

UNITED STATES OF AMERICA  
BEFORE THE NUCLEAR REGULATORY COMMISSION  
OFFICE OF THE SECRETARY

DOCKETED  
USNRC

December 19, 2005 (4:30pm)

_____	)	OFFICE OF SECRETARY RULEMAKINGS AND ADJUDICATIONS STAFF
In the Matter of	)	
	)	Docket No. 50-0219
AMERICAN ENERGY COMPANY, LLC (ALSO KNOWN AS AMERGEN)	)	
	)	
OYSTER CREEK NUCLEAR GENERATING STATION	)	
	)	December 19, 2005
Regarding the Renewal of Facility Operating License No. DPR-16 for a 20-Year Period	)	
_____		

**COMBINED REPLY OF PETITIONERS**

**NUCLEAR INFORMATION AND RESOURCE SERVICE, NEW JERSEY  
SIERRA CLUB, NEW JERSEY PUBLIC INTEREST RESEARCH GROUP,  
GRANDMOTHERS, MOTHERS AND OTHERS FOR ENERGY SAFETY,  
JERSEY SHORE NUCLEAR WATCH AND  
NEW JERSEY ENVIRONMENTAL FEDERATION  
TO THE ANSWERS OF AMERGEN AND  
U.S. NUCLEAR REGULATORY COMMISSION STAFF**

Now come Petitioners Nuclear Information and Resource Service, New Jersey Sierra Club, New Jersey Public Interest and Research Group, Jersey Shore Nuclear Watch, New Jersey Environmental Federation and Grandmothers, Mothers and Others for Energy Safety, through counsel and reply to the Answer of AmerGen "Opposing NIRS ET AL. Request for Hearing and Petition to Intervene" (hereinafter referred to as "Amergen Answer") and the Answer of the United States Nuclear Regulatory Commission Staff "Opposing NIRS ET AL. Petition Requesting a Hearing and Petition to Intervene" (hereinafter referred to as the "Staff Answer.") Petitioners respond in opposition to those portions of the proffered respective answers which seek to deny admissibility of the Petitioners' proffered contention.

TEMPLATE = SECY-036

SECY-02

## ARGUMENT

### Reply to AmerGen Answer that the “Petitioners Have Not Demonstrated Standing Based on Geographic Proximity”

AmerGen seeks to demonstrate that the Petitioners do not have standing in this re-licensing proceeding. The Petitioners reply in opposition to this assertion recognizing that an organization may satisfy the standing criteria of 10 CFR 2.309(d)(1) based either on its own interests or that of its members. Under the long-standing “proximity presumption” principle, an individual petitioner, or member of an organization, may base its standing upon showing that his or her residence, or that of its members, is within the geographical area that might be affected by an accidental release of radiation from the facility seeking licensing. The presumption first appears to have been applied in Northern States Power Company (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-107, 6 AEC 188, 190 (1973), where, in a reactor licensing proceeding, the Appeal Board found that the proximity of petitioners living within 30 to 40 miles from the reactor established their standing to intervene. In Gulf States Utilities Company (River Bend Station, Units 1 and 2) ALAB-183, 7 AEC 222, 226 (1974), the proximity presumption was found applicable to interveners in a reactor construction project whose members’ every day activities occurred within 25 miles.

AmerGen asserts that “there is no recognized proximity presumption applicable to license renewal cases” (AmerGen’s Answer at Page 10) to which the Petitioners reply that AmerGen is unreasonably narrow and selective in a re-interpretation so as to misconstrue or misinterpret the NRC’s established rule of thumb for representational standing of the Petitioners.

In the referenced matter of the license renewal proceeding for Turkey Point Units 3 & 4, the ASLB in fact found “*And because it is the source of radioactivity that produces the obvious potential for offsite consequences not the type of proceeding, it is equally apparent that the same ‘obvious potential for offsite consequences’ that initially led to the creation of the presumption in construction permit operating license proceedings also present here. Finally, in the instance case, the distance from the*

*significant source of radioactivity that is presumed to affect the Petitioners logically must be the same 50-mile distance that forms the current basis for the proximity presumption for reactor construction permit and initial operating license proceedings. Because Mr. Oncavage lives considerably less than 50 miles from the Turkey Point facility, however, we need not conjure abstruse reasons why the 50-mile rule of thumb for the presumption is inapplicable but need only to determine if the presumption is applicable to this Petitioner living 15 miles downwind of the reactors. We find that it neither strains the credulity nor rationality to conclude that the Petitioner may fairly be presumed to have an interest that may be affected over the course of the extended operating license term of the Turkey Point reactors located 15 miles upwind of him.”<sup>1</sup>*

The Petitioners reply that the ASLB’s uses strong language in its Turkey Point Memorandum and Order to cite a difference between what “logically must be the same 50-mile radius” or to “conjure abstruse reasons why the 50-mile rule of thumb for the presumption is inapplicable.” The Petitioners assert this to be supportive language for the application of the established rule of thumb in this particular instance. Since this proceeding is not about effectively shrinking the Emergency Planning Zone around Oyster Creek, AmerGen’s assertion that the standard rule of thumb should not be applied to this densely populated coastal area of New Jersey around the site of the oldest operating nuclear power station in the United States that is demonstrated to have experienced severe corrosion and significant thinning of its radiation containment structure’s wall would in deed require a “*conjure of abstruse reasons*” so as not to apply the NRC’s established rule of the thumb for accepting the representational standing of the Petitioners.

