a corrosion rate for the embedded region—appears to be that water in contact with the embedded shell on either side can cause significant corrosion. This concern, however, is undermined by simple logic. Citizens argue that water has been in contact with the exterior and interior surfaces of the embedded drywell shell since 1969. Motion at 4 (“water infiltrated into the exterior sand bed floor at times between 1969 and 1992, and between 1996 and 2006”) and at 5 (“water is routinely in contact with the inside of the

drywell shell”). If the condition of water in contact with the embedded drywell shell results in significant corrosion, then the UT measurements in the trench in Bay 5 in 2006 would have identified it. Yet only 41 mils total loss of metal was measured in 2006, representing the loss of material between 1969 and 2006. Assuming that Citizens are correct—that water has been in contact with the embedded drywell shell since 1969, and the corrective actions in the sand bed region had no positive effect on the underlying external embedded region—then the corrosion of 41 mils would be equally spread over those 37 years resulting in a corrosion rate of slightly over 1 mil per year.

Even if the Board accepts Citizens’ speculation, it does not rise to the level of a genuine issue of material fact for purposes of license renewal. Simple math demonstrates that there are 377 mils of margin remaining before the 0.736 inch “general area” acceptance criterion is surpassed ($1.113 - 0.736$), and 623 mils of margin remaining before the 0.490 inch “very local area” acceptance criterion is surpassed ($1.113 - 0.490$ inches). *See* LRA Supplement at 20.¹⁰ Thus, approximately 15 mils *per year* of future corrosion would need to occur to surpass the 0.736 inch acceptance criteria, and almost twice that amount would need to occur to surpass the 0.490 inch acceptance criterion. There simply is *no* evidence of this kind of corrosion in the embedded region.¹¹ The UT data demonstrate only insignificant corrosion in the embedded region. Moreover, the

¹⁰ AmerGen conservatively has assumed that another 41 mils of corrosion will occur before the current license term expires in 2009 in order to conclude that 336 mils remains at the start of the period of extended operation. *See* Ex. ANC 1 at 20 (listing 336 mils).

¹¹ Citizens state that AmerGen “boldly concludes” that there will be 0.336 inches remaining at end of renewed life, and that AmerGen has “scant knowledge” about corrosion of the embedded shell. Motion at 8. As discussed above, this is not the case.

water in contact with the concrete and the drywell shell is alkaline and not corrosively aggressive. *See* June 20, 2006 RAI Response at 12-13; LRA Supplement at 18.

Making a leap of logic—and on the basis of their unfounded supposition that corrosion in the embedded portions of the drywell shell is of concern—Citizens posit that “[t]o 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.” Motion at 6 (emphasis added). They cite no regulatory authority in support of this “worst case” projection demand, and this Board does not have the authority to amend existing NRC rules and regulations to impose Citizens’ wishes upon AmerGen.¹²

Based on their desire for a “worst case” analysis, and nothing more, Citizens reach the untenable and unsupported conclusion—contrary to established fact and definitive analysis—that “AmerGen is unable to determine what would be an appropriate monitoring frequency.” Motion at 6. As discussed above, AmerGen does not need to perform any UT monitoring of the embedded region to demonstrate that the embedded drywell shell will perform its intended functions through the period of extended operation. Nevertheless, AmerGen has committed to perform at least one more round of UT measurements in the embedded region in the Bay 5 trench in 2008 to confirm that corrosion in the embedded region of the drywell shell is, indeed, “insignificant.” LRA Supplement at 14, 21.

¹² As noted previously, NRC’s license renewal regulations require only “*reasonable assurance*” that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB – not worst case projections. *See* 10 C.F.R. § 54.29. If Citizens wish to amend this regulation to require worst case analyses, they must submit a petition for rulemaking under 10 C.F.R. § 2.802(a).

For all of these reasons, the first proposed contention should be rejected in its entirety.

B. Proposed Contention 2 is Also Inadmissible

Proposed Contention 2: The proposed UT monitoring program for monitoring the lower portion of the sand bed 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 sand bed region.

