

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

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

NRC STAFF'S RESPONSE IN OPPOSITION TO CITIZENS' MOTION TO REOPEN
THE RECORD AND TO POSTPONE FINAL DISPOSITION OF THE LICENSING DECISION

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February 12, 2009

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INTRODUCTION

Pursuant to 10 C.F.R. § 2.323(c), the Staff of the U.S. Nuclear Regulatory Commission ("Staff") hereby responds to "Motion by [Citizens¹] to Reopen the Record and to Postpone Final Disposition of the Licensing Decision" ("Motion") dated February 2, 2009. For the reasons set forth herein, Citizens' Motion should be denied.

BACKGROUND

I. Procedural Background

On July 22, 2005, pursuant to 10 C.F.R. Part 54, AmerGen Energy Company, LLC, ("AmerGen")² submitted to the U.S. Nuclear Regulatory Commission ("NRC") an application for license renewal of Operating License No. DPR-16 ("License") for the

¹ "Citizens" comprise Nuclear Information and Resource Service ("NIRS"), 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.

² As of January 8, 2009, the Oyster Creek license was transferred from AmerGen Energy Company, LLC, to Exelon Generating Company, LLC. For consistency, the applicant will be referred to as AmerGen throughout the response.

Oyster Creek Nuclear Generating Station (“Oyster Creek”).³ On September 24 and 25, 2007, the Atomic Safety and Licensing Board (“Board”) held an evidentiary hearing on the only remaining contention in the proceeding, Citizens’ contention concerning the drywell shell.⁴ On December 18, 2007, the Board issued an initial decision resolving Citizens’ drywell contention in AmerGen’s favor. *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-07-17, 66 NRC 327, 372 (2007) (“LBP-07-17” or “Decision”). Citizens’ January 14, 2008, appeal⁵ of the Board’s initial decision is currently pending before the Commission.⁶

II. NRC Staff and AmerGen Notifications to the Commission

On October 25, 2008, Oyster Creek shut down for the last scheduled refueling outage prior to the period of extended operation. On November 6, 2008, the NRC Staff and counsel for AmerGen separately notified the Commission of the discovery of a

³ Letter from C. N. Swenson, AmerGen, to NRC (July 22, 2005) (Agencywide Documents and Access Management System (“ADAMS”) Accession No. ML052080172).

⁴ As admitted by the Board, the Contention read:

[I]n light of the uncertain corrosive environment and correlative uncertain corrosion rate in the sandbed region of the drywell shell, AmerGen’s proposed plan to perform UT tests prior to the period of extended operations, two refueling outages later, and thereafter at an appropriate frequency not to exceed 10-year intervals is insufficient to maintain an adequate safety margin.

AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), LBP-06-22, 64 NRC 229, 255-56 (2006).

⁵ Citizens’ Petition for Review of LBP-07-17 and Interlocutory Decisions in the Oyster Creek Proceeding (Jan. 14, 2008).

⁶ On May 28, 2008, the Commission ordered additional briefs from the parties on a single specified issue regarding the planned three dimensional finite element structural analysis of the drywell shell. See *AmerGen Entergy Co. LLC*, (Oyster Creek Nuclear Generation Station), CLI-08-10, 67 NRC 357, 359 (2008). Subsequently, the Commission ordered an advisory opinion from the Board on the issue specified in CLI-08-10. See Commission Order (Aug. 21, 2008) (unpublished). The Board issued its advisory opinion on October 29, 2008. See Memorandum (Addressing the Issue Referred by the Commission Regarding the Adequacy of AmerGen’s Proposed 3-D Finite Element Structural Analysis Studies) (Oct. 29, 2008) (unpublished).

broken blister approximately one quarter inch in diameter with an approximately 6 inch rust stain and three blisters⁷ in the epoxy coating during visual inspection of Bay 11. See Notification of Information in the Matter of Oyster Creek Nuclear Generating Station License Renewal Application (Nov. 6, 2008) (“Staff Notification”),⁸ Commission Notification (Nov. 6, 2008) (“AmerGen Notification”). The AmerGen Notification informed the Commission that it had reviewed a video of Bay 11, which was taken just prior to the sand bed being closed at the end of the 2006 refueling, and the video showed an indication that AmerGen believed to be the same rust stain. AmerGen Notification at 2. The AmerGen Notification also informed the Commission that it had identified cracks in the moisture seal at the drywell shell interface with the exterior floor of the sandbed region, and that one of the cracks in the moisture seal (caulking) contained three rust stains. *Id.*

On November 17, 2008, the NRC Staff issued “Preliminary Notification: Results of Implementation of Oyster Creek License Renewal Commitments Related to the Drywell Containment” (“Staff’s PNO”), and AmerGen filed “Updated Commission Notification” (“AmerGen’s Updated Notification”). The Staff’s PNO and AmerGen’s Updated Notification provided additional information on the broken blister and the unbroken blisters, found in the Bay 11 epoxy coating, as well as the cracks and rust stains in the moisture seal for Bay 3. Specifically, AmerGen’s Updated Notification explained that “the 6-inch rust stain on the epoxy coating in Bay 11 identified in visual inspections during the 2008 refueling outage is the same stain visible in an ‘as left’ video recording of Bay 11.”

⁷ The three unbroken blisters were initially characterized as bumps.

⁸ NRC Region I Inspectors were at Oyster Creek for the fall 2008 outage conducting an inspection of Oyster Creek’s license renewal related activities using the guidance in Inspection Procedure 71003 “Post-Approval Inspection for License Renewal.”

AmerGen's Updated Notification at 3. As explained in AmerGen's Updated Notification, the video was taken for informational purposes at the end of the 2006 refueling outage. *Id.*; AmerGen Notification at 2. The video was not part of the sandbed visual inspections. AmerGen's Updated Notification at 3; Inspection Report at 11 (stating that the video was made as a "general aid, not part of the [non-destructive examination] inspection"). AmerGen's Updated Notification explained that chemical analysis of the material removed from the blistered area contained traces of chlorine, which probably originated from the sand previously filling the sandbed bays. *Id.* at 2. The Staff's PNO and AmerGen's Updated Notification reported the discovery of water in several sandbed bays after the strippable coating, which is used to prevent overflow water from the reactor refueling cavity from leaking into the sandbed, delaminated. See Staff's PNO at 2; AmerGen's Updated Notification at 4-5.

