

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of )

AMERGEN ENERGY COMPANY, LLC )

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

Docket No. 50-0219-LR

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**CITIZENS' BRIEF IN OPPOSITION TO APPEAL FROM LBP-06-07**

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INTRODUCTION

Nuclear Information and Resource Service, Jersey Shore Nuclear Watch, Inc., Grandmothers, Mothers and More for Energy Safety, New Jersey Public Interest Research Group, New Jersey Sierra Club, and New Jersey Environmental Federation (collectively "Citizens" or "Petitioners") hereby oppose the appeals filed by AmerGen Energy Company, LLC ("AmerGen") and the staff of the Nuclear Regulatory Commission ("Staff") regarding decision LBP-06-07 (the "Decision") by the Atomic Safety and Licensing Board ("ASLB") granting Citizens a hearing on a contention concerning corrosion of the drywell liner at the Oyster Creek Nuclear Generating Station in an area termed the sand bed region.

Citizens diligently researched, supported, and pleaded a single narrow contention that addresses safety-critical issues at the heart of the relicensing proceeding. The ASLB found that Citizens' contention, as narrowed by the ASLB, met all the requirements to be admitted. On appeal, the Commission should affirm the Decision unless the ASLB

committed an error of law or an abuse of discretion. Neither AmerGen nor Staff even allege any such error or abuse. Thus, based on the pleadings, the Commission should reject the appeals.

On the merits, for the most part Staff and AmerGen merely repeat the arguments rejected below. For example, they continue to allege that the basis provided was inadequate, despite a finding by the ASLB that Citizens provided "ample basis" for their contention and a subsequent change to the record that strengthens the basis.<sup>1</sup> AmerGen and Staff also question whether Citizens provided the required "minimal legal and factual foundation" to show a dispute of material fact, despite continuing disagreement between Staff, AmerGen, and Citizens about many material facts, including how frequently thickness measurements need to be taken in the sand bed region, whether a corrosive environment exists on the outside of the drywell liner at the sand bed region, and whether the epoxy coating on part of the drywell liner will provide adequate protection against corrosion.

Finally, while AmerGen confines its appeal to basis and materiality, Staff also raise scope and various procedural issues. On scope, the Staff's argument is contradicted by the record, which shows that corrosion is currently ongoing. With regard to procedure, Staff's views on the powers of the ASLB are inordinately restrictive and Staff's interpretations of the ASLB's actions are incorrect. Moreover, even if the Staff were correct on the ASLB's discretion regarding procedural issues, they were not outcome determinative, and so amount to, at most, to harmless error.

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<sup>1</sup> Since the issue was briefed before the ASLB, AmerGen has acknowledged in an e-mail to counsel for Citizens that its answer "could cause confusion," because it stated that corrosion had been arrested for the drywell liner. AmerGen undertook to clarify the record by writing to the ASLB and the Commission making it clear that it is undisputed that corrosion is still ongoing in parts of the upper region of the drywell liner.

## BACKGROUND

The full background to the contention is accurately set out in greater detail in the Decision at pages 26-32. This brief summary assumes some familiarity with the Decision. Petitioners originally contended that the testing of the extent of corrosion at all levels of the drywell liner proposed in AmerGen's License Renewal Application is inadequate to assure the continued integrity of this safety-critical structure for the period of the license extension. Petition at 3. To support this contention, Citizens showed that the drywell liner is a safety-critical structure that acts both as a pressure boundary and as a structural support. Id. at 4. Petitioners then showed that water leakage into the drywell liner has caused significant corrosion, particularly in the sand bed region, where the N.R.C. regarded the corrosion as a "threat to drywell integrity." Id. at 4-6. Citizens showed further that in 1986 N.R.C. regarded ultra-sonic testing of the sand bed region and other accessible areas of the drywell liner as "essential . . . for the life of the plant." Id. at 7.

In 1992, when considering a proposal to remove the sand, NRC established that a drywell liner thickness of 0.736 inches in the sand bed region would offer an "adequate margin [of safety] against buckling with no sand support," based on a structural analysis. Petition Exhibit 3 at 4. Petitioners' Exhibit 5 at pages 8 and 12 showed that while the reactor operator reported the "current thinnest" area to be 0.8 inches in December 1992, the actual thinnest areas were *less* than 0.736 inches, which was, and remains the basis for evaluation. Disturbingly, *multiple* measurements in bays 1 and 13 and isolated measurements in bays 11, 15, and 17 were below 0.736 inches. Id. at 12. Citizens thus asserted that the potential for ongoing corrosion means that ongoing comprehensive testing

is required to ensure the remaining razor-thin to non-existent safety margins are met throughout the extended life of the plant.

The only major omission from the summary set out in the Decision is the failure to note that the latest measurements indicate that corrosion is still on-going in the upper region of the drywell. License Renewal Application at 3.5-21. The agreed need to correct the record in this regard is addressed in the next Section.