Motion at 4-5. This proposed contention is focused on a portion of the sand bed region. Specifically, it is limited to a 3.5-foot vertical section of the drywell shell that is embedded in concrete inside the drywell, and that corresponds with the (unembedded) sand bed region outside the drywell. *See* Ex. ANC 2 at 3-7 (Figure 5). Identification of this 3.5-foot section is derived from the fact that the embedded shell inside the drywell has a top elevation of 12'3" (the top of the interior concrete curb) and a bottom elevation of approximately 8'11" (the floor in the sand bed region). *See, e.g., id.* at 8-1. The top of the interior concrete curb is stepped-down to elevation 11'0" where there is interference from torus vent-header penetrations. *See* Ex. ANC 4 ("Hausler Memorandum") at 10. It is above this lower curb elevation that UT grid measurements are taken (*i.e.*, at elevation 11'3"). *Id.*

Some background is required to place this contention further in context. Prior to coating the external surface of the drywell shell in the sand bed region in 1992 with a multi-layer epoxy coating system, OCNGS identified approximately 125 "points" on the shell that were the thinnest points in each bay, based on visual observations and micrometer readings. *See* Ex. ANC 2 at 6-2, 6-11. Prior to coating, a small area surrounding these 125 points was ground to create a smooth surface upon which the UT probe could be placed. *See, e.g.,* Ex. ANC 2, Reference Material, Vol. 4 (Dec. 8, 2006),

Document No. C-1302-187-5320-024, OC Drywell Ext. UT Evaluation in Sandbed, Rev. 1 (Apr. 14, 2006), at 44, *available at* ADAMS Accession No. ML063490294. Single UT measurements of the shell were then taken at these 125 points. Ex. ANC 2 at 6-2, 6-11. These points were not measured between 1992 and 2006, and AmerGen was able to locate and take UT measurements at only 106 of those points during the 2006 outage.¹³ *Id.* at 6-12 n.1. Although each of the 106 points are between elevations 12’3” and 8’11”, about half correspond to areas above the low interior concrete curb, and thus, are not embedded.

These point measurements are not the only UT measurements of the drywell shell in the sand bed region. AmerGen also took UT measurements during the 2006 refueling outage from 19 “grid” locations on the interior of the drywell shell that correspond with the historical “bath tub” ring of corrosion on the exterior sand bed region (*i.e.*, between elevation 11’0” and 12’0”). *Id.* at 6-17. UT measurements were previously taken from these grid locations in 1992, 1994, and 1996. *Id.*

1. The Second Proposed Contention Fails to Satisfy the Requirements for a New Contention in 10 C.F.R. § 2.309(f)(2)

As with the first proposed contention discussed above, the second proposed contention also is based on information that is neither new nor materially different than information that was previously available, and for that reason, must be dismissed per 10 C.F.R. § 2.309(f)(2).

Citizens are attempting to re-litigate the spatial scope of UT measurements in the sand bed region. They specifically state that there is a “newly identified corrosion

¹³ New equipment allows UT measurements to be taken through the epoxy coating, while not including the coating in the thickness measurement.

mechanism” that requires AmerGen to expand “the spatial scope of the UT monitoring . . . from the outside of the sand bed region.” Motion at 8. This Licensing Board, however, already ruled that spatial scope of UT measurements in the sand bed region cannot form the basis of a new contention when the UT measurement locations were previously known. LBP-06-22, slip op. at 28-30. The UT measurement points on the outside of the drywell shell in the sand bed region are the same locations as measured in 1992. *See* Ex. ANC 2 at 6-18.

Moreover, the new “mechanism” Citizens identify is purported to be corrosion of the interior embedded shell between elevations 12’3” and 8’11”. *Id.* at 3, 7. Yet this mechanism is the same one that Citizens raised in multiple attempts to litigate the embedded region beginning more than a year ago. *See, e.g.*, Reply Brief at 13.

Moreover, the NRC’s request for information about potential corrosion in this interior embedded region, and the elements of AmerGen’s Aging Management Program for this area have been public information since April 2006 (7 months before Citizens filed their now very-late-filed contention). *See* AMR-164, “Inaccessible Portion of the Drywell” (Oct. 31, 2005), attached to e-mail from J. Hufnagel (AmerGen) to D. Ashley (Apr. 3, 2006) *available at* ADAMS Accession No. ML060940146.

In addition, as the Board has previously recognized, the NRC Staff’s first revision to the GALL Report, which was published in September 2005, addresses potential corrosion of inaccessible areas of the drywell shell that are embedded in concrete. *See* LBP-06-11, 63 NRC at 398. Accordingly, any challenges to the embedded shell inside the drywell could have been raised a long time ago.

Finally, Citizens raised this very concern in their presentation to the ACRS

Subcommittee on October 3, 2006. Citizens' ACRS Presentation at Slide 15. Their presentation specifically argues that "[m]uch of the sandbed is inaccessible from the inside [of the drywell]," and that the "spatial scope" of UT thickness measurements is inadequate. *Id.* Accordingly, Citizens had developed this argument about three months before they filed this second proposed contention. Their attempt to raise this argument now before the Board comes too late.

