

**State of New Jersey**Department of Environmental Protection  
PO Box 402  
Trenton, NJ 08625-0402Office of the Secretary  
Rulemakings and  
Adjudications StaffRichard J. Codey  
*Acting Governor*Bradley M. Campbell  
Commissioner  
Tel. # (609) 292-2885  
Fax # (609) 292-7695

November 14, 2005

Office of the Secretary of the Commission  
U. S. Nuclear Regulatory Commission  
Washington D.C. 20555-0001

Attention: Rulemaking and Adjudications Staff

Subject: Request for Hearing and Petition for Leave to Intervene per 10 CFR 2  
AmerGen Oyster Creek Nuclear Generating Station License Renewal Application  
(Docket 50-219)

Dear Secretary:

AmerGen Energy Company LLC submitted the Oyster Creek License Renewal Application (Application) to the U. S. Nuclear Regulatory Commission (NRC) on July 22, 2005. On September 9, 2005, the NRC determined that the application was complete and acceptable for docketing. Notice appeared in the Federal Register on September 15, 2005 commencing the sixty day period for requesting a hearing per 10 CFR 2.

The Oyster Creek nuclear generating station is located in Lacey Township, New Jersey. Operations began in 1969, with the current license set to expire on April 9, 2009. When the plant was built, the local population understood that the operation (and associated risks) would continue for forty years. If the NRC approves the license extension, Oyster Creek will be the first commercial nuclear power plant that may operate beyond forty years. Although the NRC has granted license extensions to other nuclear power plants, their initial licenses would not have expired until after April 9, 2009.

The New Jersey Department of Environmental Protection requests a hearing based on several contentions. According to 10 CFR 2.309(d)(2), standing is automatically granted to the State of New Jersey. Our representative for the contentions is John Covino, Deputy Attorney General. DAG Covino's mailing address is: Environmental permitting and Counseling Section, Division of Law, Hughes Justice Complex, Trenton, New Jersey 08625.

The Department is responsible for providing radiation protection for individuals in New Jersey through establishing, implementing and enforcing radiation protection measures and standards. Its functions and duties are performed pursuant to the Radiation Protection Act, N.J.S.A. 26:2D-1 et seq., the general purpose of which is to protect residents of the State of New Jersey from unnecessary radiation, and the Radiation Accident Response Act, N.J.S.A. 26:2D-37 et

seq., which establishes requirements for protecting the public in the event of a radiation accident at a nuclear facility. The Department's Bureau of Nuclear Engineering has an agreement with the NRC which describes the day-to-day interactions as well as participation in inspections and enforcement conferences. The Bureau staff has participated in the NRC safety and environmental audits which are part of the license renewal process. Through this participation, as well as the long-standing independent assessment of Oyster Creek's operation, the Department has developed several contentions which require a hearing.

The Department's first contention is that the alternatives to manage severe accidents have not been analyzed on a plant specific basis. Before the decision is made to extend Oyster Creek's license for an additional 20 years, the plant's vulnerability to aircraft attacks, and in particular the spent fuel pool vulnerability must be analyzed. The second contention is that Oyster Creek's license application uses a non-conservative assumption regarding metal fatigue for the additional 20 years that the plant would be in service. The third specific contention is in regard to the availability, maintenance, and aging management of the combustion turbine, which is owned and operated by a competitor to AmerGen.

Public assurance that Oyster Creek's continued operation does not represent an unnecessary risk to the citizens of New Jersey is essential. Oyster Creek, being the oldest operating nuclear power plant, would be the first practical test of nuclear operations beyond a 40-year license. Many communities in and around Ocean County have passed non-binding resolutions opposing license renewal. The Department believes that all regulatory measures should be taken to assure continued safe operations. Further, the Department wants to ensure that every opportunity for an open and transparent process takes place, so that the highest standards of public protection are provided for Oyster Creek's continued operation.

I look forward to working with you to resolve these concerns.