### NEED TO CORRECT PLEADINGS

Because the ALSB relied heavily on the pleadings in its decision, Citizens believe that it is important to correct a significant misrepresentation contained in AmerGen's Answer. This answer states on Page 21 that:

UT measurements at critical locations of the drywell upper drywell have been taken during every other refueling outage, most recently in 2004. Similarly, UT measurements were taken in the sand bed region in 1996, and the epoxy coating has been visually inspected since then, during refueling outages in 2000 and 2004. Based on these measurements and inspections, AmerGen concluded that corrosion of the drywell shell liner has been arrested, including in the sand bed region.

AmerGen Answer at 21 (citations omitted).

It has recently come to the attention of Citizens that the measurements in the upper drywell actually show the opposite. In two regions of the upper drywell, the measurements in 2000 and 2004 showed that corrosion was ongoing. License Renewal Application at 3.5-21. The continuing corrosion in two regions of the upper drywell shows that a corrosive atmosphere continues to exist on the outside of the drywell liner. As NRC has recognized, water leakage into the cavity on the outside of the liner has been the source of corrosion. E.g. Petitioners' Exhibit 9 at 4. Thus, the ongoing corrosion shows that water is present in the upper region.

Prior to the disclosure of the latest results in the License Renewal Application, the previous reactor operator had concluded that "there is no evidence of ongoing corrosion in the upper regions of the drywell." Petitioners' Exhibit 6 at 1. Thus, it appears that water must have entered into the cavity outside the drywell between 1995 and 2005, despite the efforts of the reactor operator to contain leakage. This conclusion is reinforced by the relatively high temperatures of the drywell in the upper region. Petitioners' Exhibit 13 at 1 (temperatures in the drywell during operation range from 175 degrees F at the bottom to 292 degrees F at the top). Thus, it is likely that there is ongoing leakage of water into the drywell cavity, which has not been stopped by the measures to prevent leakage taken to date. Because AmerGen has made no new proposals to stop leakage, it must therefore be assumed that this leakage would continue during the proposed period of extended operation.

Because water continues to leak into the upper region of the drywell it is logical to infer that this water will probably percolate downwards towards the sand-bed region. Thus, the ongoing corrosion in the upper region provides further support for the Citizens' assertion that a corrosive atmosphere is likely to exist at the sand bed region and would continue to exist during the extended operation of the plant.

Therefore, Citizens believe that it is important to correct Amergen's pleading, because it was less than fully candid, it may have misled the ASLB, and it could mislead the Commission. Counsel for Citizens informed counsel for AmerGen of this issue on March 16, 2006. On March 23, 2006, AmerGen e-mailed its response stating that it agreed that the Answer could "cause confusion." AmerGen therefore agreed to write to the ASLB and the Commission to clarify the record.

Furthermore, Staff states in its appeal brief that "NIRS does not provide a basis for disputing the findings of the licensee and NRC staff that both leakage and corrosion have been arrested." Staff App. Br. at 14. This statement incorrectly states that Staff and the licensee currently believe that both leakage and corrosion have been arrested. This is incorrect. As discussed above, the record shows that both Staff and the licensee recognize that the latest measurements show that corrosion is ongoing in the upper drywell. While in 1995, the corrosion in the upper drywell was believed to have been arrested, Petitioners Exhibit 9 at 4, there is no dispute that it has now recurred. Thus, Staff's statement needs to be corrected to reflect the latest findings. Citizens drew Staff's attention to this matter shortly before this brief was due. Staff are currently considering the issue.

In summary, far from supporting the notion that corrosion in the sand bed is unlikely to be occurring at present or is unlikely to recur during any extended licensing period, the record actually shows that the reactor operator previously erroneously concluded that corrosion in the upper drywell had been arrested. Furthermore, the lack of measurement in the sand bed region since 1996 makes it impossible to determine definitively whether the 1995 conclusion about the sand bed was similarly erroneous.

### **COUNTER STATEMENT OF THE ISSUES**

This case concerns three major issues:

- i) Did Citizens establish an adequate basis for the contention by making the required minimal legal and factual foundation in support of the contention by submitting a carefully reasoned Petition, extensive exhibits, and an expert opinion?

- ii) Did Citizens make the required minimal showing that material facts are in dispute, when they alleged that the aging management programs proposed by AmerGen are inadequate and must be supplemented by quantitative testing in the sand bed region?
- iii) Is the admitted contention regarding the potential for corrosion in the sand bed region of the drywell liner during any period of license extension within the scope of the license renewal proceeding?

Finally, a number of more minor procedural issues have been raised and are addressed in this brief.

### LEGAL STANDARDS

This section summarizes the legal standards determining the standard of review, the basis required for contentions, the demonstration of materiality, and the scope of the proceedings. Neither AmerGen nor Staff alleged that the ASLB had made an error of law in the legal standards it applied. Thus, both appellants have waived any argument that they could have presented concerning the legal standards applied.