For these reasons, the Board should once again rule that Citizens have failed "to satisfy the regulatory requirements for admitting a new contention based on previously unavailable information, because the information is neither new (10 C.F.R. § 2.309(f)(2)(i)), nor materially different than information that was previously available (*id.* § 2.309(f)(2)(ii))." LBP-06-11, 63 NRC at 397.

2. Citizens Failed to Address 10 C.F.R. § 2.309(c)(1)

Because the information underlying the proposed new contention is not new or materially different from previously available information, the new contention must satisfy Section 2.309(c)(1) to be admitted. Since Citizens have completely ignored the Board's explicit instructions to address the Section 2.309(c) factors for any contention that reasonably might be viewed as non-timely, *see* LBP-06-22, slip op. at 6 n.7, they have waived their right to demonstrate compliance with Section 2.309(c)(1), and accordingly, the second proposed contention should be denied.

3. The Second Proposed Contention Also Fails to Satisfy the Requirements for a New Contention in 10 C.F.R. § 2.309(f)(1)

Even if the Board finds that Citizens have satisfied the requirements of Section 2.309(f)(2) for this second proposed contention, they have again failed to demonstrate

that a genuine dispute exists on a material issue of law or fact as required by Section 2.309(f)(1), and this contention should therefore be rejected.

Citizens' first argument that the proposed UT monitoring of the sand bed region from the outside of the shell is deficient is that the 106 points were selected in 1992, based on the visual inspection of corrosion on the *exterior* of the shell, not on where "interior corrosion would be most likely." Motion at 7. Citizens' only basis as to why this is a deficiency is their reliance on Dr. Hausler's opinion, that "interior corrosion would more likely occur as a 'bathtub ring' below the [interior] concrete curb." *Id.* citing Ex. ANC 4 at 4. Dr. Hausler elaborates that:

[I]f in fact water had entered the gap [between the drywell shell and the concrete curb] the same type of differential aeration cell would have formed and would have lead [sic] to corrosion rates comparable to the rates found in the sandbed. In fact a new bathtub ring *might have formed a few inches below the top of the curb.* The dangers of such a ring, we suggest are significant and AmerGen must conduct further UT testing *to discover whether interior corrosion below the concrete curb is significant.*

Ex. ANC 4 at 4 (emphasis added).

This argument does not raise a genuine issue of material fact that supports admitting Citizens' second proposed contention because it ignores reality. Dr. Hausler is concerned that there *may* be a bathtub ring of corrosion on the inside of the drywell shell a "few inches" below the concrete curb. His concern thus focuses on the interior drywell shell at approximately elevation 12'0" because, as discussed above, the top of the interior concrete curb is located at elevation 12'3". There cannot be a bath tub ring at elevation 12'0" because water cannot collect at this elevation. The lower curb at 11'0" would allow any water behind the curb above 11'0" to drain out and not remain behind the upper part of the curb. Also, because the curb was totally removed at the two trenches in

1986, water could not remain above elevation 10'3" (the concrete floor) after 1986. *See* Ex. ANC 2 at 3-7 (Figure 5); Ex. ANC 4 at 10.

Citizens and Dr. Hausler apparently fail to appreciate that because the concrete curb was entirely removed when the two trenches were excavated 1986, that it would be plain to the naked eye if there was a bathtub ring of corrosion below the former concrete curb at elevation 12'0" (or at any other excavated internal elevation). No such ring was identified. UT measurements from the exterior of the shell, therefore, are simply not necessary to identify an alleged bathtub ring of corrosion on the inside, when such a ring would be obvious to the naked eye.

Citizens also ignore the scientific analysis discussed in AmerGen's June 20, 2006 RAI Response, which explains why only insignificant corrosion would be expected in any embedded region; namely, that the water becomes alkaline from the concrete, creating a non-aggressive environment that essentially protects the metal in the drywell shell. June 20, 2006 RAI Response, at 12-13; Ex. ANC 2 at 7-5 to 7-6. And if that was not enough, Citizens ignore the very important fact that the *interior* of the drywell "is inerted with nitrogen during operations." Ex. ANC 2 at 8-3. Accordingly, the amount of oxygen that is available in a normal atmosphere is not present on the inside of the drywell except when the drywell is open during outages. *See id.*

In an attempt to ground their concern in reality, Citizens once again grasp at the final ISG for support that "when ultrasonic thickness measurements are performed, one foot square grids must be used, unless justified otherwise." Motion at 7, citing 71 Fed. Reg. 67,923. Citizens therefore conclude that AmerGen's UT monitoring program is deficient because it includes only single points rather than grids as discussed in the ISG.