Furthermore, contrary to AmerGen assertion that the Petitioners have offered only “vague, generalized statements about a hypothetical future injuries” [AmerGen Answer at Page 11] the Petitioners have demonstrated in their Request for Hearing and Petition to Intervene that the subject component in particular to their aging management related contention, the drywell liner, is a vital safety-related component of Oyster Creek’s radiation containment structure and that the corrosion event in particular to their

---

<sup>1</sup> Florida Power and Light, Turkey Point Units 3 & 4, LBP-01-06, ASLB Memorandum and Order, February 26, 2001, page 9

contention has been identified by NRC as a “potentially significant safety problem.”  
[Petitioners Exhibit 1, NRC Information Notice 86-99]

It is therefore the clearly expressed and well founded concern of the Petitioners’ members that reside, recreate and are employed within proximity and within the Emergency Planning Zone of Oyster Creek nuclear generating station that the failure of this very large and heavy radiation containment component due to age-related degradation threatens a radiological accident inflicting injury, sickness and death on themselves and their family members.

Petitioners therefore request that the ASLB recognize that standing has been satisfied.

Reply To NRC Staff Answer “Petitioners Have Demonstrated  
Representational Standing”

In view of the NRC Staff’s Answer that “Petitioners have met the requirements for standing to intervene in this proceeding” (Staff Answer at Page 10), the Petitioners request that the ASLB accept their collective standing in the above captioned proceeding.

Combined Reply to AmerGen and NRC Staff Answers Asserting That “The Petitioners’  
Proposed Contention Is Inadmissible”

1. As stated in the background of AmerGen’s Answer they claim that Petitioners’ bases for supporting their contention “*merely attempts to summarize over two decades of historical events related to corrosion of the OCNGS drywell shell discussed in various publicly-available NRC documents (some of which Petitioners include as Exhibits). The same information is summarized in the Application...*” (AmerGen Answer at Page 19)

The Petitioners cannot develop their contention and address an observed deficiency in the application namely the absence of confirmatory UT measurements at all critical levels of the Oyster Creek containment component without establishing an historical account and specific references to the application. The Petitioners assert that

such an effort is certainly more than mere parroting of the application and without it the applicant would assert to the contrary that the Petitioners contention would be void of context to the application.

2. Furthermore, AmerGen's background statement claims "*Petitioners acknowledge that inspections have shown no failure of the epoxy coating in the sand bed region or signs of deterioration.*" [AmerGen Answer at Page 22]

To the contrary, the Petitioners reply that they have raised a genuine dispute with applicant's described coating inspection procedure of the epoxy coating at the sand bed region of the drywell liner as part of the supporting bases for their contention. "*The Petitioners contend that the applicant does not indicate whether visual coating inspections since the original application have been made specifically for pinhole leaks in the coating which would allow for water seepage behind the epoxy coating resulting in corrosion behind the coating on the exterior surface of the already degraded component. Because the remaining measured margin of .064 inches [approximately 1/16 of an inch] in an unknown number of locations within the severely corroded sand bed region is so extremely narrow, Petitioners contend that the described observable blisters, flakes and discoloration do not need to occur before the component is in fact outside safety tolerances due to ongoing corrosion behind the coating.*" [Petition at Page 10] Moreover, Petitioners have submitted "*that the applicant has not provided reasonable assurance that the epoxy coating has been adequately monitored for all possible methods of leakage behind the coating including pinhole leaks that could provide a pathway for water intrusion and subsequent corrosion.*" [Petition at Page 13]

In fact, there are specific testing procedures for evaluating protective coating integrity commonly used in industry, such as NACE (National Association of Corrosion Engineers, International) Test Method TM-00384: "Holiday Detection of Internal Tubular Coatings of 10 to 30 mils dry Film Thickness", or RP-0281: "Discontinuity Testing of Protective Coatings." AmerGen has not provided any indication that the

inspection of the coating at the drywell liner sandbed region has employed any such procedures other than visually looking at the coating.

Therefore, the Petitioners in fact allege that the applicant's sole reliance upon visual inspections that do not include comprehensive and recognized industry inspection procedures on evaluating coating integrity since the last UT measurements were taken at the sand bed region reasonably would not detect corrosion masked under the coating itself and thinning of already measured narrow margins in the containment wall to below ASME code.

3. AmerGen's background statement answers that "*The Petition does not define the term 'critical level.'*"

The Petitioners reply that the focus of the contention as stated the Application for a twenty year extension of the Oyster Creek operating license must reasonable provide for a Corrosion Monitoring Program at all critical levels of the containment component to include the sand bed region which experienced the severest level of corrosion and measured thinning of the containment wall where UT measurements were discontinued as well as the several elevations above the sand bed region which continue to receive periodic UT measurements. Simply stated, "all critical levels" is defined to be inclusive of the base of the containment wall at the sand bed region rather than to be excluded from UT inspections for the operational life of the reactor.

