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Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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LISA P. JACKSON
Commissioner

October 31, 2006

U.S. Nuclear Regulatory Commission
Attn: Donnie J. Ashley
Project Manager Oyster Creek License Renewal
MS 001-F1
11555 Rockville Pike
Rockville, MD 20852-2738

Dear Mr. Ashley:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Comments on "Safety Evaluation Report With Open Items Related to the License Renewal of Oyster Creek Generating Station", August 2006

Enclosed are the State of New Jersey, Department of Environmental Protection, Bureau of Nuclear Engineering's (BNE) comments on the NRC's document "Safety Evaluation Report With Open Items Related to the License Renewal of Oyster Creek Generating Station", dated August 2006 (SER).

As stated in the report, the NRC staff's review was based on information submitted by Oyster Creek through July, 10, 2006, the cutoff date for consideration in the SER. The BNE recognizes that the NRC staff will present its final conclusion on the review of the Oyster Creek license renewal application in an update to this SER. Accordingly, the attached BNE comments, which should be addressed in the final SER, cover both current SER items plus issues which have been brought to light since the July 10, 2006 cutoff date. Recent issues include the failure of Oyster Creek to maintain existing drywell water intrusion commitments for eight years, as reported by NRC inspectors and identified at the NRC Region 1 License Renewal Inspection Exit Meeting of September 13, 2006, and the undermining and collapse of the intake canal embankment in several places due to heavy September rains.

Should you have any questions or need additional information, please contact me directly at (609) 633-7964 or Mr. Kent Tosch, Manager of the Bureau of Nuclear Engineering, at (609) 984-7701.

Sincerely yours,

Jill Lipoti

Jill Lipoti, Ph.D.
Director

Enclosure

c: Randy Blough, Director, Division of Reactor Safety
Nancy McNamara, NRC Region I, State Liaison Officer

NUMBER	ISSUE	COMMENT	REQUESTED ACTION
1	Drywell Corrosion Rates (SER Pages 1-8 and 4-49)	The paragraph(s) "The measurements… (every other refueling outage)" refers to the calculation of corrosion rates for the drywell thickness which "bound" the corrosion rates in the upper cylinder. It is not clear what this allowable rate of corrosion is attempting to maintain. Is it to insure adequate drywell thickness for one additional operating cycle, until the next scheduled UT inspection at the specified location (more than one additional cycle), or is it validation to the end of the period of extended operation (2029)?	Please address the question.
2	Drywell Corrosion - Embedded Portion (SER Pages 1-10 and 4-51 and following)	The last sentence of the first paragraph on page 1-10 states "…only limited corrosion is anticipated for the embedded shell". How much corrosion is anticipated and how much has already occurred?	Please address the question.
3	Drywell Corrosion – Peak LOCA Pressure (SER Page 1-12 and 4-64)	AmerGen, in the first bullet states that conservatism in "the assumed peak pressure during the LOCA condition…provide additional structural margin". Is the NRC's evaluation/conclusion (page 4-64) of the drywell's adequacy based upon the LOCA design pressure specified in the current Technical Specification for Oyster Creek (44 psig) or on some other unreviewed "less conservative" value?	Please answer the question.
4	License Conditions (SER Page 1-15, Section 1.7)	Section 1.7 specifies three proposed license conditions. It is New Jersey's understanding that the "additional conditions" already specified in the current Facility Operating License (FOL) DPR-16, Paragraphs 2.C(1) through 2.C(7), will be maintained in their entirety and will not be changed or modified should an extended operating period be granted. If this is correct it should be so stated in this SER. Additionally, other existing FOL requirements should likewise remain in effect (FOL Sections 1, 2 and 3. Section 4 would change only to the extent to the new end date for the license).	This should be addressed in the SER.
5	Intake Canal (SER Page 2-166)	SER Page 2-166 includes in scope earthen water control structures (intake canals, embankments). It is stated on this page that "the canal banks are lined with asphalt bonded stone for protection against erosion". The credit being taken for the asphalt top coating seems suspect based upon this recent occurrence. During recent (September, 2006) heavy rains at Oyster Creek, the intake canal embankments were undermined (sand under the asphalt coating washed away) and collapsed in several places.	This should be addressed in the SER.
6	CRD Housing Rolled Repair	SER Page 3-74 states "The staff requested that, if the ASME Code Case is not approved, the applicant submit a permanent repair plan for review and approval 2	What is the status of the ASME Code Case and/or the permanent