#### **I. The Standard of Interlocutory Review Is Deferential**

As AmerGen indirectly acknowledges, the Commission must affirm Board rulings on admissibility of contentions if the appellant "points to no error of law or abuse of discretion." Dominion Nuclear Conn., Inc., CLI-04-36, 60 N.R.C. 631, 637 (2004) quoting Private Fuel Storage, LLC (Independent Spent Fuel Storage Installation), CLI-00-21, 52 N.R.C. 261, 265 (2000). AmerGen App. Br. at 6. This standard is analogous to that utilized by courts of appeal reviewing trial court rulings on motions and is highly deferential. See Engbretsen v. Fairchild Aircraft Corp., 21 F.3d 721, 728 (6th Cir.1994)

("We will find an abuse of discretion only when [we have] 'a definite and firm conviction that the trial court committed a clear error of judgment.' ") quoting Logan v. Dayton Hudson Corp., 865 F.2d 789, 790 (6th Cir.1989).

Thus, the standard of review of the ASLB decision is highly deferential and requires appellants to either show how the ASLB misinterpreted the law, or that the ASLB committed a clear error of judgment.

## II. The Basis Required Is Minimal

At this preliminary stage, Petitioners do not have to submit admissible evidence to support their contention, rather they have to "provide a brief explanation of the basis for the contention," 10 C.F.R. § 2.309(f)(1)(ii), and "a concise statement of the alleged facts or expert opinions which support the petitioner's position." 10 C.F.R. § 2.309(f)(1)(v).

As AmerGen's answer to the initial petition acknowledged, this rule ensures that "full adjudicatory hearings are triggered only by those able to offer minimal factual and legal foundation in support of their contentions." Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), 49 N.R.C. 328, 334 (1999) (emphasis added). The Commission has clarified that, "an intervener need not . . . prove its case at the contention stage . . . . The factual support necessary to show a genuine dispute exists need not be in affidavit or formal evidentiary form, or be the quality necessary to withstand a summary disposition motion." In the Matter of Georgia Institute of Technology, 42 N.R.C. 111 (1995).

Thus, although the Commission has stated that it "is unwilling to throw open its hearing doors to petitioners who have done little in the way of research or analysis, provide no expert opinion, and rest merely on unsupported conclusions," Duke Energy Corporation (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1

and 2), CLI-02-17, 56 N.R.C. 1, § (2002), it has indicated that where petitioners make technically meritorious contentions based upon diligent research and supported by valid information and expert opinion, the requirement for an adequate basis is more than satisfied.

As the ASLB made clear in the decision below, 10 C.F.R. § 2.309(f)(1)(v) “does not require the submission of an expert opinion, nor does it require that an expert opinion be submitted in the form of admissible evidence (Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 n.1 (1998)).” Decision at n. 33. Further, Section 2.309(f)(1)(v), “is not designed to erect an onerous evidentiary hurdle, but rather ‘helps to ensure that full adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions’ (Oconee, CLI-99-11, 49 NRC at 334).” Id.

Neither AmerGen nor Staff assert that the ASLB erred in the standard it used to decide whether Citizens provided an adequate basis.

### **III. The Required Showing of Materiality Is Minimal**

The regulations require Petitioners to “[d]emonstrate that the issue raised in the contention is material to the findings the N.R.C. must make to support the action that is involved in the proceeding.” 10 C.F.R. § 2.309(f)(1)(iv). In this case, a renewed license may be issued by the Commission if it finds that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB. 10 C.F.R. § 54.29. In making such a finding the Commission must conduct a full review of a number of issues, including management of the effects of aging during the period of extended operation on structures including the drywell liner. Id.

The requirement for showing of materiality is not onerous, because all that is needed is a “minimal showing that material facts are in dispute, indicating that a further inquiry is appropriate.” Georgia Institute of Technology, 42 N.R.C. 111 (1995), citing Gulf States Utilities Company, (River Bend Station, Unit 1), 40 N.R.C. 43, 51 (1994); Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,171 (Aug. 11, 1989).

The Commission has stated explicitly that the decision to admit a contention “does not intimate any view on the merits of a particular issue.” Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), 56 N.R.C. 1 (2002). Thus, so long as the ASLB saw a material issue, it should admit the contention, without making a judgment on the matter. Specifically, in Duke Energy Corporation, the Commission admitted the contentions that concerned the possibility of a severe accident occurring. Id. The interveners argued that alternative measurements should be used in the “analyses of mitigation alternatives for hydrogen control during station blackout.” Id. at 26. The Commission did not examine the merits of the issues raised, but merely permitted the interveners to continue to challenge the license renewal, in part because the issue was material.