The Application states "*At Oyster Creek, the potential loss of material, due to corrosion, in inaccessible areas of the containment drywell shell was first recognized in 1980 when water was discovered in the sand bed region drains. Corrosion was later confirmed by ultrasonic thickness (UT) measurements taken during the 1986 refueling outage. As a result several corrective actions were initiated to determine the extent of the corrosion, evaluate the integrity of the drywell, mitigate accelerated corrosion, and monitor the condition of containment surfaces. The corrective actions include extensive UT measurements of the drywell shell thickness, removal of the sand in the sand bed*

*regions, cleaning and coating exterior surfaces where the sand was removed, and an engineering evaluation to confirm the drywell structural integrity. A corrosion monitoring program was established in 1987 for the drywell shell above the sand bed region to ensure that the containment vessel is capable of performing its intended functions. Elements for the program have been incorporated into ASME Section XI, Subsection IWE, (B.1.27) and provide for:*

- *Periodic UT inspections of the shell thickness at critical locations,”*

[Application at Page 3.5-18]

The Petitioners' contention asserts that the drywell liner at sand bed region is in fact a critical level to age management in the license renewal application process in particular to the control of buckling of the component under the heavy load of the containment bearing down on the thinned walls at this bathtub ring of corrosion at the base of the component. [Petitioners' Exhibit 6 Table 1 *Code Required Sandbed Region (2) Controlled by buckling*]

The Petitioners have raised the issue of buckling of the dry well liner at the sand bed region as a defining issue for the critical nature of performing confirmatory UT testing of this level of the component. [Petition at Page 8] The applicant's analysis for code required remaining wall thicknesses used to justify the removal of the support sand from this region of transition between the free standing portion of the 95' tall and heavy steel component and the embedded portion at the base establishes the critical minimum required drywell well wall thickness at 0.736 inches to prevent buckling. [Petitioners' Exhibit 6 Table 1.] The Petitioners note that in 1993 an evaluation of the drywell liner thickness measurements reported that "*Bays 1 and 13 each have several locations where the measured thickness is below 0.736 inch. These locations are isolated.*" [Petitioners' Exhibit 5 Page 12.]

In fact, buckling of the containment component due to thinning of the wall from corrosion, the prior removal of the supporting sand bed and the tremendous weight of the component structure above the damage area, defines the sand bed region as an extremely

critical level for insuring the continued integrity of this already damaged component and the public's health and safety. The Application states "The primary containment is penetrated at several locations by piping, instrumentation lines, ventilation ducts and electrical leads." [AmerGen Application at Page 2.4.3] Were the containment structure to buckle at this thinned wall during the extended operational period, the Petitioners contend that the vast bulk of the carbon steel containment structure above the buckling zone could fall or shift acting like a large guillotine or pincer to cut, rupture, constrict or dislodge the steam and reactor coolant lines, other safety-related pipes and conduits that pass through penetrations in the steel drywell liner and penetrations in the concrete shield wall. The Petitioners contend that such an event not only breaches primary containment but could simultaneously result in a Loss-of-Coolant-Accident. In another scenario, the buckling of the drywell liner could result in the movement of the large structure within the reactor building and impacts that create vibrations with adverse consequences on other safety-related equipment (i.e. chatter of relay switches between the on and positions resulting in spurious operations or the inoperability of safety-related equipment).

Both AmerGen and NRC Staff Answers do not address the critical limiting factor of buckling of the wall due to thinning at the critical level of the drywell liner sandbed region as presented in the Petition.

4. AmerGen asserts "*Petitioners Contention Does Not Raise A Genuine Dispute of Law or Fact, Lacks An Adequate Basis and Fails to Provide Supporting Expert Opinion.*"

A. AmerGen asserts that "*The burden is on the Petitioners to identify those portions of the application that are defective and explain why they are defective. 10 CFR2.309(f)(1)(vi).*" [AmerGen Answer at Footnote 12 Page 23.] AmerGen asserts that the Petitioners misidentify a section number in the application in reference to a quote excerpted from the application that is germane to the contention.

The Petitioners reply with reference to the Application's Table 3.5.1 "*Summary of Aging Management Evaluations in Chapters II and III of NUREG -1801 for Structures and Component Supports*" Item 3.5.1-13 which under the heading of *Discussion* references Subsection 3.5.2.2.1.4 in the application at Page 3.5-35 regarding the "*Loss of material due to corrosion in the sand bed and on the exterior surfaces of the upper region of the drywell liner was identified as a potential concern in the early 1990's. As a result the sand was removed from the sand bed region and a protective coating was applied to the drywell exterior surfaces in that region. The upper regions of the dry are examined by ultrasonic testing (UT) measurements and evaluated to ensure that the actual thickness meets ASME requirements*" [Petition at Page 7] as indicative and particular to the Petitioners' contention of a significantly deficient application where the age management review for the 20-year extension suspends and excludes adequate UT measurements being taken at the critical level of the already damaged (corrosion induced wall thinning) sand bed region of Oyster Creek's containment structure.

AmerGen asserts "Petitioners also reference Subsection 3.5.2.2.1.4 as the source for normal drywell operating temperatures, but those temperatures are not listed there." [AmerGen Answer at Footnote 12 Page 23.]