	(SER Page 3-74)	years prior to the beginning of the period of operation". Also, "If the repair plan needs prior staff approval, the applicant will submit the repair plan 2 years before the period of extended operation". Two years before extended operation would be April, 2007. What would be the consequences to the proposed license extension if the submitted permanent plan was rejected by the NRC staff? The permanent repair, if needed, should be installed prior to extended operation. No additional extension waiting for an ASME Code Case should be granted by the NRC.	repair plan? This action should be an LRA commitment.
7	Core Spray Sparger (SER Pages 3-66, 3-68 and 3-77)	SER Page 3-66 refers to BWRVIP-18-A for BWR Core Spray Inspection and Flaw Guidelines. SER Page 3-68 states the applicant will include the BWRVIP-18-A guideline in their BWR Vessel Internals Program and UFSAR supplement. SER Page 3-77 states the applicant complies with BWRVIP-18 but the NRC staff approves the core spray system AMP since it is consistent with BWRVIP-18-A. Oyster Creek's FOL, Paragraph 2.C (5), requires as a specific License Condition that inspections of core spray spargers, piping and associated components will be performed in accordance with BWRVIP-18.	Should a change to BWRVIP-18-A be required by NRC staff as a basis for approval, a license change must be submitted by the applicant and approved by the NRC prior to implementation and extended operation. No discussion of how this License Condition would be met could be found in the NRC's SER evaluation.
8	Water Leakage from the Refueling Cavity (SER Pages 3-119 to 3-122)	This section of the SER makes extensive reference to strippable coating being applied to the reactor cavity prior to flooding for refueling to prevent water intrusion to the drywell outer surface. As was discussed during the NRC Region 1 Inspection Exit Meeting, this commitment to use strippable coating was not been implemented by Oyster Creek during some refueling outages. As a result, water was found in drywell drain collection bottles which had not been looked at for an eight year period. There is little or no discussion of this occurrence and the failure to meet long standing drywell commitments made by Oyster Creek.	A detailed discussion of this event and possible consequences should be in the SER. The one paragraph found on this event, SER Page 3-120, is too vague and the statement that "Because there has been no reported leakage, there has been no need to investigate the source of leakage, take corrective actions, evaluate the impact of leakage, or perform additional drywell inspection" is misleading and false. Furthermore, the statement "These preventive actions have resulted in no evidence of leakage over the years at the former sand bed drains" is likewise

			disingenuous when one fails to look for leakage in the collection bottles for eight years. On what basis can the NRC approve of the drywell leakage prevention measures when earlier commitments have not been kept? How will NRC document Exelon's past performance and correct the, misleading statements made by the licensee to the NRC on the record?
9	Metal Fatigue – Cumulative Usage Factor (SER Pages 3-162, 3-163, 4-20, 4-21, 4-22)	The referenced SER pages indicate that Oyster Creek has changed the cumulative usage factor (CUF) allowable for metal fatigue of the reactor coolant pressure boundary from 0.8 to 1.0. The NRC review required Oyster Creek to demonstrate compliance with a CUF 0.8 (SER Page 4-21) using refined analyses for various components which exceeded this CUF acceptance limit. Based on these two conflicting positions, it is not clear what limit the NRC is requiring Oyster Creek to maintain for the extended period of operation. Furthermore, Oyster Creek has utilized a 10CFR50.59 review to increase the allowable CUF to 1.0. NJDEP has reviewed this document, found its argument lacking, and requested an NRC Region 1 Inspection Team, which was tasked with reviewing 50.59 evaluations, to include this specific document in their sample. The team looked at the evaluation and rejected NJDEP's request to include it in the inspection sample on the basis that the team did not have the technical expertise to perform the review.	DEP requests that appropriate NRC Staff perform the review of this change as part of this SER. SER page 3-163 states that "This is not only a change in an acceptance limit but also a change in methodology, since fatigue usage factors were revised using the fatigue curve in ASME Section III instead of the fatigue curve provided in the GE specification. Oyster Creek has assumed the responsibility of the RPV design basis analysis in accordance with the Code requirements, and therefore, GE concurrence of the changes is not required nor was it requested". Based upon this statement, Oyster Creek has not utilized the expertise of the original designer of Oyster Creek and has not obtained NRC review and approval of the bases for the change. NRC staff review of the