In this matter, the ASLB correctly noted that:

In Gulf States Utilities Co. (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43 (1994), the Commission stated that, at the contention filing stage, “the factual support necessary to show that a genuine dispute exists need not be in formal evidentiary form, nor be as strong as that necessary to withstand a summary disposition motion” (40 NRC at 51). Rather, the petitioner need simply make “a minimal showing that the material facts are in dispute, thereby demonstrating that an inquiry in depth is appropriate” (ibid.)

Decision at 39. Thus, the standard used by the ASLB regarding materiality was entirely consistent with the Commission's decisions on this issue. Once again, neither AmerGen nor Staff even allege that the ASLB erred in the standard it used to determine the existence of disputes about material facts.

#### **IV. The Scope of License Renewal Includes Aging of Long Lived Passive Safety-Related Components**

The scope of license renewal proceedings was the subject of extensive briefing below. There was no dispute regarding the legal standard to be applied. For example, the decision in Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), 49 N.R.C. 328 (1999) stated that the regulations regarding the scope of a license renewal proceeding include components listed in 10 C.F.R. § 54.4 that require an aging management review for the period of the extended operation, 49 N.R.C. 328. The language of 10 C.F.R. § 54.4 includes within the scope of license renewal safety-related structures which would help to prevent accidents and mitigate their consequences. If the component is safety related, the next step is to analyze whether it is within the language of 10 C.F.R. § 54.21. That Section requires the License Renewal Application to include an aging management review for passive, safety-related components, including the "containment" and the "containment liner," that are not subject to regular replacement.

Thus, the regulations themselves manifest the Commission's intent to focus the license renewal proceedings on aging management of long-lived, passive, safety-related components, such as the drywell liner. The supplementary information that accompanied the rulemaking for Part 54 stated the regulation focused the renewal review on plant

systems, structures, and components for which current regulatory activities may not be sufficient to manage the effects of aging in periods of extended operation.

The full text of the supplementary information shows that the rulemaking narrowed the scope of license proceedings to focus on aging of safety-related, long-lived, passive components, because these components were identified as those that “require review in order to provide the necessary assurance that they will continue to perform their intended function for the period of extended operation.” 60 Fed. Reg. 22,462 (May 8, 1995). The Commission identified the detrimental effects of aging on safety-related, passive, long-lived components, and a few other issues related to safety, as being potentially inadequately addressed by the existing regulatory processes. *Id.* at 22,464. The Commission further found that the reduced set of structures and components identified in Part 54 “must undergo an aging management review.” *Id.* at 22,476.

The Commission also examined whether the scope of license renewal proceedings could be further narrowed, but concluded that further constriction of the renewal process could not be justified. *Id.* at 22,468. Thus, 10 C.F.R. Part 54 focused renewal proceedings on aging management of safety-related, passive, long-lived components, because this was necessary to protect public health and safety during the renewal term, leaving most other issues to be addressed by the agency’s existing regulatory processes. *Id.* at 22,463-64, 22,476.

Turning to the decisions applying the regulations on scope, the Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4) decision confirms that because corrosion and other effects become more severe over the extended license period, the level of inspection and testing related to age-management for the extended period is

one of the core issues to be addressed by the license renewal proceeding. 54 N.R.C. at 7 (emphasis added). However, in considering the individual contentions in that case the Commission found none within the scope of the Part 54 rules, in part because they did not raise an aging issue. *Id.* at 24. The Turkey Point decision therefore confirms that aging issues are at the core of license renewal proceedings.

Even more relevantly, in Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, and 3), 49 NRC 328 (1999), the ASLB rejected a contention that the age-related management program was inadequate *not* because it was beyond the scope of the proceeding, but because it had an inadequate basis. *Id.* Because jurisdictional issues are considered prior to adjudicatory facts, the rejection of the contention in Duke Energy Corp. on basis grounds is instructive and shows that the ASLB regarded that contention as within the scope of the proceeding.

Finally, in the license renewal proceeding Dominion Nuclear Connecticut, Inc., 60 N.R.C 631, 633 (2004), the ALSB denied contentions regarding human suffering, terrorism, water discharge permits, effects on fish, plant design, and inability to evacuate stating “[t]he potential detrimental effects of aging is the issue that essentially defines the scope of license renewal proceedings. Our license renewal inquiry is narrow. It focuses on the potential impacts of an additional 20 years of nuclear power plant operation, not on everyday operational issues.” 60 N.R.C. at 633.

Thus, the few decisions that are available dealing with contentions in the context of license renewal proceedings show that aging management for the extended term is at the core of the issues that the Commission decided needed to be addressed and are thus within the scope of this proceeding.

In its decision the ASLB correctly summarized the scope of the proceeding by stating that “license renewal inquiry includes ‘age-related degradation’ of components that, left unmitigated, can ‘unacceptably reduce safety margins, and lead to the loss of required plant functions . . . with a potential for offsite exposures.’ Decision at 44, quoting Turkey Point, CLI-01-17, 54 NRC 3, 7-8 (2001).