The Petitioners reply that the reference for Oyster Creek's drywell operating temperatures are located in the AmerGen Application at Subsection 3.5.2.2.1.3 on Page 3.5-17.

AmerGen further asserts "*Petitioners also ambiguously reference 'the Application' in several places in the text of the Petition with no other information to guide the reader.*" [AmerGen Answer at Footnote 12 Page 23.]

The Petitioners reply that while certain historical and operational accounts that are not in dispute in the Petition and as such are not cited by a specific page number in the Application, Petitioners' provide their references to the Application [Petition at Page 8]

as extrapolated from the Application at Section 3 "Age Management Review Results" specifically where the Petitioners reference;

1) *"The application states that leakage was observed from the sand bed drains as early as 1980 with mitigation efforts beginning in 1983."* [From Application at Page 3.5-18 and 3.5-19] and;

2) *"The application further states that it was concluded that the optimal method for arresting the corrosion was (1) removal of the sand to break up the galvanic cell; (2) removal of the corrosion from the drywell liner at the sand bed region and; (3) application of a protective coating."* [From Application at Page 3.5-20] and;

3) *"Removal of sand was started in 1988 by cutting access holes in the concrete shield wall and completed in 1992."* [From Application at Page 3.5-20] and;

4) *"The application states that core samples taken in seven locations of the dry well liner validated UT measurements and confirmed that the corrosion of the drywell liner was due to the presence of oxygenated wet sand and exacerbated by the presence of chloride and sulfate in the sand bed region."* [From Application at Page 3.5-19] and;

5) *"The application states that corrective actions taken at this time included cleaning loose rust from the drywell shell followed by an application of a coating of an epoxy material."* [From Application at Page 3.5-20] and;

6) *"The application then states that UT measurements were taken after cleaning."* [From Application at Page 3.5-20] and;

7) *"The application notes that "There were, however, some areas thinner than projected" but were still within ASME code requirements."* [From Application at Page 3.5-20]

The Petitioners takes exception to this assertion by AmerGen that all UT measurements were “*still within ASME code requirements.*” As Petitioners have identified and provided in Petitioners’ Exhibit 5 at Page 12 “*Evaluation of Shell Thickness (UT) Measurements*” which states “*Bays 1 and 13 have several locations where the measured thickness is below 0.736 inch.*” [Petitioners’ Exhibit 5 at Page 12.] The 0.736 inch code requirement is the aforementioned control on buckling. [Petitioners’ Exhibit 6 Table 1.]

B. The Applicant asserts “*AmerGen has committed to use ASME Section XI, Subsection IWE and 10 CFR Part 50 Appendix J to ‘manage loss of material for steel elements of the containment including the drywell liner’ for the license renewal period. Application at 3.5-18. While Petitioners acknowledge this commitment, Petition at 7, they simultaneously ignore the fact that the ASME Section XI, Subsection IWE aging management program for OCNGS specifically includes performing periodic UT inspections at critical locations of the drywell shell. Application at 3.5-18 and 4-55.*” [AmerGen Answer at Page 24]

The Petitioners reply that in the context of a twenty-year license extension it is reasonable to view the damaged sand bed region as a critical level particularly in light of the Petitioners’ concern for the buckling issue which neither the applicant nor the NRC have addressed in their Answers. The Petitioners have contended that the containment, much like a chain, is only as strong as its weakest link and therefore it is the original Application that ignored a potential weak link at a critical location, in particular at the base of the large and heavy containment structure, and as such, a genuine dispute of material fact is reasonably in doubt without adequate confirmatory UT measurements for the life of the reactor.

C. AmerGen asserts “*Petitioners’ contention also lacks an adequate basis. Petitioners do not allege that ASME Section XI is deficient or that AmerGen is not complying with that Section. No do Petitioners allege that AmerGen is violating any NRC regulation or other requirement.*” [AmerGen Answer at Page 25]

Petitioners reply as they have already stated in the Petition that the amendment granted AmerGen was for the current 40-year license and did not necessarily contemplate at that the time of approval an additional 20-year extension. It is there reasonable to require the appropriate number of UT measurements to be made at the drywell liner sandbed region at previously measured areas and new areas.

D. Both NRC staff and AmerGen assert "*Petitioners misinterpret the Application regarding minimum allowable thickness for the steel in the upper region of the drywell. Petitioners include a table compiled from a 1993 public document and allege that it shows that 'margins of safety left by severe corrosion damage... are extremely narrow. Id. at 8. Petitioners' however, overlook an amendment to the OCNGS Technical Specifications that 'reduced the drywell design pressure from 62 psig to 44 psig. Application at 3.5-20.'*" [AmerGen Answer at Page 25.] The referenced Footnote 13 in the AmerGen Answer states "*These margins according to the table are: 0.032 inches for the cylinder portion of the drywell; 0.0412 for the upper spherical portion of the drywell; and 0.073 for the middle spherical portion of the drywell.*" AmerGen goes on to state, "*The failure of the Petitioners to read the Application or reference other publicly available facts related to this aspect of their proposed contention further demonstrates that Petitioners lack an adequate basis for the contention.*"

The Petitioners reply that it is the NRC and AmerGen that have misinterpreted the contention by attempting to misplace the Petitioners' concerns on the amended pressure and temperature specifications. Again, the Petitioners point to the 0.736 inches Code required wall thickness at the sand bed region of the drywell liner as "*Controlled by buckling*" as referenced in the text in Petition at Page 10 and as provided by Petitioners' Exhibit 6 Table 1 Reference (2) "*Controlled by buckling.*" The Petitioners re-assert that the differences between the as found condition of 0.806 inches [Petitioners' Exhibit 6 Table 1] or 0.800 inches [Petitioners' Exhibit 5 at Page 8] and the Code required thickness of 0.736 inches is an extremely narrow in the range of 0.064 and 0.070 inches.