Sincerely,



Bradley M. Campbell  
Commissioner

C: Office of General Counsel, U.S. Nuclear Regulatory Commission

**Contention 1 - Severe Accident Management Alternatives**

**10 CFR 2.309(f)(i) "Provide a specific statement of the issue of law or fact to be raised or controverted."**

The State of New Jersey's Department of Environmental Protection (Department or DEP) intends to request a hearing on a specific contention regarding the Oyster Creek Nuclear Generation Station's license renewal application and the licensee's application of Severe Accident Management Alternatives (SAMA) under 10 CFR 51.53 (c) "*Operating license renewal stage.*"

**10 CFR 2.309(f)(ii) "Provide a brief explanation of the basis for the contention."**

The Department has determined that it is in the best interest of the residents of New Jersey to have the most comprehensive review of potential threats to nuclear power plant operations including aircraft impact and spent fuel pool vulnerability. The NRC is in the process of evaluating site specific reviews for Design Basis Threats (DBT) at all nuclear power plants operating in the United States. The final threat analysis review and mitigating strategies are essential for SAMA, along with the licensee commitment to mitigate accidents for the 20-year period of the renewed license. AmerGen's license extension submittal does not include the DBT analysis.

**10 CFR 2.309(f)(iii) "Demonstrate that the issue raised in the contention is within the scope of the proceeding."**

SAMA was submitted as part of the Oyster Creek Nuclear Generation Station's license renewal application under 10 CFR Part 51. The NRC's regulations implementing NEPA appear in 10 CFR 51.53 (c) "Operating license renewal stage." Specifically, 10 CFR 51.53 (c) (3) (ii) (L) states: "*If the staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an environmental impact statement or related supplement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided.*"

Under the National Environmental Policy Act (NEPA, 42 U.S.C. 4332), the NRC is charged with considering all of the environmental impacts of its actions, not just the impacts of specific technical matters that may need to be reviewed to support the action. These impacts may involve matters outside of the NRC's jurisdiction or matters within its jurisdiction that, for sound reasons, are not otherwise addressed in the NRC's safety review during the licensing process. In the case of license renewal, it is the Commission's responsibility under NEPA to consider all environmental impacts stemming from its decision to allow the continued operation of the entire plant for an additional 20 years. The fact that the NRC has determined that it is not necessary to consider a specific matter in conducting its safety review under Part 54 does not excuse it from considering the impact in meeting its NEPA obligations.

The DEP believes that the NRC should consider SAMAs for individual license renewal applications to meet its responsibilities under NEPA. In doing so, Section 102(2)(C) of NEPA implicitly requires agencies to consider measures to mitigate those impacts when preparing impact statements.

NRC's obligation to consider mitigation exists whether or not mitigation is ultimately found to be cost-beneficial and whether or not the licensee ultimately will implement mitigation.

**10 CFR 2.309(f)(iv) "Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding."**

This contention applies to the deficiency in the SAMA as part of the Oyster Creek License Renewal Application. The NRC's SAMA Evaluation Process involves:

- characterizing the overall plant risk;
- identifying potential improvements;
- evaluating potential reduction in plant risk and implementation cost for SAMAs;
- determining if SAMAs are cost-beneficial; and
- determining whether implementation of any of the cost-beneficial SAMAs is required to support license renewal (i.e., is related to adequately managing the effects of aging during the period of extended operation).

Shortly after September 11, 2001, the NRC undertook a comprehensive re-evaluation of safeguards and security programs, regulations, and procedures to determine potential DBT. DBT describes the adversary force composition and characteristics against which plant owners must design their physical protection systems and response strategies. The general review has been completed but the site-specific review for Oyster Creek has not taken place.