Once again, neither AmerGen nor Staff allege that the ASLB erred in its interpretation of the regulations on the scope of the license renewal proceeding.

#### **V. The Commission Must Follow the Administrative Procedure Act, the Atomic Energy Act, and Must Provide Due Process**

AmerGen would like Citizens to be placed in a catch-22. AmerGen first argues that past corrosion cannot provide a basis for the contention. AmerGen App. Br. at 12-15. AmerGen then argues that “speculation” about the future cannot provide a basis for the contention. Id. at 15. If correct, this would mean Citizens would be in an “Alice in Wonderland” world where they could have a basis yesterday, or could have a basis tomorrow, but they could never have a basis today.

This argument is, of course, incorrect, because all that is needed is a minimal showing of basis. Furthermore, the D.C. Circuit has confirmed that “Section 189(a) [of the Atomic Energy Act, 42 U.S.C. 2239(a),] prohibits the NRC from preventing all parties from ever raising in a hearing a specific issue it agrees is material to [a licensing]. . . decision.” Union of Concerned Scientists v. NRC, 920 F.2d 50, 53 (D.C. Cir. 1990). More recently the First Circuit confirmed that the new Part 2 rules “may approach the outer limits of what is permissible under the APA.” Citizens Awareness Network, Inc. v. NRC, 391 F.3d 338,355 (1st Cir. 2004).

Thus, the Commission must take care to interpret the requirements of the Part 2 rules in accordance with the AEA and APA. To adopt AmerGen and Staff's expansive view of what is required of petitioners at the contention stage would go beyond the boundaries imposed on the Commission by these statutes and would deprive Citizens of due process.

### DISCUSSION

Because neither AmerGen nor Staff raise an issue of law with respect to the legal standards employed by the ASLB, they must show how the ASLB abused its discretion in applying those legal standards, or otherwise. However, neither AmerGen nor Staff even allege that the ASLB abused its discretion or made a clear error of judgment. In fact, most of the arguments presented on appeal are the same arguments that the ASLB rejected in the proceeding below. Because appellants fail to even allege, let alone show, that the ASLB abused its discretion in its findings about the admissibility of the contention, or in the procedures adopted, the appeals are without merit and must be rejected.

#### **I. The Contention Has An Adequate Basis**

Citizens provided a "brief explanation of the basis for the contention" (10 C.F.R. § 2.309(f)(1)(ii)). In particular, the ASLB found that the Citizens explained that:

(1) the drywell liner, which must be maintained for structural support and as a containment in the event of an accident, experienced moisture intrusion that resulted in severe corrosion (Petition at 4-5); (2) the most serious corrosion occurred in the sand bed region, where the thickness of the liner was reduced by over 1/4 inch (*id.* at 5); (3) the sand bed region contains a "bathtub ring" of corrosion that is "an 8 to 18 inch wide band [in each of the surrounding bays] about 30 to 40 inches long containing . . . heavily corroded areas" (*id.* at 9); (4) in some areas of the sand bed region, there is as little as 0.064 inches of safety margin before the liner violates the buckling criterion (*ibid.*), and there are several

locations where the measured thickness is less than that criterion (NIRS Reply at 11); (5) corrosion-causing moisture continues to enter the drywell liner (NIRS Petition at 6, 11, 13; NIRS Reply at 17-18); (6) visual inspections alone of the sand bed region may not detect a gradual, continuing, thinning of the liner before the buckling criterion is violated, especially if corrosion is occurring underneath the epoxy coating, which may mask such corrosion (NIRS Petition at 10); (7) both the NRC Staff and the Oyster Creek licensee have stated that UT [ultra-sonic] measurements of the drywell liner are necessary "for the life of the plant" to assure public safety (*id.* at 14); and (8) accordingly, periodic UT inspections must be employed in the sand bed region during the license renewal period to confirm the actual remaining wall thicknesses of this vital safety structure (*id.* at 11).

Decision at 34.

In addition to highlighting relevant parts of the record, Citizens also provided a memorandum by an expert, Dr. Rudolf Hausler, who found that further corrosion in the sand bed was a reasonable possibility. Petitioners' Exhibit 13 at 1-2. The ASLB provided a cogent summary of Dr. Hausler's findings, as follows:

[Dr. Hausler] indicated that it was questionable whether the coating – which was applied in 1992 and which has a projected life that expired in 2002 (*supra* note 26) – would endure for the period of extended operation (NIRS Petition, Dr. Hausler Memo at 1). During operations, the temperature on the outside of the sand bed region is "high enough to cause slow deterioration of the epoxy coating" (*ibid.*). Additionally, "water could and can enter the space between the concrete containment and the [drywell liner] during refueling and other non-planned outages" (*id.* at 2). "Deteriorated epoxy coating and the presence of liquid . . . would certainly lead to additional localized corrosion" (*ibid.*). Furthermore, stated Dr. Hausler, "the application of epoxy resins on metal surfaces may result in holidays (pinholes) depending on surface preparation, the curing process, and general cleanliness. There is, therefore, no guarantee that the epoxy coating prevented further growth of existing pits" (*ibid.*).