The Petitioners therefore assert that a genuine dispute with the original Application in fact does exist.

E. AmerGen asserts *“Petitioners’ contention is similarly deficient with respect to AmerGen’s aging management program for the sand bed region of the drywell shell. First, AmerGen has, in fact, committed to the NRC Aging Management Program Audits in early October 2005, to perform one-time UT measurements in the sand bed region. See AmerGen Exhibit 1.”* [AmerGen Answer at Page 26]

The Petitioners reply that any AmerGen commitments made to NRC after the submission of the application are not necessarily available to the public record. As Oyster Creek’s referenced limited commitment is not in the original application, the Petition can not be assumed to be deficient. In fact, AmerGen’s Exhibit 1 is dated December 9, 2005 at the time of filing of Petitioners Combined Reply is still not posted to ADAMS. The December 9 document dated more than three weeks after the Petitioners’ filing deadline and the same date as the establishment of the Atomic Safety and Licensing Board might as easily be assumed to have been influenced by the Petitioners’ filing the Request for a Hearing and Petition to Intervene as AmerGen was not required by NRC to resume UT measurements of the drywell liner at the sand bed region, to the best of the Petitioners’ knowledge. Documents available to the public through ADAMS on the Age Management Review of the Oyster Creek License Renewal Process from the October 2005 timeframe do not identify that the AmerGen’s Structures Monitoring Program made any changes to the Drywell Liner Corrosion Monitoring Program.

Furthermore, AmerGen does not give any indication whatsoever of the number of UT measurements to be taken at a still uncertain date which will adequately capture the remaining wall thicknesses at enough locations so as to reasonably assure component integrity to include a number of those locations previously measured (and as the Petitioners Exhibit 5 several locations measured thicknesses that were already below ASME Code in Bays 1 and 13) and new locations in and around the sand bed region, particularly in and around areas of the “bath tub ring” of corrosion that may have never been protectively coated due to inaccessibility.

Petitioners Exhibit 3 provides the NRC Safety Evaluation which emphasizes *“The measurements should cover not only areas previously inspected but include accessible areas which have not been previously inspected so as to confirm that the thickness of the corroded areas are as predicted and the corroded areas are localized.”* [Petition at Page 7.] Again, AmerGen Exhibit 1 does not provide a number of actual UT measurements to be made at the sand bed region and only makes vague reference to take UT measurements at locations already tested in the 1990s with no provision to test per the Safety Evaluation guidance in *“areas not previously inspected”* in the resumption of UT testing at the sand bed region.

In the Petitioners’ view as to new locations in need of UT measurements at and around the sand bed region, there is nothing to exclude the possibility that at the base of the drywell liner there have long been crevices between the concrete and the outer surface of the drywell liner at the margins just below the sand bed region that would allow past, present and future water intrusion enough to afford a destructively corrosive environment. The red lead paint was not protective of the steel surface when in contact with the sand. Petitioners’ therefore contend that the concrete would offer no corrosion protection and that expansion and contraction of the liner vessel no doubt would have generated some cracks at the steel/concrete base boundary for water intrusion. The UT inspection and measurement of remaining wall thicknesses of the steel drywell liner just below the concrete is obviously another critical level that has not been described by AmerGen vague commitment of drywell liner areas at the sandbed to be UT inspected.

The Petitioners contend that it is grossly insufficient for AmerGen to merely reference a vague and undefined commitment to *“one-time measurements”* and assume this to provide reasonable assure that component integrity is preserved for an additional twenty-year extension. Assuming that AmerGen does not intend as a single test procedure to conduct and provide a continuous UT scan of the sand bed region of the entire dry well liner to the width of at least 18 inches wide, Petitioners assert that AmerGen can not as it states in Exhibit 1 *“take these additional measurements to provide a high degree of assurance that the surface coating applied to the liner has arrested corrosion that was already planned as part of the aging management program for the*

containment, will ensure the long-term integrity of the drywell shell in the sand bed region” without providing the specific number and locations of measurements to be actually be taken. Petitioners do not know if AmerGen might settle for 5, 10, 25 or some other number of UT measurements as presumably providing in its view adequate assurance of the integrity of the component without any verifiable engineering basis.

The Petitioners also take issue with the “one-time only” UT measurement for this already damaged component. As stated in the Petitioners’ Exhibit 3, previous NRC Safety Evaluations of Oyster Creek’s Drywell Liner Integrity identified the importance that “it is essential that GPUN continue UT thickness measurements at refueling outages and at outages of opportunity for the life of the plant.” [Petition at Page 3] Petitioners argue that it is unreasonable that when UT measurement equipment is brought into Oyster Creek’s containment for the measurements of the upper levels during subsequent inspections during the renewal period that the operator would ignore the opportunity to confirm projections as to coating performance at the sand bed with UT measurements. The Petitioners find no reassurance in AmerGen’s “don’t look, don’t find” approach to projecting the integrity of this vital radiation containment component over the proposed 20-year extension.

