RAS 14388

Staff Exhibit C.1

U.S. NUCLEAR REGULATORY COMMISSION

In the Matter of Amer Geo Co., LLC

Docket No. 50-0219-LR Official Exhibit No. C.1

OFFERED by: Applicant/Licensee Intervenor ______

NRC Staff Other ______

IDENTIFIED on 9/10/07 Witness/Panel N/A

Action Taken: ADMITTED REJECTED WITHDRAWN

Reporter/Clerk DW

STAFF SUR-REBUTTAL TESTIMONY

Template=SECY-027

SECY-02

September 14, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

NRC STAFF SUR-REBUTTAL TESTIMONY OF
HANSRAJ G. ASHAR, DR. JAMES A. DAVIS,
DR. MARK HARTZMAN, TIMOTHY L. O'HARA, AND ARTHUR D. SALOMON

Q1. Please state your name, occupation, and by whom you are employed.

A1(a). My name is Hansraj G. Ashar ("Ashar").[1] I am employed as a Senior Structural Engineer in the Division of Engineering, Office of Nuclear Reactor Regulation ("NRR"), U.S. Nuclear Regulatory Commission ("NRC"). A statement of my professional qualifications is attached to prefiled testimony I provided on July 20, 2007.

A1(b). My name is Dr. James A. Davis ("Davis"). I am employed by the NRC as a Senior Materials Engineer in the Office of Nuclear Reactor Regulation ("NRR"), Division of License Renewal. A statement of my professional qualifications is attached to prefiled testimony I provided on July 20, 2007.

A1(c). My name is Dr. Mark Hartzman ("Hartzman"). I am employed by the NRC as a Senior Mechanical Engineer in the Division of Engineering, Office of Nuclear Reactor Regulation ("NRR"). A statement of my professional qualifications is attached to prefiled testimony I provided on July 20, 2007.

---

[1] In this testimony, the sponsors of each numbered response are identified by their last name; no such designation is provided for paragraphs which are sponsored by all witnesses.

A1(d). My name is Timothy L. O'Hara ("O'Hara"). I am employed by the NRC as a Reactor Inspector in the Division of Reactor Safety, Region I Office. A statement of my professional qualifications is attached to prefiled testimony I provided on July 20, 2007.

A1(e). My name is Arthur D. Salomon ("Salomon"). I am employed by the NRC as a Research (Mathematical) Statistician. A statement of my professional qualifications is attached to prefiled rebuttal testimony I provided on August 17, 2007.

Q41. What is the purpose of your testimony?

A41. The purpose of this testimony is to rebut statements made in rebuttal testimony filed August 17, 2007 in response to the "NRC Staff Testimony of Hansraj G. Ashar, Dr. James A. Davis, Dr. Mark Hartzman, and Timothy O'Hara Concerning Drywell Contention" (July 20, 2007) ("Staff Initial Testimony").

Q42. Dr. Hausler discusses the criteria for accepting locally thin areas of the drywell shell in A6 of his Rebuttal Testimony. Are the acceptance criteria for the drywell shell part of Oyster Creek's current licensing basis?

A42. Yes. The current licensing basis (CLB) for the design of the Oyster Creek drywell shell is described, in part, in the Updated Final Safety Analysis Report ("UFSAR") submitted with the license renewal application ("LRA"). The UFSAR references GPUN Technical Data Report, TDR No. 1108, "Summary Report of Corrective Action Taken from Operating Cycle 12 through 14R" (Apr. 28, 1993) (AmerGen Exhibit 27), which discusses the General Wall Acceptance Criterion of 0.736 inch and a Local Wall Acceptance Criterion of 0.536 inch in a 12 inch by 12 inch area in the sand bed region, tapering to the 0.736 inch thickness over an additional 12 inches. *See* UFSAR Update 10 (AmerGen Exhibit 38) at 3.8-45, 3.8-61 to 3.8-62, 3.8-118. Reference 44 on UFSAR page 3.8-118 is TDR No. 1108 and the drywell wall thickness acceptance criteria are discussed on pages 16-17 of 45 of that TDR. TDR No. 1108, at 5 of 45, also references the General Electric ("GE") Letter Report, "Sandbed Local Thinning and Raising the Fixity Height Analysis (Line Items 1 and 2 In Contract #PC-0391407)" (Dec. 11, 1992) (AmerGen Exhibit 39), evaluated locally thin areas in the drywell shell. GE's local thinning analysis formed the basis for the acceptance criteria discussed in Calculation-24, Revisions 0 and 1 (AmerGen Exhibits 17 and 18).