Dr. Hausler also opined that visual inspections of the sand bed region are not sufficient to determine whether the drywell liner has an adequate margin of safety. Although he acknowledged that severe corrosion under the epoxy coating "would lead to blistering

and cracking of the epoxy coat [that] could be observed visually" (NIRS Petition, Dr. Hausler Memo at 2), he also stressed that "the absence of such observations does not necessarily mean that no additional corrosion occurred in the pitted areas" (ibid.) (emphasis added). Consequently, Dr. Hausler states, it is "absolutely essential" that the integrity of the vessel be directly assessed by periodic UT measurements or optical pit depth measurements (ibid.).

Decision at 36.

Having examined the basis supplied by Citizens, the ASLB concluded that "the detailed statement of facts in . . . [Citizens'] Petition regarding the contention, which included references to the specific sources and documents on which NIRS intends to rely, and which also included Dr. Hausler's memorandum and numerous exhibits (many of which we cited supra Part II.C.1), amply satisfies the admissibility requirements in 10 C.F.R. § 2.309(f)(1)(v)." Id.

In an attempt to attack the ASLB's findings, AmerGen states that corrosion in the sand bed region happened in the past and has been arrested, the allegation about the potential presence of water in the sand bed region is unsupported by the record, and Dr. Hausler's opinion regarding the possibility of pinholes in the epoxy coating is generic and speculative. However, AmerGen is too late with this argument. The ASLB has already exercised its discretion regarding its assessment of the evidence presented, and AmerGen failed to allege any abuse of that discretion.

Furthermore, the conclusions reached by the ASLB were fully supported by the evidence presented. There is no dispute that severe corrosion in the sand bed region has already occurred leading to a loss of over 0.31 inches of metal in some areas. Although measurements taken in 1992 and 1994 indicated a lack of corrosion at that time, Citizens have contended that the corrosion could recur and not be detected. This conclusion is

based on two key facts. First, Citizens showed by reference to their Exhibits that water is likely to be present in the sand bed region and will likely continue to be present during any license renewal period. Second, Citizens showed, by reference to the expert opinion of Dr. Hausler and the Exhibits, that the epoxy coating could have had pinholes when it was applied, or could deteriorate to the point where it no longer protects the liner, without showing obvious visual signs of such deterioration.

At this stage Citizens do not have to prove that the conclusions underlying the contention are correct, they merely have to show a potential issue exists by providing a "minimal factual and legal foundation." Thus, the where an ASLB finds a minimal basis to support the foundations of the contention, it should admit the contention.

On the first point, Citizens' basis rested upon the Exhibits. Petitioners' Exhibits 1 and 2 showed that water leakage had occurred before 1986 and 1991, respectively. Petitioners' Exhibits 3 and 4 stated that the operator would monitor for water leakage during refueling cycles after 1993 and "take corrective action as appropriate." Petitioners' Exhibit 9, dated November 1, 1995, states "water leaking from the pools above the reactor cavity has been the source of corrosion." Petitioners' Exhibit 9 further stated that NRC would only accede to the operator's request for reduced testing, if the operator would commit to additional testing within approximately three months after discovery of water leakage. Drawing a reasonable inference from this set of documents showing that water leakage was an ongoing issue up to at least 1995, the Petition alleged that "wet conditions occurring over the past 12 years behind the epoxy coating can reasonably contribute to corrosion." Petition at 11.

On reply, Petitioners' Exhibit 10, dated December 15, 1995, showed that the operator proposed a clarification that the requirement of additional inspections after leakage "was not meant to address minor leakage associated with normal refueling activities." Petitioners' Exhibit 10. NRC staff, in turn, responded on February 15, 1996 defining minor leakage as 12 GPM. Petitioners' Exhibit 11. Finally, Petitioners' Exhibit 12 is a structural assessment that shows cracking in the concrete that forms the drywell shield wall above the dry well liner.

Further, misleading pleading by AmerGen about the absence of continuing corrosion in the drywell liner, may have led the ASLB to discount some of Citizens' assertions about the potential for a corrosive environment to exist. AmerGen is in the process of correcting its Answer to remedy the confusion and show that there is no dispute that ongoing corrosion is occurring in the upper region of the drywell. Thus, the record before the Commission will show the potential for water leakage to the sand bed area even more clearly than the record before the ASLB. Moreover, although it appears highly likely that water continued to leak onto the drywell liner, the contention rests on a mere possibility of such leakage occurring during any license renewal period. Petitioners' Exhibit 13 at 2 ("water could and can enter the space between the concrete containment and the dry well").