F. AmerGen further asserts *“Petitioners are aware, but overlook the significance, of the drywell inspection program that NRC approved for OCNGS on November 1, 1995. Petitioners’ Exh.9. That Program does not require AmerGen to take UT measurements of the drywell liner shell in the sand bed region. Instead, it requires AmerGen to take UT measurements in the upper region of the drywell, and to perform visual inspections of the epoxy coating in the sand bed region.”* [AmerGen Answer at Page 27]

The Petitioners reply that the November 1 1995 NRC approved drywell inspection program was for the 40-year license and in particular to suspend confirmatory UT measurements being taken at the sand bed region. The Petitioners assert that no safety analysis for this approval contemplated a 41 to 60-year operational period for Oyster Creek.

G. AmerGen asserts “Wrong Date for the last UT inspection” claiming that the *“Petitioners appear to be under the impression that no UT measurements were conducted after the epoxy coating was applied, implicitly calling into question the efficacy of the coating to prevent corrosion of the underlying shell. Specifically, they state that ‘no UT measurements have been made at the severely corroded sand bed region... since the epoxy coating was originally applied in 1992.’ Petition at 13. This is factually incorrect.”*

Petitioners reply that the “1992” date is an editing error not subsequently captured in editing of the original Petition. The Petitioners’ assert that the error is not fatal to the admissibility of the contention in as much as Petitioners’ Exhibit 6 documents their awareness that UT measurements at the sand bed region were conducted in September 1994 with the Petitioners stating *“Oyster Creek’s 15<sup>th</sup> refueling outage in September 1994 was the last time that UT measurements were taken at the sandbed region of the drywell liner.”* [Petition at Page 10]

Petitioners reply to AmerGen assertions that UT measurements were taken in at the sand bed region in 1996. AmerGen does not provide any reference to Oyster Creek inspection reports or drywell liner corrosion monitoring reports for 1996 that verify its assertion. The Petitioners’ review of all publicly available documents from the NRC ADAMS Legacy File for 1996 inspection reports and Drywell Monitoring Program does not provide any indication or substantive documents regarding the results of the referenced 1996 inspection per Oyster Creek’s Drywell Monitoring Program commitment and more particularly any UT measurements made at the sand bed region. The NRC Legacy File is assisted by the librarians at the NRC Public Document Room for identifying and pulling up microfiche files. The PDR librarian’s search did not provide any Drywell Monitoring Program inspection reports for 1996. Therefore, at the time of this reply, Petitioners are unaware of any specific measurements made during 1996 16<sup>th</sup> Refueling Outage inspection to ascertain the extent and findings of the ultrasonic

thickness measurements taken at the drywell liner wall at the sandbed region and assertions that corrosion had been arrested.

H. AmerGen asserts in "2. *Unsupported Wet Conditions*" that "*Petitioners also state that wet conditions continue in the sand bed region of the drywell. They contend that 'pinhole leaks in the coating... could allow for water seepage behind the epoxy coating resulting in corrosion behind the coating,' Petition at 10, and that 'wet conditions occurring over the past 12 years behind the epoxy coating can reasonable contribute to corrosion.' Petition at 11. Petitioners provide no support for these statements. They identify no document which reports water being present in the sand bed region.*" [AmerGen Answer at Page 29.]

The Petitioners reply that on December 15, 1995, GPU Nuclear corresponded with NRC regarding "Changes in the Oyster Creek Drywell Monitoring Program" exempting water "leakage associated with normal refueling activities" up to 12 gallons per minute from its commitment to perform additional inspections on the drywell liner at the sand bed region within 3 months of the discovery of water leakage from pools above the reactor cavity. [PETITIONERS' EXHIBIT 10]. NRC responded in February, 1996 to allow GPUN a leak rate up to 12 gallons per minute from pools above the reactor cavity during subsequent refueling outages. [PETITIONERS' EXHIBIT 11.]

Furthermore, Petitioners reply that they are aware that on October 12, 2005 AmerGen provided its "Response to NRC Request for Additional Information (RAI 2.5.1.19-1), dated September 28, 2005, Related to Oyster Creek License Renewal Application (TAC No. MC7624) [PETITIONERS' EXHIBIT 12] which contains an account of the operating experience of Oyster Creek. In Appendix D of AmerGen's response to the NRC RAI, they state:

*"The review of program documentation, and other plant operating experience before the program was implemented, identified cracking of reinforced of exterior walls of the reactor building, drywell shield wall above elevation 95', and the spent fuel pool support beam. Cracking of the reactor building exterior wall was generally minor and*

*attributed to early shrinkage of concrete and temperature changes. Engineering evaluation concluded that the structural integrity of the walls is unaffected by cracks. Repairs to areas of concern were made to prevent water intrusion and corrosion of concrete rebar. The cracks and repaired areas are monitored under the program to detect any changes that would require further evaluation and corrective action. Cracking of the drywell shield wall was attributed to high temperature in the upper elevation of the containment drywell.”<sup>2</sup>*