Q43. In his Rebuttal Testimony at A10, Dr. Hausler suggests that the Staff Initial Testimony (at A22) accepted the 95% confidence limit for assessing the future drywell shell wall thicknesses. Do you agree?

A43. (Ashar) Yes. For the evaluation of the grid UT measurements taken from inside of the drywell shell, as noted in the SER (Staff Exhibit 1 at 4-59 to 4-60), the Staff has accepted the 95% confidence level for assessing the trend of future corrosion.

Q44. In his Rebuttal Testimony at A11, Dr. Hausler states that the Sandia National Laboratories Report SAND2007-0055 (Jan. 2007) ("Sandia Report") does not provide assurance that the drywell shell currently meets safety requirements. Do you agree?

A44. (Ashar) No. The Sandia Report (Staff Exhibit 6) was performed to provide additional assurance that the Oyster Creek degraded drywell shell can withstand the postulated loads and load combinations specified in the plant's FSAR. Because Dr. Hausler is not a structural engineer, he fails to consider a number of conservatively biased aspects of Sandia's analysis: 1) Sandia did not use the minimum drywell shell thicknesses from the 1992 UT measurements taken from the inside the shell, but instead used shell thicknesses from the exterior UT measurements (highly corroded areas) as depicted in Calculation-24, Revision 0 (AmerGen Exhibit 17); 2) Sandia evaluated thicknesses for the two locally thin areas (18" x 30") in Bays 1 and 13 using the lowest thicknesses reported in those two bays; and 3) Sandia did not use the modified capacity reduction factor in calculating the buckling safety factor for the load case involving the refueling water load, the design basis seismic load, and the external pressure of 2.0 psig. Staff Exhibit 6 at 47-50, 67. If Sandia had used the more realistic average thicknesses from the inside grids, and a moderate increase in the capacity reduction factor to account for the circumferential tensile stresses developed in the shell, the safety factor against buckling would have been higher than 2.15. Based on the listed considerations, the Staff views the Sandia study as a bounding analysis of the ability of drywell shell to withstand the postulated loads, satisfying the acceptance criteria Section III, Code Case N-284 (AmerGen Exhibit 42).

Q45. In his Rebuttal Testimony at A19 (as revised 08/24/07), Dr. Hausler notes that the NRC acknowledges that a corrosion rate of approximately 0.002 inch per year occurred between 1986 and 2006 as evident from the UT data taken in the trenches. Do you agree?

A45. (Ashar) Yes. The Staff's estimate of a 2 mils per year corrosion rate on the exterior surface of the drywell shell in the sand bed region (Staff Initial Testimony at A11) is based on the linear interpolation of the thickness reduction of 0.038 inches due to corrosion on the exterior of the drywell shell reported in AmerGen's December 3, 2006 letter (AmerGen Exhibit 12). It is reasonable to assume that most of the exterior corrosion took place between 1986 and 1992, when the exterior surface of the drywell shell in the sand bed region had wet sand present and was not protected by the three-layer epoxy coating. The corrosion rate between 1992 and 2006 would likely be significantly lower than 2 mils per year.

Q46 In his Rebuttal Testimony at A6 and A11, Dr. Hausler refers to "downcomers" in the drywell shell. Is this correct?

A46. (Hartzman) No. Dr. Hausler does not appear to be familiar with the structural configuration of the drywell. There are no downcomers in the drywell shell. Downcomers are located inside the torus. The drywell has a vent line in each bay. The vent lines extend to the vent line header inside the torus.

Q47. In his Rebuttal Testimony at A6, Dr. Hausler refers to GE's determination of a 2.0 factor of safety against buckling. Do you have opinion regarding the factor of safety against buckling for the Oyster Creek drywell shell?

A47. (Hartzman) Yes. Based on the ultrasonic testing (UT) data taken from 1992 to 2006 (see AmerGen Exhibit 20 at 6 of 55), the actual wall thickness of the Oyster Creek drywell shell is not uniformly degraded to 0.736 inch, as assumed in the GE analysis. Uniformly degraded means that the entire wall thickness, 360 degrees around the circumference of the sand bed region and covering about 720 square feet of the sand bed shell, has corroded at the same rate throughout the shell from the initial thickness of 1.15 inches to a thickness of 0.736 inch. Thus, the GE analysis is an idealized model, since measured wall thicknesses to date indicate that the shell is not uniformly corroded (*i.e.*, the wall thicknesses throughout the shell are generally considerably thicker than the assumed uniform wall thickness of 0.736 inch, thus permitting load redistribution to the thicker walls). As long as the mean wall thickness has not decreased below 0.736 inch, the actual effective factor-of-safety for the Oyster Creek shell is most likely greater than 2.0.