#### 1. Aircraft attack scenario

The NRC has conducted a generic analysis of the potential threat from aircraft attacks on nuclear power plants, but not a specific analysis of the expected performance of the Oyster Creek design. Generic studies may confirm that the likelihood of such a scenario damaging the reactor core and releasing radioactivity that could affect public health as low, but the need for a bounding calculation to effectively assess and implement an emergency response plan is essential for public protection. Studies have shown NRC's emergency planning basis remains valid, yet the current DBT information is not available to conclude that Oyster Creek is operating within its design basis. Therefore, the DBT analysis and SAMA mitigation considerations for the core melt sequences need to be included in the SAMA before license renewal.

#### 2. Spent Fuel Pool scenario

The Oyster Creek SAMA submittal for license renewal does not include any accidents regarding

the spent fuel pool. While traditional analysis for SAMA includes accidents that lead to a core melt, it does not look at design basis accidents for spent fuel pools. Yet, spent fuel pool accidents are part of the licensee's and state emergency preparedness programs.

### 3. Interim Compensatory Measures

Certain interim compensatory measures have been put in place that improve the site's capabilities to respond to an event that results in damage to large areas of a nuclear power plant from explosions or fires. But for the continued operations under a renewed license all steps must be taken to ensure that all SAMA have been evaluated. Long-term measures rather than interim compensatory measures must be in place.

**10 CFR 2.309(f) (v) Provide a concise statement of the alleged facts or expert opinions which support the position on the issue and on which the petitioner intends to rely at hearing, together with any references to the specific sources and documents."**

Review of the Oyster Creek Nuclear Generation Station's license renewal application under 10 CFR Part 51 for Severe Accident Management Alternatives (SAMA). Specifically, 10 CFR 51.53 (c) "Operating license renewal stage."

*"The National Environmental Policy Act of 1969 Sec. 102 [42 USC § 4332]. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall – C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --*

- (i) the environmental impact of the proposed action,*
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,*
- (iii) alternatives to the proposed action,*
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and*
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.*

*Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency, which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;"*

Information regarding specific threats to the Oyster Creek facility needs to be available for SAMA consideration. Currently, the security classification of this information ranges from safeguards, to "need to know", to secret. The DEP requests that information related to the specific design of Oyster Creek and its ability to withstand aircraft attacks, as well as the specific vulnerability of the spent fuel pool be made available to agency officials with sufficient clearance. Additionally, a summary of the information, in a form that could be considered as unclassified, be made publicly available.

**10 CFR 2.309(f)(vi) "Provide sufficient information to show that a genuine dispute exists."**

AmerGen's license renewal application does not address the DBT analysis, yet there is an on-going evaluation of specific plant vulnerabilities. Under 10 CFR 51, SAMA is part of the license renewal. There appears to be a genuine dispute about whether the bounding of SAMA is part of license renewal. The Department requests that SAMA up to and including the DBT, be included in the license renewal because of the importance of assuring the public that aircraft and spent fuel scenarios were considered and addressed.

**Contention 2 – Metal Fatigue**

**10 CFR 2.309(f)(i) "Provide a specific statement of the issue of law or fact to be raised or controverted."**

10 CFR 50.55a(c)(4) states, "*For a nuclear power plant whose construction permit was issued prior to May 14, 1984 the applicable Code Edition and Addenda for a component of the reactor coolant pressure boundary continue to be that Code Edition and Addenda that were required by Commission regulations for such component at the time of issuance of the construction permit.*" The Oyster Creek licensee appears unwilling to maintain this requirement for the proposed license extension period as presented in the application submitted under oath and affirmation on July 22, 2005. As a result, the licensee is also in violation of 10 CFR 54.21(a)(3) which states that the licensee must, as part of its application, "*For each structure and component ... demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation.*" CLB is defined in 10 CFR 54.3(a) as the current licensing basis for the plant.