Petitioners reply that it is not necessarily the burden of the Petitioner to be able to monitor, identify and report all events of water intrusion/leakage that may have occurred over the operational period of Oyster Creek to date or can be projected to occur over the proposed 20-year license extension. However, the Petitioners note that Exhibit 12 identifies that cracking in the reactor building and in the drywell shield wall above the dry well liner and sand bed region has provided the potential for water intrusion and collection potentially impacting the areas of concern. Just as the Petitioners are not aware of documents that would have publicly indicated at the time the past operational and outage spillages at Oyster Creek that resulted in the severe corrosion at the dry well liner sand bed region, similarly the Petitioners are not aware at the present time of any publicly available source documents that would indicate water spillages occurring during future operation periods and outages that would provide insights into the number or the extent of such water intrusion events. However, spillages have occurred resulting in severe corrosion and potential could re-occur during the requested extension that Petitioners contend should be addressed through confirmatory UT measurements at the most damaged area of the component, the sand bed region of the drywell liner, for the life of the plant.

Again, the Petitioners assert that it is AmerGen who has not provided the confirmatory tests (either through UT measurements of the wall thicknesses or thorough inspections for cracking and pinhole leaks in the epoxy coating) other than a sampling of

---

<sup>2</sup> “Response to NRC Request for Additional Information (RAI 2.5.1.19-1), dated September 28, 2005, Related to Oyster Creek License Renewal Application (TAC No. MC7624), Appendix D, Page 10 of 19, Accession No. ML052910091.

visual inspections in these very difficult and tight quarters and of further concern with no visual inspections over an undefined inaccessible area of the component through makeshift access man ways into the sand bed region to assure that the epoxy coating will perform as projected over the requested 20-year license extension.

I. AmerGen asserts "*Petitioners next ask that the results of such measurements (UT taken at the sandbed region and new areas) be made publicly available. As discussed above in footnote 16, such a request does not raise a litigable issue.*" [AmerGen Answer at Page 31.]

Petitioners reply that no such reference exists at footnote 16 in the AmerGen Answer.

Petitioners further reply that the operator provided to NRC in previous assessments of the severe corrosion of this safety component and therefore publicly available documents actual measurements of remaining wall thicknesses indicating the remaining margins to ASME Code as presented in the Petitioners' Exhibits 5 and 6. The operator suspended the practice of providing the NRC and therefore publicly available documents with the actual measured remaining wall thickness on this safety-related component.

As this component is safety-related as it is the all important radiation containment component, the Petitioners reassert their call for the results of any and all UT measurements made of the drywell liner wall to be made public via reporting such findings to the NRC so that such findings can be independently corroborated in the future.

J. NRC and AmerGen assert that the Petitioners' Expert, Dr. Rudolph Hausler is qualified.

The Petitioners reviewed of the .pdf version of Dr. Hausler's expert opinion provided by his memo which was posted to ADAMS and discovered that the electronic signature of Dr. Hausler did not optically transmit. Attached again is Dr. Hausler's

electronically signed memorandum dated November 10, 2005 as provided in the original filing where Dr. Hausler's signature is clearly legible. [PETITIONERS' EXHIBIT 13]

The Petitioners are also attaching a copy of Dr. Hausler's Curriculum Vitae. [PETITIONERS' EXHIBIT 14]

AmerGen asserts "*Dr. Hausler also provides numerous factual statements about the temperature of the drywell and makes various assumptions about water entering the drywell and affecting the epoxy coating in the sand bed region. Each of these statements and assumptions lacks a reference to the Application, industry publication or academic article.*" [AmerGen Answer at Page 28]

The Petitioners' reply that Dr. Hausler' Memo to Paul Gunter, NIRS with regard to the referenced temperatures of the operational drywell states "*It turns out, however, that newer information indicates the conditions specified in 1994 were not strictly maintained. Apparently the temperatures inside the drywell vary from 135° F at the 55 ft elevation to 250° at 95 ft. This temperature gradient would certainly allow for liquid water present at the 11 ft elevation (Sand bed), i.e. in the annual space were previously the sand bed was located.*" [Memorandum of Dr. Rudolph Hausler to Paul Gunter, NIRS, November 10, 2005, now PETITIONERS' EXHIBIT 13]

The reference temperature of 135° F that would allow water to remain liquid at the former sand bed region are provided in the AmerGen Application. [Application at Subsection 3.5.2.2.1.3 on Page 3.5-17.]

#### Conclusion

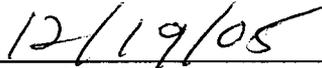
The Petitioners assert that they have in fact raised a genuine dispute in their contention.

Neither NRC nor AmerGen have raised in an answer to contradict the fact that the contention is within the scope of this proceeding.

The Petitioners assert that with respect to their contention there are many factual conundrums which must be resolved by means of a hearing. All that is required for a contention to be acceptable is that it be specific and have basis. Whether or not the contention is true is left to litigation.

Respectfully submitted,

  
\_\_\_\_\_  
Michelle Donato, Esq.