Q48. (Hartzman) Dr. Hausler (Rebuttal Testimony at A6) lists the dimensions used by GE for the analysis of the "tray shape" configuration? Is he correct?

A48. No. The dimensions he references only represent half of the configuration GE analyzed in its local thinning analysis (AmerGen Exhibit 39). It is not clear whether Dr. Hausler understands that by reason of symmetry, the GE model includes the mirror image of the modeled tray configuration. Thus, the 6" x 12" and 1.5' x 3' areas modeled actually equate to 12" x 12" and 3' x 3' tray areas, respectively. See AmerGen Exhibit 39 at Fig. 1a. GE invoked the symmetry about the center plane between two bays to reduce the size of the analysis for performing the reduced wall thickness calculations. Symmetry considerations are commonly invoked in structural analysis to reduce the magnitude of an analytical problem and make it more amenable to solution. It is also not clear whether Dr. Hausler understands that the analysis of a 36 degree pie slice of the drywell shell applies to alternate bays of the shell (*i.e.*, the analysis of a 36 degree slice is equivalent to postulating a tray configuration in alternate bays in the sand bed region). This is also a conservative aspect of the GE analysis because locally thin areas have only been identified in a few bays.

Q49. Dr. Hausler (Rebuttal Testimony at A6) states that AmerGen "adopted a conservative criterion . . . because the mean thickness of some of the bays is approaching 0.736 inches, so that a reduction of 3.9% in buckling capacity is potentially significant." Does a 0.736 inch thickness equal a 3.9% reduction in the buckling capability of the drywell shell?

A49. (Hartzman) No. The 3.9% reduction is associated with a locally thin area less than 0.736 inch, but greater than 0.636 inch in a 3 foot x 3 foot tray area embedded in a shell uniformly thinned to 0.736 inch. Dr. Hausler does not appear to understand the GE analysis and does not explain how approaching a mean thickness of 0.736 inch reduces the buckling capacity by 3.9%.

Q50. Dr. Hausler uses the terms "factor of safety" or "safety factor" in his testimony. Does he define those terms?

A50. (Hartzman) No. Dr. Hausler has not included a definition in his testimony.

Q51. What is a "factor of safety"?

A51. (Hartzman) A factor of safety is the ratio of the calculated loads acting on a structure at which failure may occur to the calculated internal loads that may be imposed on the structure, under postulated applied loading conditions. Failure of a structure occurs when the structure is no longer able to perform the function for which it was designed (*i.e.*, when the applied loads equal the failure loads of the structure). The calculated minimum factor-of-safety then equals 1.0. However, minimum factors of safety greater than 1.0 are prescribed during the design process of the structure to accommodate uncertainties in calculating the actual failure loads of the structure and the actual internal loads, which depend on the design geometry, how well the material properties are known and how well the actual loads acting on the structure are known (type, magnitude, and probability of application). These uncertainties are ordinarily difficult to quantify and highly subjective.

Q52. Is a reduced buckling factor of safety acceptable for the drywell shell?

A52. (Hartzman, Ashar) Yes. The ASME Section III Code Cases N-284, N284-1 and N284-2 prescribe a minimum factor of safety of 2.0, applicable to the design of general shells under compressive loads that exist under normal operating and other service level conditions. As noted in A51, above, this factor-of-safety is based on uncertainties at the design stage regarding the shell geometry, material properties, and loading conditions. However, for the as-built drywell vessel under refueling conditions, reduced uncertainties from those at the design stage may be acceptable because the as-built geometry is well known, the model used for analyzing the vessel is conservative compared with the as-built geometry, the method used for the analysis is highly refined, the material properties are known conservatively, and the loading is conservatively and reasonably well defined. Therefore, for the as-built drywell shell under the refueling loading condition loads, a reduced buckling factor of safety, based on smaller uncertainties than those associated with the factor-of-safety specified by the Code Case, may be considered reasonable and acceptable.

Q53. What is the definition of the effective factor of safety for the drywell shell?