III. NRC Staff Inspection Report

On January 20, 2008, the Staff issued Oyster Creek Generating Station-NRC License Renewal Follow-up Inspection Report 05000219/2008007 (ADAMS Accession No. ML090210106) ("Inspection Report"), containing its observations from the inspection of Oyster Creek's license renewal related activities performed between October 27, 2008, and November 7, 2008. In Sections 3.4 and 3.5 the inspectors provide observations regarding the discovery of water in the sandbed bays and in the poly bottles located in the torus room. According to the Inspection Report, the strippable coating intended to prevent water from leaking from the refueling cavity into the sandbed bays began to delaminate on November 6, 2008. See *id.* at 7. On November 8, 2008, workers observed water in sandbed Bays 11, 13, 15, and 17 from the de-lamination of the

strippable coating.⁹ *Id.* On November 12, 2008, the refueling cavity was drained. *Id.* On November 15, 2008, 4.3 gallons of water was found in the Bay 11 poly bottle. *Id.* at 6. Bay 11 was dry when AmerGen personnel entered a few hours later. *Id.*

Only 0.003 inch of surface corrosion occurred under the broken blister and Ultrasonic Testing (“UT”) confirmed that no significant degradation occurred in the area. Inspection Report at 11. The 0.003 inch is significantly less than rate of corrosion the Board postulated could occur.¹⁰

NRC Inspectors reviewed AmerGen’s implementation of its One-Time Inspection Program. Inspection Report at 15. The Inspectors reviewed the program’s sampling basis and sample plan. *Id.* The Inspectors also reviewed a sample of the UT thickness measurement taken at 24 locations. *Id.* Although the inspectors noted that the two UT measurements reviewed did not satisfy applicable pipe wall thickness acceptance criteria, they found “no significant problems” with AmerGen’s implementation of the program. *Id.*

IV. Citizens’ Notification and Motion to Reopen

On January 23, 2009, Citizens filed “Commission Notification” (“Citizens’ Notification”) in which Citizens incorrectly argued that the Inspection Report demonstrates

⁹ The sandbed bays were monitored for water by poly bottles attached to the drains via funnels and 50 feet of tygon tubing. Inspection Report at 6. During the outage, AmerGen discovered that the tygon tubes connecting the funnels for bays 3 and 7 were not connected. *Id.* Bays 3 and 7, however, remained dry throughout the outage. *Id.* After the refueling cavity was drained, water was discovered in the poly bottle attached to the drain for sandbed Bay 11 on November 15, 2008. *Id.* The poly bottle holds 5 gallons and the funnel connected to the sandbed drain holds 6 gallons. It has been recently reported but not verified that on November 15, 2008, AmerGen employees found the funnel connected to the Bay 11 poly bottle clogged. These employees removed the clog upon inspection, which resulted in water draining to the poly bottle.

¹⁰ The Board used an annual corrosion rate 0.0035 inch per year and a four-year total corrosion of 0.014 inch. See LBP-07-17, 66 NRC at 367. Since the broken blister existed at least as early as the 2006 outage, the corrosion rate was, on average, no more than 0.0015 inch per year.

that Oyster Creek's drywell aging management program ("AMP") and piping AMP are inadequate and thus, the Decision is invalid. See, e.g., Citizens' Notification at 2 and 8.

On February 2, 2009, Citizens filed the instant motion to reopen and for a stay of the final decision on Oyster Creek's license renewal application, repeating arguments from its Notification that AmerGen's AMP for the drywell shell is inadequate, the Decision is invalid, and AmerGen's piping AMP *might* be inadequate. Citizens requested a stay until February 20, 2009 to file a late contention regarding the adequacy of the piping AMP contained in the Safety Evaluation Report Related to the License Renewal of Oyster Creek Generating Station ("SER") (Apr. 2007), (NUREG-1875, Vol. 2) (ADAMS Accession No ML071310246). See Citizens' Notification at 3-8. Compare Citizens' Motion at 2-9.

DISCUSSION

I. Citizens' Motion Does Not Satisfy the Commission's Requirements for Reopening the Record

Citizens fails to meet the requirements to reopen the record. Pursuant to 10 CFR § 2.326(a), a motion to reopen a closed record to consider additional evidence will not be granted unless *all* of the following criteria are satisfied:

- (1) The motion must be timely. However, an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented;
- (2) The motion must address a significant safety or environmental issue; and
- (3) The motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

10 C.F.R. § 2.326(a). See also *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), LBP-94-35, 40 NRC 180 (1994).

In addition to the standards of 10 C.F.R. § 2.326(a), the motion must be accompanied by one or more affidavits—given by “competent individuals with knowledge of the facts alleged” or

by experts in the appropriate disciplines—which set forth the factual or technical bases, or both, for the movant's claims. 10 C.F.R. § 2.326(b). See also *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 & 2), LBP-89-38, 30 NRC 725, 734 (1989), *aff'd on other grounds*, ALAB-949, 33 NRC 484 (1991). New material in support of a motion to reopen must be set forth with a degree of particularity in excess of the basis and specificity requirements contained in 10 C.F.R. § 2.309(f) for admissible contentions. See *Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2)*, ALAB-775, 19 NRC 1361, 1366-67 (1984), *aff'd sub. nom.*; *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287 (D.C. Cir. 1984), *aff'd on reh'g en banc*, 789 F.2d 26 (D.C. Cir. 1986). Furthermore, the supporting information must be more than a mere allegation; it must be tantamount to evidence. See *id.*; *Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4)*, LBP-87-21, 25 NRC 958, 963 (1987). To satisfy this requirement, the supporting material must possess the attributes set forth in 10 C.F.R. § 2.337(a), which defines admissible evidence as "relevant, material, and reliable." *Diablo Canyon*, ALAB-775, 19 NRC at 1366-67.

As the Commission has recognized, these reopening requirements pose a "stiff test" for parties seeking to reopen closed adjudicatory records. *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), CLI-06-03, 63 NRC 19, 25 (2006). However, if a proceeding could be reopened based on every newly arising allegation, there would be little hope of completing an administrative proceeding. See *AmerGen Energy Co. LLC*, (License Renewal For Oyster Creek Nuclear Generating Station), CLI-08-28, 68 NRC __, __ (slip op at 13 n. 38) (Nov. 6, 2008) (quoting *Private Fuel Storage, LLC*, (Independent Spent Fuel Storage Installation), CLI-05-12, 61 NRC 345, 350 n.18 (2005)). Indeed, this "heavy burden" created by the regulations is intentional. See Final Rule, Criteria for Reopening Records in Formal Licensing Proceedings, 51 Fed. Reg. 19,535 and 19,538 (May 30, 1986). The Board and the Atomic Safety and Licensing Appeal Board also noted that the reopening requirements apply to all issues for which reopening is sought, meaning that the reopened record is open solely to

those matters which have been found to satisfy the § 2.326 reopening requirements. *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), LBP-85-19, 21 NRC 1707, 1720 (1985) (citing *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 2), ALAB-486, 8 NRC 9, 22 (1978)).¹¹

Finally, the burden is on the moving party to meet all of the requirements for reopening. *Oyster Creek*, CLI-08-28, 68 NRC at ___ (slip op. at 14 and 21-23) (rejecting Citizens' argument that a summary judgment-type standard should apply).