On the second key issue regarding the danger of relying solely on the epoxy coating and visual inspection to prevent further corrosion, Citizens appropriately relied upon the testimony of an expert, Dr. Hausler. AmerGen suggests that Dr. Hausler's conclusions are "impermissibly generic and speculative," AmerGen App. Br. at 12, but this objection is premature. At the contention screening stage, Citizens merely have the option

to provide “a concise statement of the alleged facts or expert opinions which support the petitioners petition.” 10 C.F. R. § 2.309(f)(1)(v). Here, Citizens chose to provide a memorandum from a qualified expert to support the contention. Neither AmerGen nor Staff has objected to Dr. Hausler’s qualifications. Similarly, neither Appellant has presented any substantive evidence whatsoever to call into question Dr. Hausler’s conclusions regarding the potential for pinholes in the epoxy coat. As the ASLB noted, Dr. Hausler also pointed out that the nominal life of the epoxy coat expired in 2002. Thus, at this stage, the Commission should accept the conclusion of the ASLB that Citizens have properly raised an issue, which now needs to be adjudicated. Any other decision would amount to a premature weighing of the evidence before Citizens have any ability to discover more relevant evidence. A rejection of the contention would also make a mockery of the text of the regulations, which require only a minimal showing that contentions are not based on pure speculation.

Finally, on the issue of “buckling,” there is no dispute that the structural assessment carried out by the reactor operator and summarized in Petitioners’ Exhibit 3 shows that if the sand bed region as a whole was thinner than 0.736 inches, buckling of the drywell liner could occur. It is undisputed that at the sand bed region the liner is already thinner than 0.736 inches in places. The nexus between the aging issue and this criterion is obvious: further corrosion of the liner at the sand bed region would enlarge the areas that are already thinner than the buckling criterion, making the liner more susceptible to buckling.

## **II. The Contention Raised Issues of Material Fact**

The ASLB found that the material facts in dispute included “whether AmerGen’s aging management program for the heavily corroded sand bed region – which does *not*

include periodic UT measurements – will enable AmerGen to determine the extent and continuation of vel non of corrosion and thereby maintain the required safety margins during the term of the extended license.” Decision at 38. The ASLB further found that AmerGen’s offer to take a onetime set of UT measurements did not fully respond to the contention and thus material issues of material fact remained. Id. at 38-39. The ASLB correctly emphasized that all that is required at the contention stage is a minimal showing that further inquiry into the facts alleged is required. Id. at 39.

AmerGen’s appeal brief makes it plain that there are many other issues of material fact in dispute. For example, AmerGen suggests that corrosion in the upper drywell has been “arrested,” but fails to note that the most recent measurements show that such corrosion is actually ongoing. AmerGen App. Br. at 3-4. Furthermore, AmerGen’s change in position on UT measurements in the sand bed region further illustrates that there is an ongoing debate between NRC and AmerGen about the appropriate measurement frequency. See id. at 5. This ongoing debate, which has so far led to two amendments of the proposed inspection regime during any license extension period, illustrates directly that Citizens’ contention is material. Finally, AmerGen states as a fact that “corrosion in the sand bed region has been arrested,” Id. at 12, whereas Citizens assert that this is unknown, since no UT measurements have been taken since 1996 and the visual inspection is inadequate to allow such a conclusion to be drawn.

Thus, a major issue in dispute is whether corrosion of the sand bed to below adequate safety margins could go undetected during any license renewal period under AmerGen’s proposed aging management regime. AmerGen argues gamely that there is no definitive proof that this is the case. Id. at 12-17. However, at this stage Citizens only

have a minimal burden to show that there are material issues in dispute. The ASLB correctly decided that it should not adjudicate issues raised by Citizens at this stage. Decision at 43 citing Mississippi Power and Light Co. (Grand Gulf Nuclear Station, Units 1 & 2), ALAB 130, 6 AEC 423, 426 (1973) (“in passing upon the question as to whether an intervention petition should be granted, it is not the function of a licensing board to reach the merits of any contention contained therein”). Thus, AmerGen’s effort to adjudicate the key issues at this stage merely serves to illustrate that material facts are in dispute and adjudication of these facts is required at a hearing on the contention.

### **III. The Contention Is Within the Scope of the License Renewal Proceeding**

As the ASLB correctly noted, AmerGen conceded that corrosion of the drywell liner is an “aging effect” that must be monitored during the renewal period “to ensure that the CLB will be maintained during the period of extended operations.” ASLB Decision at n. 35, quoting AmerGen First Supp. Br. at 8. The Commission has similarly found that corrosion can be an adverse aging effect. ASLB Decision at n. 35 quoting Turkey Point CLI-01-17, 54 N.R.C. at 7. The ASLB decided that AmerGen’s concession that corrosion in the drywell liner is an aging effect, supports a conclusion that a corrosive environment exists in the drywell liner that may result in continuing degradation during the renewal period. ASLB Decision at 43.