  
\_\_\_\_\_  
Date: 12/19/2005

UNITED STATE OF AMERICA  
BEFORE THE NUCLEAR REGULATORY COMMISSION  
OFFICE OF THE SECRETARY

---

In the Matter of	)	
AMERICAN ENERGY COMPANY, LLC (ALSO KNOWN AS AMERGEN)	)	Docket No. 50-0219
OYSTER CREEK NUCLEAR GENERATING STATION	)	
Regarding the Renewal of Facility Operating License No. DPR-16 for a 20-Year Period	)	December 19, 2005

---

**CERTIFICATE OF SERVICE FOR COMBINED REPLY OF PETITIONERS**

I hereby certify that copies of the following Combined Reply of the Petitioners (Nuclear Information and Resource Service, New Jersey Sierra Club, New Jersey Public Interest Research Group, New Jersey Environmental Federation, Jersey Shore Nuclear Watch and Grandmothers, Mothers and Others for Energy Safety) was served this day upon the persons listed below by E-mail, First Class Mail, or Federal Express:

Secretary of the Commission\*  
US Nuclear Regulatory Commission  
Attn: Rulemaking and Adjudications Staff  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738  
Email: [HEARINGDOCKET@nrc.gov](mailto:HEARINGDOCKET@nrc.gov)

E. Roy Hawkins, Chair  
Administrative Law Judge  
Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
E-mail: [erh@nrc.gov](mailto:erh@nrc.gov)

Paul Abramson  
Administrative Law Judge  
Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
E-mail: [pba@nrc.gov](mailto:pba@nrc.gov)

Anthony Barratta  
Administrative Law Judge  
Atomic Safety and Licensing Board  
Mail Stop T-3 F23  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
E-mail: [ajb5@nrc.gov](mailto:ajb5@nrc.gov)

Office of General Counsel  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738  
Email: [OGCmailcenter@nrc.gov](mailto:OGCmailcenter@nrc.gov)

Office of Commission Appellate Adjudication  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
E-mail: [hrb@nrc.gov](mailto:hrb@nrc.gov)

John A. Covino  
Deputy Attorney General  
Division of Law  
Environmental Permitting and Counseling Section  
Hughes Justice Complex  
Trenton, NJ 08625  
Email: [john.covino@dol.lps.state.nj.us](mailto:john.covino@dol.lps.state.nj.us)

Alex Polonsky  
Morgan, Lewis, Bockius LLP  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004  
Email: [apolonsky@morganlewis.com](mailto:apolonsky@morganlewis.com)

Kathryn Sutton  
Morgan, Lewis, Bockius LLP  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004  
Email: [ksutton@morganlewis.com](mailto:ksutton@morganlewis.com)

J. Bradley Fewell  
Exelon Corporation  
200 Exelon Way, Suite 200  
Kennett Square, PA 19348  
Email: [bradley.fewell@exeloncorp.com](mailto:bradley.fewell@exeloncorp.com)

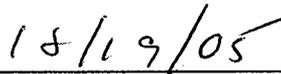
Donald Silverman  
Morgan, Lewis, Bockius LLP  
1111 Pennsylvania Avenue, NW  
Washington, DC 20004  
Email: [dsilverman@morganlewis.com](mailto:dsilverman@morganlewis.com)

Paul Gunter  
Nuclear Information and Resource Service  
1424 16<sup>th</sup> St. NW Suite 404  
Washington, DC 20036  
Email: [pgunter@nirs.org](mailto:pgunter@nirs.org)

Michelle R. Donato  
PO Box 145  
106 Grand Central Avenue  
Lavallette, NJ 08735  
Email: [mdonato@michelledonatoesq.com](mailto:mdonato@michelledonatoesq.com)

\* Original and two copies

  
\_\_\_\_\_  
Michelle Donato, Esq.

  
\_\_\_\_\_  
Date: 12/19/2005

*Michele R. Donato*

A Professional Corporation  
Attorney at Law

P. O. Box 145  
106 Grand Central Avenue  
Lavallette, NJ 08735

Phone: (732) 830-0777  
Telefax: (732) 830-0778  
Email: mdonato@MicheleDonatoEsq.com

December 19, 2005

VIA FEDERAL EXPRESS

Annette L. Vietti-Cook, Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: American Energy Company, LLC  
Oyster Creek Nuclear Generating Station

Dear Madam Secretary:

On behalf of Nuclear Information and Resource Service, Jersey Shore Nuclear Watch, the New Jersey Public Interest Research Group, the New Jersey Environmental Federation, Grandmothers, Mothers and Others for Energy Safety, the New Jersey Sierra Club, I am enclosing an original and one copy of the Combined Reply of Petitioners.

Please file these documents. The exhibits are being posted this day and will be delivered by separate cover.

If you have any questions or problems with regard to this petition, please advise immediately. Otherwise, I await your confirmation as to the receipt of this information and its filing. Thank you.

Very truly yours,



Michele R. Donato

MRD:sb

Encs.

cc: (by VIA EMAIL TRANSMISSION ONLY)  
Nuclear Information and Resource Service  
Jersey Shore Nuclear Watch  
New Jersey Public Interest Research Group  
New Jersey Environmental Federation (with encs.)  
The New Jersey Sierra Club (with encs.)