A. Citizens' Motion to Reopen Fails to Identify a Significant Safety Issue

Citizens' Motion does not satisfy the requirements set forth in 10 C.F.R. § 2.326(b), because the Motion is not accompanied by affidavits setting forth factual or technical bases for the Motion's assertion that the issue raised is a significant safety issue. See *Oyster Creek*, CLI-08-28, 68 NRC ___ (slip op. at 22) (stating that affidavits in support of a motion to reopen must contain detailed technical analysis). The "most important of the three [10 C.F.R. § 2.326(a) elements]" to be addressed is that the motion raises a safety (or environmental) issue that is significant. *Public Service Company of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-940, 32 NRC 225, 243-44 (1990).¹² Citizens' failure to make this demonstration via its expert's declaration necessitates denial of Citizens' Motion. The lone supporting documentation provided by Citizens, the Declaration of Dr. Rudolf Hausler ("Hausler's Declaration") executed

¹¹ Thus, if the Commission grants this motion, the record would only be reopened to allow additional evidence on the issue raised by Citizens' Motion. If Citizens seeks to raise any other issues, i.e., if it seeks to raise a new contention concerning the adequacy of AmerGen's aging management program for piping, it will have to satisfy § 2.326 as to those issues as well. The instant motion does not attempt to satisfy the requirements of 10 C.F.R. § 2.326 with respect to Oyster Creek's aging management programs for piping. See Citizens' Motion at 8, 15.

¹² This case interpreted the former 10 C.F.R. § 2.734, which contained the same three factors, in substantially identical form, that are now found at 10 C.F.R. § 2.326(a). The only difference between the two sets of factors is a minor grammatical change that broke up the one sentence-long 10 C.F.R. § 2.734(a)(1) into two sentences to form the current § 2.326(a)(1). Compare 51 Fed. Reg. at 19,539 (containing text of §2.734(a)(1)) with 10 C.F.R. §2.326(a)(1).

on February 2, 2009, does not identify any significant safety issue warranting reopening the proceeding. In fact, Hausler's Declaration only reinforces that the commitments made by AmerGen are sufficient to insure the continued safe operation during the license renewal term.

Dr. Hausler merely proposes additional questions, provides no answers, and fails to identify any factual or technical bases that result in a significant safety issue, which is clearly insufficient to support a motion to reopen. See *Oyster Creek*, CLI-08-28, 68 NRC at ___, (slip op. at 22) (stating that bare assertions and speculation do not provide the requisite support for a motion to reopen). Citizens' expert's additional questions include: (1) "where does the water come from to carry rust from the blister toward the floor" and (2) could "water ... be leaking into the exterior floor." Hausler's Declaration at 3 and 7. Dr. Hausler believes that the "[Inspection] Report shows that the rationale that AmerGen used to set the inspection frequency ... was over-optimistic" Hausler's Declaration at 6. At no point does Dr. Hausler demonstrate how these questions that were addressed at the hearing¹³ and in the Board's decision¹⁴ raise or result in a significant safety issue.

Citizens' Motion alleges three assumptions for a finding of a significant safety issue. Citizens states that the information in the Inspection Report "fatally undermines the findings that the drywell [Aging Management Program] was adequate." Citizens' Motion at 12. Citizens' bases for rejecting the adequacy of the drywell Aging Management Program is that (1) "water could only be ... present in the [drywell] sandbed region for 30 days every two years," (2) "the only ... source of water was the refueling cavity and any water that penetrated the drywell would

¹³ See, e.g., Transcript of Evidentiary Hearing ("Tr.") (Sep. 24-25, 2007) at 687 and 698 (In response to Board questioning, Dr. Hausler conceded that he had no evidence that water was coming from a source other than the refueling cavity or that condensation on the exterior of the drywell shell is a potential source of water). The transcript is available at ADAMS Accession Nos. ML073030160 (Sept. 24) and ML073030157 (Sept. 25).

¹⁴ See, e.g., LBP-07-17, 66 NRC at 351-356 (addressing Citizens' arguments on sources of water), 364-65 (addressing Citizens' arguments about corrosion on the interior wall of the sandbed region).

evaporate rapidly”, and (3) the view that “visual inspections are adequate to detect the onset of corrosion” are invalidated by the Inspection Report. *Id.* at 2 and 12. Citizens’ expert, however, fails to identify any tangible factual support for these bare assertions and bases his conjecture on speculation unsupported by the record or the Inspection Report. Citizens mistakenly ties its three assumptions to three other unrelated and immaterial assertions regarding (a) flow accelerated corrosion AMP, (b) “three new corrosion blisters,” and (c) “many other leaks at the plant.” *Id.*

As explained in detail below, Citizens’ Motion and supporting affidavit fail to show that the assumptions and assertions therein give rise to a “significant safety issue.” Thus, the 10 C.F.R. § 2.326(b) affidavit requirement with respect to the most important of the three mandatory 10 C.F.R. § 2.326(a) criteria is not satisfied and Citizens’ Motion should be denied.

1. Water is Present in the Sandbed Bay Only During Refueling

Citizens argues that “[t]he [Inspection] Report shows that it is possible for water to be present in the sandbed region at times other than during refueling.” Citizens’ Motion at 7. Citizens apparently concludes this based on the fact that water dripping into the sandbed region during the last *refueling outage* took time before appearing in the poly bottles. *See id.* at 4 and 7. This conclusion is not supported by facts. First, the water identified in the Inspection Report appeared as the result of a refueling outage, which filled the refueling cavity. Inspection Report at 5-7. Any other conclusion amounts to mere speculation. Citizens’ expert does not identify any facts or make any conclusion regarding the source of water for the formation of the rust stain. Dr. Hausler states that “[t]he question is ‘where does the water come from to carry rust from the blister toward the floor.’” Hausler’s Declaration at 3. He fails to present any evidence that identifies any alternative plausible source for the water. Even with this additional information from two AmerGen notifications, the Staff’s PNO, and the Inspection Report, Citizens’ expert did not add any additional information regarding the source of the water. *Id.* *Compare* Tr. at 698 (conceding that he had no evidence that water was coming from a source

other than the refueling cavity). See *also* Tr. at 687 (conceding that condensation on the exterior to the drywell shell is not a potential source of water). Dr. Hausler attempts to utilize the design leakage of components *inside* the drywell to explain the source of water on the outside of the drywell and create a hypothetical flow path from an “unidentified source” of water pooling nearly 20 feet below the sandbed drains. Hausler’s Declaration at 5. The Inspection Report states that “the torus room floor had standing water for most of the outage, due to other identified system leaks.” Inspection Report at 6. See *also* Affidavit of James A. Davis (Feb. 2, 2009) (“Davis Affidavit”) at ¶ 12 (stating that water has not been found in the poly bottles during quarterly inspections conducted during the last two operating cycles). Quite simply the water source was known and no viable path existed for the standing water in the floor of the torus room to migrate to the sandbed region.

Thus, Citizens has failed to identify how water in the sandbed during a refueling outage shows that water would be present in the sandbed bays during normal operations and what significant safety issue results from this alleged “unidentified” source of water.

2. The Source of the Water in the Sandbed Bay Is the Refueling Cavity

Citizens asserts that the water identified in the Inspection Report is not from the refueling cavity. Citizens’ Motion at 4 and 12.¹⁵ Hausler’s Declaration speculates that water *may* come from any one of the “208 penetrations through the drywell shell” and it “would not be surprising that some of these ... *might* have become leaky right in the gap between the containment building and the drywell steel shell.” Hausler’s Declaration at 5 (emphasis added). Dr. Hausler states that “[i]t is well known that *inside* the drywell leaks are a permanent condition.” *Id.*¹⁶

¹⁵ In LBP-07-17, the Board rejected Citizens arguments that the refueling cavity is not the only source of water for lack of evidentiary support. See LBP-07-17, 66 NRC at 351-353.