As explained above in response to the first proposed contention, the final ISG has no binding regulatory effect; it includes “recommended actions” only and does not have the force of law as do the NRC’s regulations. In addition, one foot grids are only specified by the ISG “unless justified otherwise.” 71 Fed. Reg. at 67,925. A grid can only be used where the metal surface is essentially flat. Yet the exterior surface of the shell is not flat; a condition caused by the historical corrosion. Ex. ANC 2 at 6-17. As explained above, a small area surrounding each of the 106 points was ground to create a smooth surface upon which the UT probe could be placed before the shell in the sand bed region was coated in 1992. Accordingly, these points are the only locations where UT measurements can be taken on the exterior shell between elevations 12’3” and 8’11”. Thus, even if the final ISG applied here, AmerGen would have an adequate justification to limit UT to point measurements.

Citizens also argue that their contention raises a material dispute because “AmerGen does not explicitly state that the proposed monitoring regime will ensure that margins will be maintained for any extended period of licensed operation.” Motion at 8. There is, however, no requirement that AmerGen demonstrate that the “margins will be maintained” to the end of the period of extended operation. Rather, NRC regulations require that AmerGen have an Aging Management Program (“AMP”) that provides “reasonable assurance” that it can manage the effects of aging during the period of extended operation prior to the loss of intended function. 10 C.F.R. § 54.29(a). AmerGen credits pressure testing in accordance with 10 C.F.R. Part 50, Appendix J

(Type A test) and ASME Section XI for managing aging effects of inaccessible portions of the drywell shell consistent with NUREG-1801 (the GALL Report).¹⁴

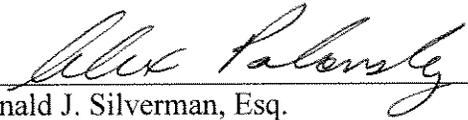
In conclusion, the insignificant loss of metal in the embedded region measured by UT to date, coupled with the scientific analysis demonstrating the insignificance of any posited loss of metal, and the pressure testing performed by AmerGen in accordance with 10 C.F.R. Part 50, Appendix J, provide reasonable assurance that the embedded drywell shell will perform its intended function as required by 10 C.F.R. Part 54 throughout the requested period of extended operation. Accordingly, Citizens' second proposed contention does not raise a genuine issue of material fact or law, and thus, should be dismissed.

¹⁴ See AMR-164, "Inaccessible Portion of the Drywell" (April 3, 2006) at 15, *available at* ADAMS Accession No. ML060940146. The embedded portion of the drywell shell—whether it is embedded on both sides or just one—is exempt from visual examination in accordance with IWE-1232. *Id.*

IV. CONCLUSION

Citizens' two new late-filed contentions have no substantive merit and lack legal foundation. Because the new contentions lack an adequate basis and fail to meet the requirements of 10 C.F.R. §§ 2.309(c), (f)(1), and (f)(2), they should be dismissed by the Board.

Respectfully submitted,



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COUNSEL FOR

AMERGEN ENERGY COMPANY, LLC

Dated in Washington, D.C.
this 16th day of January 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:)

) January 16, 2007

AmerGen Energy Company, LLC)

) Docket No. 50-219

(License Renewal for Oyster Creek Nuclear)
Generating Station))
_____)

AMENDED NOTICE OF APPEARANCE

The undersigned attorney hereby amends his Notice of Appearance in this proceeding. In accordance with 10 C.F.R. § 2.314(b), the following information is provided:

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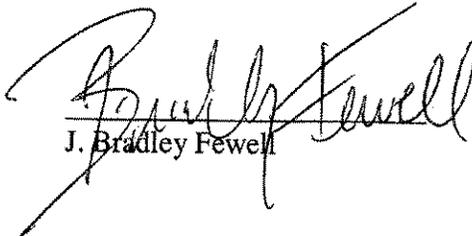
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Respectfully submitted,


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

_____)
In the Matter of:)

January 16, 2007

AmerGen Energy Company, LLC)

Docket No. 50-219

(License Renewal for Oyster Creek Nuclear)
Generating Station))
_____)

CERTIFICATE OF SERVICE

I hereby certify that copies of the “AmerGen’s Answer to Citizens’ Motion for Leave to Add Contentions and Motion to Add Contentions” and J. Bradley Fewell’s Amended Notice of Appearance were served this day upon the persons listed below, by E-mail and first class mail, unless otherwise noted.

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