The ASLB reached its correct conclusion regarding a corrosive environment in the drywell liner, despite AmerGen’s misleading pleading suggesting that no drywell liner corrosion has been occurring recently. AmerGen Ans. at 21. Correcting this pleading to reflect the facts contained in the License Renewal Application would have given the ASLB even stronger grounds to conclude that a corrosive environment exists in the drywell liner.

Moreover, for the contention to be within the scope of the proceeding, Citizens merely have to show that a corrosive environment could exist during any extended license period and that such an environment could lead to corrosion.

The majority of the ASLB correctly refused to adjudicate the issues raised and concluded that the contention, as narrowed by the ASLB, was within the scope of the renewal proceeding. In contrast, the dissent made a major error when it decided that "the corrosion was a temporary problem," Decision Dissent at 4, and that the corrosion problem had been cured. *Id.* at 5. First, this is acknowledged by all parties to be factually incorrect for the upper drywell, where corrosion is still ongoing. License Renewal Application 3.5-21. Furthermore, this conclusion could only be reached by adjudicating the issues that underpin the contention and finding either that a corrosive environment could not exist in the sand bed region during any license renewal period, or that the epoxy coating was adequate to protect against any corrosive environment, or that visual inspections would be adequate to protect against corrosion.

Although the dissent alleges that Citizens merely speculated about these issues, this is incorrect. In fact, Citizens presented detailed arguments, supported by numerous exhibits, about the potential presence of water in the sand bed region, and presented an expert memorandum and exhibits covering the inadequacy of the epoxy coating and visual inspections. To these arguments can now be added the known ongoing corrosion in the upper drywell, which was misrepresented by AmerGen during the ASLB proceedings.

Moreover, the dissent erred by attempting to modify the scope of the proceeding based on the evidence presented. The scope is not an issue to be determined by the ASLB. It has already been determined by the Commission through rulemaking. As the discussion

above notes, aging of passive, long-lived, safety-critical structures, such as the drywell liner, is at the heart of license renewal proceedings. The Commission has already decided in the rulemaking that the scope of the proceedings should not be further narrowed.

Thus, the dissent's incorrect conclusion regarding scope is based on a misreading of the record and the Part 54 rules. In contrast, the ASLB correctly decided that the contention "fits squarely within the scope of this proceeding." Decision at 40.

#### **IV. Procedural Decisions By the ASLB Were Within Its Discretion**

Strangely, Staff complain that the ASLB narrowed Citizens' contention. The original statement of the contention discussed the failure to "assure the continued integrity for the requested twenty (20) year license extension for the safety-related containment component, the drywell liner . . .," and went on to discuss the need to confirm that the actual corrosion during any license extension would be as projected. Staff App. Br. at 6-7. The ASLB narrowed the contention to the sand bed region of the drywell liner only, and clarified that the contention only related to any license extension period. ASLB Decision at 33. This was hardly an "abuse of discretion," because the rewrite did not expand the contention in any way, in fact it significantly narrowed the contention which, as originally pleaded, included both the upper region and the embedded region.

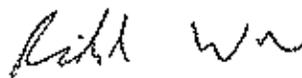
Turing to the supplemental briefing on scope, it is again strange that Staff complain, because this procedure allowed Staff and AmerGen to raise the scope issue, which they notably omitted from their original answers. Thus, by asking for a briefing on scope, the ASLB effectively gave Appellants a second bite at the apple to argue that the contention was outside the scope. Even then, neither Staff nor AmerGen could marshal any convincing arguments on the issue. Thus, the supplemental briefing was within the

discretion of the ASLB, was not prejudicial to AmerGen or Staff, and was not outcome determinative.

CONCLUSION

For the foregoing reasons, including because the ASLB found that: corrosion of the drywell liner is a safety critical issue at the core of the scope of relicensing proceedings; Citizens have shown more than the required minimal basis for their contention, which raises material issues of fact; and Appellants have failed to allege any error of law or abuse of discretion, the Commission should deny the appeals submitted by AmerGen and Staff.

Respectfully submitted



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Dated: March 24, 2006

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

In the Matter of	)	Docket No. 50-0219-LR
AMERGEN ENERGY COMPANY, LLC	)	ASLB No. 06-844-01-LR
(License Renewal for the Oyster Creek Nuclear Generating Station)	)	March 24, 2006

CERTIFICATE OF SERVICE

I hereby certify that the foregoing appeal brief was sent this 24th day of March, 2006 via email and U.S. Postal Service, as designated below, to each of the following:

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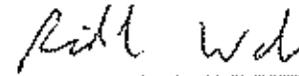
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