¹⁶ The sandbed bays are *outside* the drywell shell. See Inspection Report at A-7, Figure A-1, Cross Section of the Oyster Creek Drywell and A-10, Figure A-4, Oyster Creek Sandbed Region Detail (continued. . .)

These conclusions are simply unsupported by the record as water from the refueling cavity is the only source of water to the sandbed bays supported by evidence. See LBP-07-17, 66 NRC at 352. See also Davis Affidavit at ¶¶ 12-13 (stating that no leaks where pipes enter containment have been detected or reported, if such leak occurred, water would collect in the poly bottles, and no water has been found in the poly bottles during quarterly inspection conducted during the last four operating cycles).¹⁷ Citizens' expert concludes otherwise without support that another as yet unidentified water source exists. Citizens and their expert point to no tangible facts and fail to specifically identify any source of water other than the refueling cavity.

Citizens argues that water detected in the poly bottles on November 15, 2008, "could not have come from the refueling cavity, because it had been drained on November 12, 2008." Citizens' Motion at 12. The record provides no support for this conclusion. For example, the Inspection Report states "[AmerGen] entered Bay 11 within a few hours of identifying the water [in the poly bottle], visually inspected the bay, and found it dry." Inspection Report at 6. In other words, no water from any identified or unidentified source was found in Bay 11 after the refueling cavity was drained.¹⁸ Citizens' reliance on the standing water in the torus room to

(. . .continued)

Showing the Sandbed Drain Line. Dr. Hausler appears to be arguing about sources of water *inside* the drywell shell. Leakage from the refueling cavity is not a source of water *inside* the drywell shell. In Section 3.10 of the Inspection Report, NRC inspectors describe their observations of the trenches inside the drywell shell. These trenches were inspected for water and initially found to be dry although a few ounces of water were later observed in one trench following system flushes conducted in the immediate area. Inspection Report at 12-13. In addition, AmerGen has committed to performing UT measurements in the trenches every other refueling outage and monitoring for water in the trenches every refueling outage. See *id.* at 12 (referring to SER at Appendix A Commitment 27 items 5, 16, and 20).

¹⁷ AmerGen has committed to inspect the sand bed drains on a quarterly basis during operations throughout. See SER at Appendix A Commitment 27, item 3.

¹⁸ The water found in the poly bottle for Bay 11 on November 15, 2008, resulted from the removal of a clog in the drain funnel on that same day.

demonstrate that water might be entering the sandbed is simply immaterial. The floor of the torus room is located nearly 20 feet below the sandbed drainage connections. See Inspection Report at 6, A-7, and A-11. Water on the torus room could not reach the sandbed bays. Davis Affidavit at ¶13.

As evidence of a source of water other than the refueling cavity, Citizens argues that the 3 unbroken blisters “formed between 2006 and 2008.” Citizens’ Motion at 4. Nothing in the record or the Inspection Report arrives at such a conclusion. In fact, Citizens’ own expert disagrees, concluding that the blisters were present during the 2006 outage. Dr. Hausler states that “the blisters already existed in 2006.” Hausler’s Declaration at 3. Thus, the blisters could have formed as a result of previous refueling outages, and Citizens has failed to support its assertion that the blisters demonstrate that water is present in the sandbed during plant operation. See Davis Affidavit at ¶ 11 (stating that “discovery of the blisters does not change the Staff’s conclusion that AmerGen’s drywell aging management program provides reasonable assurance that the drywell shell will maintain the necessary safety margin during the period of extended operation”).

Citizens’ expert presented Citizens’ belief that water entering the sandbed region originated from some other source. When questioned by the Board during the evidentiary hearing if Citizens had any evidence of an alternative or an additional source of water, Dr. Hausler stated “I don’t have the evidence, I have the question of where it comes from. Tr. at 698. See also LBP-07-17, 66 NRC at 351-52 & n.33-34 (finding no probative evidence supports Citizens’ claims of an alternative source of water).¹⁹ As such, Citizens’ assertions are unsupported by the evidence.

¹⁹ Dr. Hausler conceded at the hearing that “he did not believe that ‘condensation on the exterior of the drywell shell is really a source of water that we might have to worry about.’” LBP-07-17, 66 NRC at 353 (quoting Tr. at 687).

3. The Drywell is Inspected Using Multiple Methods

Citizens argues that visual inspection of the drywell is insufficient to identify the early stages of corrosion. Citizens' Motion at 3 and 13; Hausler's Declaration at 2-3. This assertion necessarily implies that only visual inspections of the drywell occur. See Citizens' Motion at 3 and 13. This is not correct. AmerGen performed full scope Ultrasonic Testing ("UT") measurements during the 2008 refueling outage²⁰ and has committed to perform full scope UT measurements every other refueling outage (i.e., every four years) using the same internal grids and over 100 external locations that were measured during the 2006 refueling outage. See LBP-07-17, 66 NRC at 334 (describing all of AmerGen's commitments to manage corrosion of the drywell shell during the period of extended operation).

Since Citizens is concerned that visual inspection alone is insufficient for monitoring drywell corrosion, AmerGen's commitments to utilize multiple inspection methods including visual and UT satisfy any ongoing apprehension.²¹ AmerGen will perform additional UT measurements of the drywell shell every other outage during the period of extended operation.²² More importantly, no significant corrosion was discovered under the blisters identified during the 2008 outage. See Inspection Report at 11 (stating that corrosion under the broken blister was only 0.003 inches and UT dynamic scan under all four blisters showed no significant corrosion).²³ Thus, the visual inspection and UT of the drywell shell that identified four minor blisters is not a significant safety issue and the record should not be reopened. See Davis Affidavit at ¶ 11 (stating that discovery of the blister is not a significant safety issue).

²⁰ See Inspection Report at 13-14 (reporting results of the 2008 inspections).

²¹ See *id.*

²² *Id.*

²³ At hearing, AmerGen's experts testified that "early indications of coating failure include pinpoint rusting and rust staining" and that it will be possible to visually identify such rust staining because the top of the epoxy coating on the drywell shell is grayish white. LPB-07-17, 66 NRC at 359.