**10 CFR 2.309(f)(ii) "Provide a brief explanation of the basis for the contention."**

In Section 4.3 of the Oyster Creek license renewal application, the licensee makes extensive use of a cumulative usage factor (CUF) for fatigue evaluations for the reactor coolant pressure boundary and associated components of 1.0 rather than the 0.8 CUF specified by the Code Edition and Addenda that were required by Commission regulations at the time of issuance of the construction permit. Specifically, as stated on page 4-24 of the renewal application, "*...the Oyster Creek reactor vessel was designed in accordance with ASME Code Sections I and VIII*

(i.e., it pre-dated ASME Code Section III, including Code Case Interpretations 1270N and 1273N). Sections 3.1.26, 5.2.2.1 and 5.3.1.1 of the Oyster Creek UFSAR document the original RPV Purchase Specification reactor vessel design requirements, including the allowable fatigue usage factor of 0.8 for the reactor pressure vessel.<sup>1</sup> Furthermore, as stated on page 4-26 of the renewal application, "Three of the reactor vessel components, the closure bolts, RPV support skirt, and the RPV basin seal skirt (refueling bellows) support, indicated fatigue usage over the allowable value after 60 years of operation when using the original fatigue methodology from the reactor vessel stress report. The original fatigue analysis pre-dated the issuance of ASME Section III and established conservative fatigue rules and acceptance criterion for CUF of 0.8". Additionally, Table 4.3.1-2 of the renewal application shows the Feedwater Nozzle Forging and the Recirculation Outlet Nozzle CUFs exceed 0.8 for the proposed period of extended operation. While Table 4.3.4-1, Note 1, states that an updated ASME Code fatigue methodology was used for CUF calculations, even so, this table shows the RPV outlet nozzle CUF exceeds 0.8. The extent of which reactor coolant pressure boundary components would exceed a CUF of 0.8 for the period of extended operation, when calculated as specified by the Code Edition and Addenda that were required by Commission regulations at the time of issuance of the construction permit, is undeterminable based on the information provided by the applicant and is not specified in the applicant's license renewal application. Using a CUF of 1.0 would be outside Oyster Creek's current licensing basis (CLB) and would result in a 25 percent increase in allowable fatigue life beyond that specified by the Code of record for Oyster Creek, thereby significantly reducing the margin of safety for metal fatigue. This is in violation of 10 CFR 54.21(a)(3) which states that the licensee must, as part of its application, "For each structure and component ... demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation."

**10 CFR 2.309(f)(iii) "Demonstrate that the issue raised in the contention is within the scope of the proceeding."**

10 CFR 54.21 specifies the technical information required to be included in the license renewal application. Time-limited aging analyses, which includes analysis for metal fatigue, is necessary as part of this requirement as stated in 10 CFR 54.21(c). Demonstrating that the effects of aging will be adequately managed consistent with the CLB is necessary as stated in 10 CFR 54.21(a)(3).

**10 CFR 2.309(f)(iv) "Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding."**

Using a CUF of 1.0 would be outside Oyster Creek's current licensing basis (CLB) and would result in a 25 percent increase in allowable fatigue life beyond that specified by the Code of record for Oyster Creek, thereby significantly reducing the margin of safety for metal fatigue. 10 CFR 54.33(d) states, "The licensing basis for the renewed license includes the CLB, as defined in § 54.3(a); the inclusion in the licensing basis of matters such as licensee commitments does not

*change the legal status of those matters unless specifically so ordered pursuant to paragraphs (b) or (c) of this section". In addition, 10 CFR 54.33(b) states, "Each renewed license will be issued...as the Commission deems appropriate and necessary to help ensure that systems, structures, and components subject to review in accordance with § 54.21 will continue to perform their intended functions for the period of extended operation. In addition, the renewed license will be issued...as the Commission deems appropriate and necessary to help ensure that systems, structures, and components associated with any time-limited aging analyses will continue to perform their intended functions for the period of extended operation".*

**10 CFR 2.309(f)(v) Provide a concise statement of the alleged facts or expert opinions which support the position on the issue and on which the petitioner intends to rely at hearing, together with any references to the specific sources and documents."**