			supporting bases for these changes is a necessary part of this SER.
10	Turbine Building Crane (SER Page 4-40)	The second paragraph of the excerpt from the April 28, 2006 AmerGen letter states that once every five years, the Turbine Building crane is used for a lift that exceeds its rated capacity. The letter states that a modification has been initiated to upgrade the crane. The NRC's favorable safety evaluation conclusion for this crane is based on the implementation of this modification.	The SER is not clear as to whether this modification has been installed. Initiating a modification is no guarantee that the modification will ever be made. This needs to be clarified in the SER and a commitment to upgrade the crane should be included. Additionally, a commitment by NRC to inspect the upgraded crane should be added.
11	Forked River Combustion Turbines (FRCT)	The agreement between AmerGen and First-Energy to ensure successful oversight and operation of the FRCTs during the license renewal period is not in place. Combustion turbines, which provide alternative backup power during a loss off off-site power event, are owned by First Energy.	The resolution of this issue should be an open license renewal commitment.
12	Drywell Containment Metal Vessel	This remains an open issue pending the containment vessel inspection being conducted during the current Oyster Creek outage. The final Sandia report on the drywell has not been released.	We reserve comment on this issue pending the results of the inspections being performed during this current outage. The results of the Sandia analysis should be made publicly available before the license renewal application is approved.
13	NRC draft SER Appendix B: Chronology	The NRC does not have a Oyster Creek License Renewal file. The chronology that is included in the draft SER is the opportunity to provide a complete and thorough docket for this process since none exists.	Revise the list to include all documents that concern Oyster Creek license renewal.
14	Missing Documents	The application makes use of technical position papers that are not referenced nor included in the license renewal application. This result was based on our review of the application and discussion with the NRC.	The NRC should request AmerGen to make these documents publicly available.
15	Spent Fuel Dry Storage	AmerGen has Lacey Township approval for 20 canisters stored in the ISFSI. In order to store more spent fuel in the ISFSI, the Lacey Township Board of Adjustment, needs to approve the use of more canisters.	Without the local approval for more canisters, the spent fuel pool will soon become filled. Continued operation of the plant

			should be conditioned upon the capacity for a full core offload. That, in turn, would be predicated upon obtaining additional dry cask storage capacity.
16	Decommissioning of the Back Site	The NRC Final Site Survey, with assistance from the NJ DEP, was completed and approved but the property has not been officially decommissioned by the NRC. The final papers have not been signed by First Energy – the back site owners.	This issue will remain open until the back site is officially decommissioned.
17	License Renewal Conditions	This will be the first time that a nuclear power plant operating in the US will operate beyond 40 years. Oyster Creek's original license was provisional because Oyster Creek was one of the first commercial nuclear plants to operate in the United States.	The license renewal approval should be provisional until it is determined that the open commitments were accomplished and implemented successfully.
18	Augmented Off-gas System	This system has had a poor history of operation. NJ's current review and assessment of the augmented off-gas system is that AmerGen is making necessary improvements for extended operation.	The planned modifications should be included in the open commitment list.
19	Visual Testing	This NRC document concluded that visual testing may not be reliable. NRC NUREG/CR-6860 "An Assessment of Visual Testing"	Since some of the open commitments rely upon visual testing, can you please provide more current information that addresses this concern.
20	Water Intake Structure	The water intake structure was in need of physical improvements because of operational weaknesses. Inspection of the under water portion of the intake structure will be performed by AmerGen.	The NRC should inspect the AmerGen inspection during the current outage to determine if the water intake modifications prepare the plant for long-term operation.
21	Reactor Vessel Core Shroud	The core shroud tie rod pre-load and materials aging case was reviewed. NJ staff reviewed the reactor vessel core shroud aging management program and sufficient assurance has been provided that the reactor vessel core shroud will perform its intended function and any potential reactor vessel core shroud defects should be identified during life extension.	None
22	Underground Piping	The underground piping at Oyster Creek has a history of leaks. Underground piping is also difficult to inspect. Minimizing underground leaks not only protects the environment but limits the cleanup effort required during decommissioning. NJ staff reviewed the underground piping aging management	None

		program and sufficient assurance has been provided that the underground piping aging management program should identify leaks during life extension. Much of the underground piping has been replaced. The remaining underground piping will be replaced before extended operation. Inspections of other non-safety related piping will be performed periodically. Recently, AmerGen initiated a tritium leak detection program, which may help identify failed underground piping during life extension.	
23	Standard Technical Specifications	The current technical specifications do not meet the current industry standards. The standard technical specifications are intended to improve, both practically and from a safety perspective, the existing technical specifications. NJ staff supported the alignment of the technical specifications with the nationally approved standard technical specifications. AmerGen, and previously, GPU Nuclear conducted studies for conversion to the standard technical specifications and concluded, in both instances, that the conversion to the standard technical specifications for Oyster Creek was not warranted.	Although NJ supports conversion to the standard technical specifications but it is not necessary for continued operation.