4. Other Safety Issues Alleged By Citizens Are Not Significant

Citizens identified several concerns that they did not indicate rose to the level of a significant safety issue. As such, none of these issues are sufficient to form the basis for reopening these proceedings. Citizens expressed concern regarding (a) the AMP for piping, (b) the identification of blisters in the epoxy coating in sandbed Bay 11, and (c) unidentified leaks at Oyster Creek.

a. AMP for Flow Accelerated Corrosion Complies with the GALL Report

Citizens' expert states that "commitment [24] is entirely contrary to the Recommendation of the Generic Aging Lessons Learned (GALL) Report (NUREG-1801, Vol. 2, Rev. 1; XI M-61)." Dr. Hausler asserts that "[i]t defies logic to expect that a one time measurement can determine the ongoing rate of aging." This simply fails to acknowledge the full scope of the AMP that AmerGen committed to performing prior to and during the period of extended operation. Dr. Hausler fails to identify Commitments 11 and 41 as also being part of AmerGen's GALL-compliant aging management program for flow accelerated corrosion. Thus, AmerGen has committed to continuing the current flow accelerated corrosion program (SER at A-8, Commitment 11) and to the periodic monitoring of aging effects on "systems in the scope of license renewal ... and are not covered by other existing periodic monitoring programs." SER at A-47, Commitment 41.²⁴ Dr. Hausler fails to recognize that the One-Time Inspection program as outlined in Commitment 24 only represents a single aspect of the continual monitoring of aging resulting from flow accelerated corrosion. These one-time measurements are utilized to evaluate the need for additional monitoring.

Citizens' demand that, "at minimum, [AmerGen] and Staff should review whether

²⁴ See also SER at 3-14 to 3-16 (finding AmerGen's flow-accelerated corrosion program consistent with GALL at XI M-61 to 63, Section XI.M17 "Flow-Accelerated Corrosion").

additional aging management is needed,” is inapposite. See Citizens’ Motion at 8. In fact, AmerGen’s commitments already require review of the full set of testing results from the One-Time Inspection program. SER at A-8, Commitment 11 and A-47, Commitment 41. Thus, Citizens have failed to identify an inadequacy in AmerGen’s One-Time Inspection program.²⁵

b. The Three New Unbroken Blisters

With regard to the three unbroken blisters, Citizens’ and Citizens’ expert disagree when the blisters formed. Compare Hausler’s Declaration at 3 (indicating that the blisters were present in 2006) with Citizens’ Motion at 4-5 (arguing that the blisters must have formed between 2006 and 2008). Dr. Hausler’s declaration regarding the three unbroken blisters and the one broken blister simply reiterates his previous testimony and exhibits presented to the Board during the evidentiary hearings. See Hausler’s Declaration at 3-5.²⁶ In fact, the only new information is that AmerGen identified four blisters through visual inspection, excavated them, found insignificant corrosion, and completely repaired each one. Inspection Report at 11. Thus, this also fails to demonstrate any significant safety issue.

c. Many Other Unidentified Leaks

The consistent theme of Citizens’ Motion is the possibility that unidentified leaks exist at Oyster Creek. See, e.g., Citizens’ Motion at 4-5, 7, 11-12; Hausler’s Declaration at 3 and 5. Citizens, however, fails to identify or provide evidence regarding the existence of any of these

²⁵ Any challenge to the One-Time Inspection program is untimely as is discussed below in Section I.B.

²⁶ When considering Dr. Hausler’s assertions regarding the formation of the blister and the characteristic of the epoxy coating at Oyster Creek, it is important to keep in mind that Dr. Hausler has acknowledged that he is “not familiar with the specific composition of the epoxy coating used at Oyster Creek” and that his coating expertise is in oil field applications, in which coatings must withstand “continuous immersion service with highly corrosive pressurized fluids, gases, and continuous fluid flow.” See LBP-07-17, 66 NRC at 361 360-61 n. 44. See also *id.* at n.41 (Dr. Hausler conceding that he did not know the epoxy coating on the drywell shell contains no solvents.), n.48 (Dr. Hausler conceding that he fails to recognize that the coating on the concrete drywell floor was materially different from the epoxy coating on the steel drywell shell.).

leaks.²⁷ Dr. Hausler states that “the torus building floor is in a permanent wet condition with the sources of this water unknown.” Hausler’s Declaration at 5. The Inspection Report, however, clearly identifies the “sources of this water” as “identified system leaks” in a plant drain pipe. Inspection Report at 6. See *also* Davis Affidavit at ¶¶ 12-13. Dr. Hausler also asserts that “inside the drywell leaks are a permanent condition.” Hausler’s Declaration at 5. Leaks from inside the drywell cannot reach the sandbed bays without corroding through the drywell. See Inspection Report at A-7 and A-10. The internal corrosion of the drywell shell was estimated at 0.002 inches per year and Citizens does not challenge this rate.²⁸ These issues were properly before the Board and did not represent a significant safety issue.

Consequently, Citizens have failed to demonstrate that they are raising a significant safety issue. Therefore, their Motion must be denied.

B. Citizens’ Motion to Reopen is Not Timely

“[F]or a reopening motion to be timely presented, the movant must show that the issue sought to be raised could not have been raised earlier.” *Diablo Canyon, ALAB-775*, 19 NRC at 1366. Citizens’ Motion, however, is not timely, and it fails to raise an exceptionally grave issue that could exempt it from the timeliness requirements applicable to reopening records.²⁹ Accordingly, it does not satisfy 10 C.F.R. § 2.326(a)(1).

Despite Citizens’ assertion that its motion is timely, it is clear from Citizens’ Motion and Hausler’s Declaration that the facts underlying the motion were available from at least as early as November 2008. Moreover, Citizens’ expert testified on these issues in late 2007 and still cannot provide any concrete additional information to his testimony. See Motion at 10-11 (citing

²⁷ See LBP-07-17, 66 NRC at 351-52 (rejecting similar arguments about other sources of leakage raised by Citizens during the hearing).

²⁸ Inspection Report at 11; LBP-07-17 at 366-68. *Compare* Citizen’s Motion at 7.

²⁹ Citizens’ Motion fails to raise any new information as it simply repeats evidence and testimony previously presented to the Board and addressed by the Board’s Decision.

the Staff's Notification, AmerGen's Notification, and AmerGen's Updated Notification). Citizens knew no later than November 6, 2008, that a broken blister and three unbroken blisters were discovered. See Staff's Notification at 1; AmerGen Notification at 1. Citizens knew of the cracks and the rust stain in the moisture barrier (caulking) between the drywell shell and the sandbed floor in Bay 3 no later than November 6, 2008. AmerGen's Notification at 2. Citizens knew that the broken blister was visible in the 2006 video no later than November 6, 2008. *Id.* at 2. See also AmerGen's Updated Notification at 3. Citizens knew that the strippable coating delaminated and resulted in water in sandbed Bays 11, 13, 15, and 17 no later than November 17, 2008. AmerGen's Updated Notification at 4. Therefore, Citizens was aware of the facts underlying the instant motion no later than November 17, 2008. Assuming *arguendo* that these issues were actually new and raised a significant safety issue, Citizens' was required to file its motion timely.³⁰ Thus, Citizens knew of the information necessary for its motion for more than two (2) months, but nonetheless failed to submit its motion in a timely fashion.³¹

Because Citizens' Motion is not timely, a motion to reopen will be granted only at the discretion of the presiding officer, when the issue presented is *exceptionally grave*. See 10 C.F.R. § 2.326(a)(1) (emphasis added). Citizens fails to show factual or technical bases for finding a significant safety issue. Citizens' Motion also fails to satisfy the requirement of presenting an exceptionally grave issue that would excuse an untimely motion. Citizens' expert fails to state or show that these issues pose a significant safety issue or an exceptionally grave issue. Dr. Hausler's only concern is "to improve corrosion management at Oyster Creek and hopefully other nuclear plants." Hausler's Declaration at 8. Consequently, Citizens' Motion

³⁰ Instead, for reasons of Citizens' choosing, the instant motion was withheld for over two months and filed only two (2) days before the scheduled Commission affirmation session for Oyster Creek.