A53. (Hartzman) For shell type structures, the effective factor-of-safety is defined as the reduced buckling stress or load divided by the actual stress or load acting on the shell. Due to various construction uncertainties, known as initial imperfections, the calculated elastic theoretical buckling capacity is reduced by capacity reduction factors (obtained empirically) which may be as large as 80%. The capacity is reduced further by inelastic reduction factors if the reduced elastic buckling stress exceeds the yield stress of the material.

The Oyster Creek drywell accommodates the loads (refueling pool water weight, external pressure, dead weight and potential earthquake loading equivalent to an SSE) acting during the refueling loading condition. This was found to be the limiting loading condition. The governing failure mode of the as-built drywell shell was determined as elastic buckling in the sand bed region. The reduced buckling stress is based on a capacity reduction factor of approximately 68%. No inelastic reduction factor was applied since the reduced buckling stress did not exceed the yield stress.

Q54. What are the effective factors of safety associated with the load factor reductions cited by Dr. Hausler in his Rebuttal Testimony at A6?

A54. (Hartzman) The reduction in the buckling capacity by 3.9% and 9.8% cited by Dr. Hausler equate to an effective factor-of-safety of approximately 1.93 and 1.81, respectively. These reductions in capacities were based on the "tray" configuration embedded in a uniformly degraded sand bed shell thickness of 0.736 inch, which did not consider that the actual thickness of the shell outside the "tray" shaped configurations might be greater than 0.736 inch and thus permit load redistribution to the thicker walls. Therefore the actual factors of safety could be 2.0 or greater. In addition, as shown in A52, above, these factors of safety are acceptable since the uncertainties are also smaller than those associated with a factor of safety of 2.0. On this basis, and other considerations such as the limited extent of the degradation, the Staff considers the factors of safety of 1.81 and 1.93 as reasonable and acceptable, in lieu of the ASME Section III Code Case minimum factor-of-safety of 2.0.

Q55. On page 6 of Citizens' Exhibit 39, Dr. Hausler states "The 95% confidence limits embrace 95% of all data belonging to a specific family of data, which have been experimentally determined." Is he correct?

A55. (Salomon) No. The 95% confidence limits (of the mean as used in most of AmerGen's calculations) place "bounds" on the sample mean for a specified sample size. It does not place limits on the data, itself.

Q56. On page 17 of Citizens' Exhibit 39, Dr. Hausler states, "Once the coating (or cast) has hardened is it commonly assumed that the reactions have terminated. In fact, unreacted functionalities keep reaction (sic) for a long time, even when the product has become solid. Granted these solid state reactions are excruciatingly slow, but the [sic] contribute to the product's becoming brittle with time, contracting, and cracking. These processes are slow and the results can be spontaneous." Do you agree with these statements?

A56. (Davis) No. These statements are unsubstantiated and are not generally true. Epoxy coatings generally consist of three main components, a resin, a hardener, and fillers. For a given epoxy coating, the ratio of resin to hardener is critical and must follow the manufacturer's recommendations. Fillers are used for a variety of purposes, such as providing a color to the coating, improving resistance to ultraviolet radiation, improving resistance to oxidation, reducing the rate of moisture penetration through the coating, and increasing or decreasing the hardness and abrasion resistance of the coating.

Q57. On page 18 of Citizens' Exhibit 39, Dr. Hausler states, "However, the slow diffusion of water and oxygen through the coating can cause formation of a thin oxide layer on the surface of the metal, which destroys the coating's adherence properties." Do you agree with this statement?

A57. (Davis) No. Bell Laboratories conducted a lot of research in this area in the late 1970s and early 1980's because some epoxy coatings were discovered to disbond in the presence of moisture that permeated through the coatings. Fillers were developed that blocked the permeation of moisture through the coatings and eliminated the disbonding of coatings in the presence of moisture. Coatings developed for immersion service have fillers added to block permeation of moisture in these coatings.

Q58. On page 18 of his August 16 Memorandum, Dr. Hausler states, "A quick search in the Handbook of Chemistry and Physics teaches that iron has a density of 7.9 gm/cc (depending on the specific alloy) while iron oxide (Hematite) has a density of 5.24, and the hydrated iron oxide (rust) has a density of about 3.6." Do you agree with this statement?

A58. (Davis) Yes. I agree that the densities stated are correct. The implication of Dr. Hausler's statement is that if iron oxide and rust have a lower density, they will not be noticeable under the coating. Actually the opposite is true, a lower density means that the iron oxide or rust will have a higher volume, not a lower volume. In "Corrosion Engineering," by Fontana and Green, they discuss the Pilling-Bedford Ratio which is the volume ratio of oxide to metal, which for iron is 1.77. This means that 1 cubic inch of iron will produce 1.77 cubic inches of iron oxide. What this says is for iron to oxidize to iron oxide, the volume almost doubles. When iron forms rust, it is in the form of hydrated iron hydroxide, which occupies 7 to 10 times the original volume of the iron. Therefore, the Staff's statement that any rust that forms will have a greater volume than the original iron and, hence will be readily visible, is correct.