Specifically, as stated on page 4-24 of the renewal application, "...the Oyster Creek reactor vessel was designed in accordance with ASME Code Sections I and VIII (i.e., it pre-dated ASME Code Section III, including Code Case Interpretations 1270N and 1273N). Sections 3.1.26, 5.2.2.1 and 5.3.1.1 of the Oyster Creek UFSAR documents the original RPV Purchase Specification reactor vessel design requirements, including the allowable fatigue usage factor of 0.8 for the reactor pressure vessel". Furthermore, as stated on page 4-26 of the renewal application, "Three of the reactor vessel components, the closure bolts, RPV support skirt, and the RPV basin seal skirt (refueling bellows) support, indicated fatigue usage over the allowable value after 60 years of operation when using the original fatigue methodology from the reactor vessel stress report. The original fatigue analysis pre-dated the issuance of ASME Section III and established conservative fatigue rules and acceptance criterion for CUF of 0.8".

Additionally, Table 4.3.1-2 of the renewal application shows the Feedwater Nozzle Forging and the Recirculation Outlet Nozzle CUFs exceed 0.8 for the proposed period of extended operation. While Table 4.3.4-1, Note 1, states that an updated ASME Code fatigue methodology was used for CUF calculations, even so, this table shows the RPV outlet nozzle CUF exceeds 0.8. The extent by which reactor coolant pressure boundary components would exceed a CUF of 0.8 for the period of extended operation, when calculated as specified by the Code Edition and Addenda that were required by Commission regulations at the time of issuance of the construction permit, is undeterminable based on the information provided by the applicant and is not specified in the applicant's license renewal application.

Documentation in support of this contention includes the current Oyster Creek licensing basis (CLB), the Oyster Creek License Renewal Application, the Oyster Creek UFSAR, the Oyster Creek FDSAR, ASME Codes Section I and VIII and associated GE Specifications (as specified and described in FSAR Section 5.3.1.1), 10 CFR Part 50, and 10 CFR Part 54.

**10 CFR 2.309(f)(vi) "Provide sufficient information to show that a genuine dispute exists on a material issue of law or fact."**

The license renewal application, page 4-26 states, "...that a RCPB component is acceptable for



*continued service if the CUF is less than or equal to 1.0.*" RCPB refers to Reactor Coolant Pressure Boundary. As discussed above, 10 CFR 50.55a(c)(4) and 10 CFR 54.21(a)(3) lead to the different conclusion that a RCPB component at Oyster Creek is acceptable for continued service if the CUF is less than or equal to 0.8.

### **Contention 3 – Combustion Turbine**

**10 CFR 2.309(f)(i) "Provide a specific statement of the issue of law or fact to be raised or controverted."**

AmerGen's compliance with 10 CFR 50.63, "Loss of All Alternating Current Power," relies upon the combustion turbines as a last resort for an alternating current power supply. With respect to the combustion turbines, the Oyster Creek License Renewal Application states "The Forked River Combustion Turbines (FRCTs), first installed in 1988, are owned, operated, and maintained by FirstEnergy and provide peak loading to the grid. Consistent with Oyster Creek Generating Station (OCGS) commitments, and as reviewed and approved by the NRC in its letters dated August 23, 1991 and February 12, 1992, the FRCTs also provide a standby source of alternate AC power for the Oyster Creek station in the event of a Station Blackout (SBO). The Interconnection Agreement between AmerGen and First Energy guarantees that SBO electric power from the FRCTs is available, when needed, to fulfill these objectives."

It is the Department's contention that this arrangement will NOT assure that:

1. First Energy will continue to operate the combustion turbines during the proposed extended period of operation at Oyster Creek.
2. The combustion turbines will be maintained, inspected and tested in accordance with AmerGen's aging management plan that, when developed, will become part of the license renewal commitments. There will be a reliance on a competitor to manage and perform this work with little opportunity for AmerGen to oversee any of it.
3. All deficiencies encountered by First Energy in the course of operating, maintaining, inspecting and testing the combustion turbines will be entered into a corrective action program that meets the requirements of 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants.