³¹ Citizens' only apparent action with regard to the November Notifications and the PNO was to question why a normally closed exit meeting was closed. See Email from R. Webster, Attorney for Citizens, to M. Baty, Attorney for the Staff, dated January 9, 2009.

should be denied because it does not satisfy the timeliness or discretionary requirements of 10 C.F.R. § 2.326(a)(1).

C. Citizens Has Not Demonstrated that a Materially Different Result is Likely

Citizens' Motion further fails to satisfy 10 C.F.R. § 2.326(b) because it fails to demonstrate via affidavit that the new information would "likely" lead to a "materially different result" in the Oyster Creek license renewal proceeding, as required under § 2.326(a)(3). Instead of providing a sufficient affidavit, Citizens relies upon inconsistent arguments of counsel that contradict any basis for demonstrating materiality and contradict its own expert. Citizens' Motion fails to demonstrate that the Board's findings in LBP-07-17 are invalid because of the Inspection Report. Motion at 14-15.³²

Citizens' Motion argues that the Board's decision in LBP-07-17 would be materially altered because the information in AmerGen's and the Staff's notifications to the Commission and repeated in the Inspection Report "contradicts many of the factual findings of the Board and its ultimate conclusion." Citizens' Motion at 14. Citizens' Motion asserts that the Board improperly relied on assurances by AmerGen that (1) "water could not penetrate the coating absent immersion," (2) "the coating was in perfect condition in 2006," (3) "the refueling cavity was the only source of water to the sandbed," (4) "the trough drain would catch any leakage from the refueling cavity," and (5) "visual inspection would detect any rust stains on the coating." Citizens' Motion at 14. Yet, Citizens' Motion argues contrary to its assertion to reopen that the

³² Citizens also argues that Inspection Report raises "trouble[ing] questions about the efficacy of the hearing process." Citizens' Motion at 14-15. Specifically Citizen argues that the Inspection Report demonstrates that the Citizens should have been allowed to cross-examine witness even though it did not meet the standard in the Commission's regulations at 10 C.F.R. §§ 2.310 and 2.1204. Citizens' assertion that the outcome of the hearing could have been different had cross-examination been permitted is pure speculation and is inapposite to the reopening standard in 10 C.F.R. § 2.326. Furthermore, the Commission's regulations limiting cross-examination to formal proceedings under 10 C.F.R. Part 2 Subpart G were found to be consistent with the requirements of the Administrative Procedure Act. See *Citizens' Awareness Network, Inc. v. United States*, 391 F.3d 338 (1st Cir. 2004).

“Board’s decision did not rest on the incorrect sworn assurances from AmerGen’s witnesses that water would not enter the sandbed region because it would be caught by the trough drain, that the coating was in pristine condition, or that absent immersion, osmotic diffusion could not enable water to penetrate the epoxy coating.” Citizens’ Motion at 6 (internal citations omitted). Citizens’ Motion therefore must fail because Citizens admits that none of AmerGen’s assurances are in fact material to the Board’s decision in LBP-07-17. See, e.g., Citizens’ Motion at 6. Thus, Citizens’ Motion should be denied.

Citizens also argues that AmerGen should be required to “augment its visual inspections with other techniques.” *Id.* In fact, AmerGen is using multiple inspection methods including visual inspections and UT of the drywell shell thickness in order to insure minimum thicknesses are maintained. SER at 4-41 – 4-71 and A-50 – A-51, Commitment 49. Even as to the source of water, Citizens and its expert offer no evidence in the instant motion beyond the scope of their previous testimony. Citizens speculates that “there is probably an additional source of water to the sandbed region.” Citizens’ Motion at 5. *Compare* Tr. at 698 (Hausler). Dr. Hausler is even less enlightening with only a question regarding where the source of water exists. Hausler’s Declaration at 3.

Furthermore, the results of the fall 2008 inspection do not undermine the Board’s decision in LBP-07-17. The Board concluded: “AmerGen has demonstrated that the *frequency* of its planned UT measurements, in combination with other elements of its aging management program, provides reasonable assurance that the sandbed region of the drywell shell will maintain the necessary safety margin during the period of extended operation.” LBP-07-17, 66 NRC at 330 (emphasis added). The Board concluded that the refueling cavity was the only *known* source of water because Citizens, and their expert, Dr. Hausler, were unable to provide

evidence to the contrary. See LBP-07-17, 66 NRC at 351-52 & n.33-34.³³ Citizens' Motion provides no new evidence that another source of water exists, but rather repeats previous testimony already evaluated and rejected by the Board. *Id.*

The Board concluded that even if water enters the sandbed region, the drywell shell will be adequately protected by the epoxy coating. LPB-07-17, 66 NRC at 356-363. In so doing, the Board rejected Citizens' arguments that visual inspections may not reliably detect early indications of coating failure because early indications of coating failure (pinpoint rusting and rust staining) would develop at a very slow rate. *Id.* at 359. The Board also rejected Citizens' argument that rapid failure of the coating could occur. *Id.* at 360. The Board found that because Dr. Hausler was not familiar with the specific composition of the coating used at Oyster Creek, and that his experience with coatings was with unrelated applications that are inapplicable to Oyster Creek, his testimony regarding Oyster Creek's epoxy coating was given little weight. See LBP-07-17, 66 NRC at 360-61. Moreover, the results of the fall 2008 inspection support this conclusion rather than contradict it. Although AmerGen believes that the 0.003 inch of corrosion under the broken blister occurred over a 16 year period, even if the corrosion occurred between 2006 and 2008, the corrosion rate is far less than the 0.014 inch every four years estimated by the Board. Inspection Report at 11; LBP-07-17 at 366-68. Further, UT thickness measurements under all blisters showed no significant degradation. Inspection Report at 11. Thus, the fact that visual inspections identified the potential early signs of localized coating failure does not demonstrate that the Board's conclusions would be materially altered.

³³ Contrary to Citizens' assertion, this is not the first time that radiological analysis of water found in the poly bottles was inconclusive nor does it demonstrate that there could be a source of water other than the refueling cavity. See LBP-07-17, 66 NRC at 352 n. 34 (discussing Citizens' exhibits 21 and 22 and noting that "analysis of water samples collected from each bay drain proved inconclusive").