Q59. Does the information discussed in the rebuttal presentation of the other parties change the Staff's conclusion regarding the adequacy of the frequency of drywell monitoring?

A59. No. Based on the information known about the condition of the drywell shell, the corrective actions taken by AmerGen, and the projected corrosion rate, AmerGen's corrosion monitoring interval under the enhanced aging management program is sufficient to provide reasonable assurance that the corrosion will be managed such that the drywell can perform its intended function (and maintain structural integrity) throughout the renewal period.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF HANSRAJ G. ASHAR

I, Hansraj G. Ashar, do hereby declare under penalty of perjury that my statements in the foregoing sur-rebuttal testimony are true and correct to the best of my knowledge and belief.

Hansraj G. Ashar

Executed at Rockville, MD
this 14th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF JAMES A. DAVIS, PH.D

I, James A. Davis, do hereby declare under penalty of perjury that my statements in the foregoing sur-rebuttal testimony are true and correct to the best of my knowledge and belief.

James A. Davis
James A. Davis, Ph. D

Executed at Rockville, MD
this 14th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF MARK HARTZMAN, PH. D

I, Mark Hartzman, do hereby declare under penalty of perjury that my statements in the foregoing sur-rebuttal testimony are true and correct to the best of my knowledge and belief.

Mark Hartzman PhD

Mark Hartzman, Ph. D

Executed at Rockville, MD
this 14th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF TIMOTHY L. O'HARA

I, Timothy O'Hara, do hereby declare under penalty of perjury that my statements in the foregoing sur-rebuttal testimony are true and correct to the best of my knowledge and belief.

Timothy L. O'Hara

Executed at Medford, NJ
this 14th day of August, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF ARTHUR D. SALOMON

I, Arthur D. Salomon, do hereby declare under penalty of perjury that my statements in the foregoing sur-rebuttal testimony and my statement of professional qualifications are true and correct to the best of my knowledge and belief.

Arthur D. Salomon

Executed at Rockville, MD
this 14th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF HANSRAJ G. ASHAR

I, Hansraj G. Ashar, do hereby declare under penalty of perjury that NRC Staff Exhibits B (Staff Initial Testimony), C (Staff Rebuttal Testimony) and C.1 (Staff Sur-Rebuttal Testimony), as corrected, are true and correct to the best of my knowledge and belief.

Hansraj G. Ashar

Executed at Rockville, MD
this 20th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF JAMES A. DAVIS, PH. D

I, James A. Davis, Ph. D, do hereby declare under penalty of perjury that NRC Staff Exhibits B (Staff Initial Testimony), C (Staff Rebuttal Testimony) and C.1 (Staff Sur-Rebuttal Testimony), as corrected, are true and correct to the best of my knowledge and belief.

James A. Davis, Ph. D

Executed at Rockville, MD
this 20th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF MARK HARTZMAN, PH. D

I, Mark Hartzman, Ph. D, do hereby declare under penalty of perjury that NRC Staff Exhibits B (Staff Initial Testimony), C (Staff Rebuttal Testimony) and C.1 (Staff Sur-Rebuttal Testimony), as corrected, are true and correct to the best of my knowledge and belief.

Mark Hartzman, Ph. D

Executed at Rockville, MD
this 20th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF TIMOTHY L. O'HARA

I, Timothy L. O'Hara, do hereby declare under penalty of perjury that NRC Staff Exhibits B (Staff Initial Testimony), C (Staff Rebuttal Testimony) and C.1 (Staff Sur-Rebuttal Testimony), as corrected, are true and correct to the best of my knowledge and belief.

Timothy L. O'Hara

Timothy L. O'Hara

Executed at Rockville, MD
this 20th day of September, 2007

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF ARTHUR D. SALOMON

I, Arthur D. Salomon, do hereby declare under penalty of perjury that NRC Staff Exhibits C (Staff Rebuttal Testimony) and C.1 (Staff Sur-Rebuttal Testimony), as corrected, are true and correct to the best of my knowledge and belief.

Arthur D. Salomon

Executed at Rockville, MD
this 20th day of September, 2007