**10 CFR 2.309(f)(ii) "Provide a brief explanation of the basis for the contention."**

*10 CFR 54.33(b) states, "Each renewed license will be issued...as the Commission deems appropriate and necessary to help ensure that systems, structures, and components subject to review in accordance with § 54.21 will continue to perform their intended functions for the period of extended operation. In addition, the renewed license will be issued...as the Commission deems appropriate and necessary to help ensure that systems, structures, and*

*components associated with any time-limited aging analyses will continue to perform their intended functions for the period of extended operation*

The Department has determined that it is a requirement of the Nuclear Regulatory Commission and in the best interest of the residents of New Jersey to have reliable back up electric power supply sources to the Oyster Creek Nuclear Generating Station during the period of extended operation. Two combustion turbines that are owned, maintained and operated by First Energy, a competitor of Exelon Corporation, of which AmerGen Energy is a subsidiary, are called upon as a back up power supply to essential safety systems at Oyster Creek.

*10 CFR 54.35, Requirements during term of renewed license states: "During the term of a renewed license, licensees shall be subject to and shall continue to comply with all Commission Regulations contained in 10 CFR Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 54, 55, 70, 72, 73, and 100, and the appendices to these parts that are applicable to holders of operating licenses."*

**10 CFR 2.309(f)(iii) "Demonstrate that the issue raised in the contention is within the scope of the proceeding."**

The Oyster Creek License Renewal Application (LRA), Section 2.5.1.13, classifies the two combustion turbines as in-scope for license renewal under 10 CFR 54(a)(3), because these components are relied upon to meet the requirements of 10 CFR 50.63 for a Station Blackout condition.

**10 CFR 2.309(f)(iv) "Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding."**

*10 CFR 54.33(b) states, "Each renewed license will be issued...as the Commission deems appropriate and necessary to help ensure that systems, structures, and components subject to review in accordance with § 54.21 will continue to perform their intended functions for the period of extended operation. In addition, the renewed license will be issued...as the Commission deems appropriate and necessary to help ensure that systems, structures, and components associated with any time-limited aging analyses will continue to perform their intended functions for the period of extended operation."*

The arrangement with First Energy proposed in the Oyster Creek LRA does not demonstrate that AmerGen will ensure that the Combustion Turbines will continue to perform their intended function for the period of extended operation.

**10 CFR 2.309(f)(v) Provide a concise statement of the alleged facts or expert opinions which support the position on the issue and on which the petitioner intends to rely at hearing, together with any references to the specific sources and documents."**

In submitting this contention, the Department is relying on statements made in the Oyster Creek LRA regarding the combustion turbines and the contractual relationship established with First Energy regarding these combustion turbines to support the Oyster Creek Nuclear Generating

Station. The referenced contract or agreement between AmerGen and First Energy cannot be cited in this contention.

**10 CFR 2.309(f)(vi) "Provide sufficient information to show that a genuine dispute exists."**

The combustion turbines have been identified in the LRA as components that require a time limited aging management program during the period of extended operation. AmerGen relies on an agreement with a competitor, First Energy, to meet this requirement. We believe that this is not a suitable arrangement to assure that the combustion turbines will be available if required to fulfill the offsite power needed to meet the requirements of 10 CFR 50.63.



State of New Jersey  
Department of Environmental Protection

Bradley M. Campbell  
Commissioner

Richard J. Codey  
Acting Governor

**FAX TRANSMITTAL FORM**

**PLEASE FORWARD ATTACHED DOCUMENT**

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FROM: Jill Lipati

DATE: 11/14/05 NUMBER OF PAGES WITH COVER: 12

*If you did not receive all the pages, or find that they are illegible, please call:*

NAME: Jill

TELEPHONE: (609) 633-7964

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