The Board concluded that even if corrosion occurred, UT measurements taken every four years are adequate to assure that the drywell shell will not violate the licensing basis. According to Citizens, this conclusion was based on the Board's assumption that the maximum rate of corrosion is 0.014 inch every 4 years. See Citizens' Motion at 7. Citizens fails to note that in calculating a corrosion rate of 0.014 inch every four years, the Board "used the *highest* historical corrosion rate ever measured in the Oyster Creek sandbed region," i.e., the corrosion rate before the sand was removed and the epoxy applied. LBP-07-17, 66 NRC at 366 (emphasis added). The Staff testified that a rate of 0.002 inch per year is conservative. *Id.* at 366 n. 53. The results of the fall 2008 inspection do not undermine the Board's conclusion that the annual corrosion rate will be 0.014 inch every four years. Assuming *arguendo* that the corrosion under the broken blister of 0.003 inch occurred between 2006 and 2008, the annual corrosion rate would be 0.0015 inch per year or 0.006 inch every 4 years. Thus, Citizens has failed to show that the information from the fall 2008 inspection would materially alter the Board's conclusion in LBP-07-17 regarding future corrosion.

In sum, Citizens fails to show that reopening the record to consider information from the fall 2008 inspection would likely lead to a materially different result in these proceedings. Thus, Citizens' Motion must be denied.

II. Citizens Has Not Addressed or Met the Commission's Requirements for a Stay

Citizens' request, that the Commission postpone any final disposition of Oyster Creek's license renewal application until February 20, 2009, is in effect a motion to stay the proceeding. Citizens' only basis for a stay of the proceeding is that it may decide to file a new contention on February 20, 2009.³⁴ See Motion at 15. Citizens has not demonstrated, or attempted to

³⁴ In the "Conclusion" of Citizens' Motion, Citizens requests a stay "until the later of February 20, 2009 or when Exelon resolves the outstanding issues regarding the AMP for the sandbed region of the drywell including carrying out the three dimensional analysis to the specifications of the Board and the (continued. . .)

demonstrate, that the legal standards applicable to stays is satisfied here. This alone is reason to deny Citizens' request. See *Oyster Creek*, CLI-08-13, 67 NRC at 399 (denying a prior Citizens motion to stay which also did not address the requirements for a motion to stay).

When considering a motion to stay, the Commission looks to four factors. *Id.* Those factors are: (1) likelihood of success on the merits; (2) irreparable harm; (3) absence of harm to others; and (4) the public interest. *Id.* Of these factors, the first two are the most important. *Id.* To obtain a stay, a party must show "imminent irreparable harm that is both 'certain and great.'" *Entergy Nuclear Vermont Yankee, LLC, & Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-06-8, 63 NRC 235, 237 (2006). If there is no showing of irreparable harm, there must be an overwhelming showing of likely success on the merits. *Oyster Creek*, CLI-08-13, 67 NRC at 399.

The burden is on the moving party to show that the four factors for a stay weigh in its favor. See *id.*; *Alabama Power Co.* (Joseph M. Farley Nuclear Plant, Units 1 & 2), CLI-81-27, 14 NRC 795, 797 (1981).

Citizens' Motion fails to address the requirements for a stay. Instead, Citizens argues that the Atomic Energy Act ("AEA") guarantees its right to a hearing on any issue that is material to a licensing decision and that the issue on which it *may* file a new proposed contention on, aging management of plant piping, is material to the licensing decision. See Motion at 15. Citizens' interpretation of the AEA is unsupported and completely ignores the procedural regulations implemented by the Commission. The Commission has already informed Citizens that: "the AEA's guarantee of a hearing on

(. . .continued)

ACRS." Motion at 16. This is a request for a stay of indefinite duration and Citizens' Motion fails to argue why it is entitled to such a stay. Furthermore, Citizens' Motion fails to mention AmerGen's three dimensional structural analysis until the "Conclusion" and provides no factual or technical support for the "outstanding issues."

material issues is not without limitation. '[S]ection 189(a)'s hearing requirement does not unduly limit the Commission's wide discretion to structure its licensing hearings in the interests of speed and efficiency.'" *Oyster Creek*, CLI-08-28, 68 NRC __ (slip. op. at 27-28) (Nov. 6, 2008) (alterations in original). Thus, Citizens' arguments are contrary to Commission rulings in this case and warrant denial of Citizens' Motion.

A. Citizens Has Not Shown That It Is Likely to Prevail on the Merits of a Proposed New Contention

To obtain a stay the moving party must make a strong showing that it is likely to prevail on the merits. See *Oyster Creek*, CLI-08-13, 67 NRC at 399-400. Citizens has not made such a showing. Citizens asserts that it *may* file a new contention asserting that an aging management program is needed *for certain piping*. The record in this proceeding has been closed since September 2007, and even if reopened to consider additional evidence on the adequacy of Oyster Creek's drywell aging management program, Citizens would be required to successfully move to reopen the record and satisfy all of the requirements in 10 C.F.R. § 2.326, including the requirement in § 2.326(d) that the new contention related to piping satisfy the requirements in § 2.309(c), in order to litigate a late-filed contention on plant piping, which has not previously been raised. See *TMI*, ALAB-486, 8 NRC at 22 (stating that the reopening criteria govern each issue to be reopened). Citizens has not even asserted that they are likely to prevail on the merits of a possible new contention on piping. Furthermore, the purpose of the One-Time Inspection program is to determine whether or not an aging effect is occurring, how quickly it is occurring, and whether additional aging management is needed. See SER at A-14 to A-16. Therefore, Citizens has failed to make a *strong* showing of success on the merits.

B. Citizens Will Not Be Harmed If a Stay Is Not Granted

To obtain a stay Citizens must show that it will be irreparably harmed if a stay is not granted. *Oyster Creek*, CLI-08-13, 67 NRC at 399. The harm that Citizens seeks to redress is its failure to identify an issue in a timely fashion under the Commission's rules. Citizens long ago had the means and opportunity necessary to propose a contention on the need for an AMP requiring periodic UT inspection of piping. Citizens has long been aware of the scope of AmerGen's aging management programs, including its flow-accelerated corrosion program,³⁵ and the scope of AmerGen's One-Time Inspection program. Therefore, Citizens cannot claim that it will be irreparably harmed if a stay is not granted. The time for Citizens to propose a contention on AmerGen's aging management programs for plant piping was when *Oyster Creek's* application was noticed for hearing in 2005, and granting a stay will not change this fact.

In sum, the factors do not weigh in favor of granting a stay.

CONCLUSION

For the reasons set forth above, the Commission should deny Citizens' Motion.

Respectfully submitted,

/RA by Mary C. Baty/

Brian G. Harris
Mary C. Baty
Counsel for NRC Staff

Dated at Rockville, Maryland
this 12th day of February 2009

³⁵ The Hausler Declaration at ¶ 5(g) asserts that AmerGen's one time inspection program is "entirely contrary to the recommendations of the GALL report (NUREG-1801, Vol. 2, Rev. 1, XI M-61)." In fact *Oyster Creek* has a flow-accelerated corrosion program that the Staff has found to be consistent with the very guidance cited by Dr. Hausler. See SER at 3-14 to 3-16.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

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

AFFIDAVIT OF DR. JAMES A. DAVIS

I, James A. Davis, do hereby declare under penalty of perjury that the following statements are true and correct to the best of my knowledge and belief:

1. My name is Dr. James A. Davis. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Materials Engineer in the Office of Nuclear Reactor Regulation, Division of License Renewal. I have provided testimony in this proceeding in the past (Staff Exhibits B, C, and C1) and my professional qualifications are in Staff Exhibit D.

2. The purpose of this affidavit is to address the Motion by Nuclear Information and Resource Service [et al.] ("Citizens") to Reopen the Record and to Postpone Final Disposition of the Licensing Decision" dated February 2, 2009 ("Citizens' Motion"). I will explain that the issues raised in Citizens' Motion and in the Declaration of Dr. Rudolph Hausler ("Hausler's Declaration") do not present any significant safety issues.

3. I have read Citizens' Motion, Hausler's Declaration, and the Inspection Report No. 05000219/2008007 ("Inspection Report") dated January 21, 2009 (Agencywide Documents and Access Management System Accession No. ML090210106).

4. In para. 5c of Hausler's Declaration, Dr. Hausler states that water leakage through moisture seals (caulking between the sandbed floor and the drywell shell) and the epoxy floor is non-trivial and undetectable by visual examination. He believes that the moisture

reaches the exterior of the drywell shell and is causing corrosion and additional damage. This is simply not the case. The moisture seals and epoxy floor¹ is not showing any evidence that moisture is reaching the drywell shell through cracks in the seals or epoxy floor in a systemic manner. There is no evidence of ongoing non localized corrosion.

5. The Inspection Report states that the moisture barrier seal problems were identified in 7 of 10 sandbed bays by visual inspections. These inspections revealed small surface cracks in the moisture barrier and partial separation of the seal from the drywell steel shell or epoxy-coated concrete floor. AmerGen determined that the as-found moisture barrier function was not impaired, because the cracks and separations did not fully penetrate the seal, except in sandbed Bay 3. In sandbed Bay 3, the AmerGen inspector identified a moisture seal crack with superficial surface rust stains on the drywell shell below the crack. The seal crack and drywell shell corrosion has been repaired. All identified problems were properly repaired after being entered into Oyster Creek Generating Station's 10 C.F.R. Part 50 Appendix B corrective action program. NRC inspectors determined that AmerGen completed the seal repairs in accordance with engineering procedures and conducted an appropriate inspection of the repaired areas.

6. The cracks in the moisture seal are not a significant safety issue because only the crack in Bay 3 fully separated from the drywell shell and all cracks in the moisture seals were repaired properly. In addition, AmerGen has a commitment to "[i]nspect the [moisture barrier] seal at the junction between the sand bed region concrete and the embedded drywell shell during the 2008 refuelling outage and every other refuelling outage thereafter." (License Renewal Application at Commitment 27, items 12 and 21). If additional cracks in the moisture

¹ Epoxy coating system on the concrete sandbed floor is materially different from the coating used on the steel drywell shell.

barrier seal are identified during the next visual inspection, the cracked seal will be repaired and the applicant will file a corrective action report to determine if more frequent inspections are required.

7. In para. 5b of Hausler's Declaration, Dr. Hausler challenges AmerGen's conclusion that cracks in the moisture seal were the result of inadequate curing. He states that "it is practically impossible to determine after 18 years whether failure of an epoxy coating or seal, as the case may be, is due to aging or an original improper mixing issue of resin and curing agent." Dr. Hausler's statement is incorrect. Infrared Spectroscopy is commonly used to determine the degree of cure of epoxy caulking and aging of epoxy caulking cannot result in uncuring. (M.A. Escola, C.A. Moina, A.C. Nino Gomez, and G.O. Ybarra, "The Determination of the Degree of Cure in Epoxy Paints by Infrared Spectroscopy," Polymer Testing, Vol. 24, Issue 5, August 2005, Pages 572-575.)

8. Citizens alleges that the results of the fall 2008 inspection show that visual inspection of the drywell shell is inadequate to detect early signs of corrosion. The results of the fall 2008 inspection, however, do not show this because the blisters were discovered during the visual inspections. Ultrasonic Testing ("UT") showed that no significant degradation occurred. Thus, the possibility that the broken blister was missed by visual inspections in 2006 does not demonstrate that visual inspections are ineffective now or in the future.

9. Citizens asserts that the broken blister is a sign of late stage coating failure. Citizens' Motion at 3. Dr. Hausler asserts that the blister indicates that the coating is approaching its end of life. Hausler's Declaration ¶ 5d. Both assertions are incorrect because the mechanisms for coating failure in the drywell are not the same as for coatings utilized in oil field applications involving high temperature, steam, inorganic solvents, and organic solvents as in Dr. Hausler's experience with coating failures

10. The blisters are not a sign of late stage coating failure because the coating is in a benign environment and UT confirmed that no degradation of the drywell had occurred as would

be expected if the coating was near the end of its useful life. Thus, observation of the blisters does not indicate the end of the useful life of the coating or demonstrate a significant safety issue.

11. The blisters visually identified during the fall 2008 inspection are probably the result of expected irregularities in the surface preparation of the drywell shell. Their discovery is not safety significant because the coating was selected in order to compensate for the difficulties preparing the surface of the drywell shell. Thus the discovery of the blisters does not change the Staff's conclusion that AmerGen's drywell aging management program provides reasonable assurances that the drywell shell will maintain the necessary safety margin during the period of extended operation.

12. In para. 5f of Hausler's Declaration, Dr. Hausler proposes that there may be leaks coming from the many penetrations in the containment shell where pipes enter containment and that the coating in the sand bed region is continuously immersed. No leaks have been reported or identified from these locations where pipes enter the containment shell. The five drains for the ten sandbed bays are checked to insure that they are not blocked. It would not be possible for the sandbed bays to be continuously immersed. The polyethylene bottles in the torus room are periodically checked for water during operations. If there was a leak where a pipe enters the containment shell, the water would be collected and discovered. Water has not been reported in the polyethylene bottles during the last two operating cycles during quarterly inspections of the polyethylene bottles for the presence of water.

13. Dr. Hausler also mentions the water on the torus building floor and uses this as evidence for leaking at where pipes enter containment. Leakage from where pipes enter the containment shell would flow through the sandbed bay(s), down the sandbed drains, into the funnel, through 50 feet of tygon tubing to the attached polyethylene bottles. It would not drain

onto the torus room floor. The Inspection Report clearly indicated that the water on the torus room floor could not reach the sandbed bays. The water in the sandbed bays during the 2008 refuelling outage was traced to water from the refuelling cavity.

This affidavit was executed this 12th day of February, 2009, at Rockville, Maryland.

/original signed by/

James A. Davis

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

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

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE IN OPPOSITION TO CITIZENS' MOTION TO REOPEN THE RECORD AND TO POSTPONE FINAL DISPOSITION OF THE LICENSING DECISION" and "AFFIDAVIT OF DR. JAMES A. DAVIS" in the above-captioned proceeding have been served on the following by electronic mail with copies by deposit in the NRC's internal mail system or, as indicated by an asterisk, by electronic mail, with copies by U.S. mail, first class, this 12th day of February 2009.

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