

March 7, 2008

Mr. Alan W. Avery  
County Commissioner  
Office of the Ocean County Administrator  
P.O. Box 2191, Administration Building  
Toms River, New Jersey 08754-2191

SUBJECT: LICENSE RENEWAL FOR OYSTER CREEK NUCLEAR POWER STATION –  
RADIATION STANDARDS

Dear Mr. Avery,

This letter is in response to your letter dated January 17, 2008, addressed to Samuel J. Collins, Regional Administrator of the U.S. Nuclear Regulatory Commission's Region I office. Your letter requested that the NRC consider information regarding health standards for exposure to radiation in its review of the relicensing application for the Oyster Creek Nuclear Generating Plant. The information was provided to you by a county resident at a recent Board of Chosen Freeholders meeting.

The NRC completed its environmental review for the license renewal of the Oyster Creek Nuclear Generating Station and issued NUREG-1437, Supplement 28; "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" Regarding Oyster Creek Nuclear Generating Station, dated January 2007, to document its review. As part of the NRC's radiological evaluation process for license renewal, we reviewed several years of radiological data contained in Oyster Creek's annual radiological effluent and environmental monitoring reports and performed an on-site audit of the facility. We found that the information in those reports, and the information obtained during the site audit, met the NRC's radiation protection requirements for protection of the public. In addition, in Volume 2 of the NUREG there is a complete listing of all public comments we received and our responses to them. The NRC evaluated and responded to comments similar to the ones in the document you provided to us concerning potential health impacts from exposure to radiation released from the Oyster Creek Nuclear Generating Station. I assure you that the NRC evaluates all comments it receives to ensure that we perform a complete and thorough review of Oyster Creek, and every license renewal application we receive. NUREG-1437, Supplement 28 is publicly available from the NRC's Agencywide Documents Access and Management System (ADAMS). The ADAMS Public Electronic Reading Room is accessible at: <http://adamswebsearch.nrc.gov/dologin.htm>. The Accession Numbers for the NUREG-1437, Supplement 28 are ML070100234 (Volume 1) and ML070100258 (Volume 2).

I will briefly summarize the NRC's basis for concluding that its radiation protection standards for nuclear power reactors provide adequate protection of the public's health and safety and to the workers at the Oyster Creek Nuclear Generating Station.

The NRC's primary mission is to protect the public health and safety and the environment from the effects of radiation from nuclear reactors, materials, and waste facilities. The NRC's regulatory limits for radiological protection are set to protect workers and the public from the harmful health effects of radiation. The limits are based on the recommendations of standards-setting organizations. Radiation standards reflect extensive scientific study by national and international organizations, and incorporate conservative assumptions and models to account for differences in gender and age so as to ensure that workers and all members of the public are adequately protected from radiation.

Although radiation may cause cancers at high doses and high dose rates, currently there are no reputable, scientifically, conclusive data that unequivocally establish the occurrence of cancer following exposure to low doses and dose rates, below about 10 rem (0.1 Sv). However, radiation protection experts conservatively assume that any amount of radiation may pose some risk of causing cancer or a severe hereditary effect and that the risk is higher for higher radiation exposures. Therefore, a linear, no-threshold dose response relationship is used to describe the relationship between radiation dose and detriments such as cancer induction. Simply stated, any increase in dose, no matter how small, results in an incremental increase in health risk. This theory is accepted by the NRC as a conservative model for estimating health risks from radiation exposure, recognizing that the model probably overestimates those risks. Based on this theory, the NRC conservatively establishes limits for radioactive effluents and radiation exposures for workers and members of the public.

The amount of radioactive material released from nuclear power facilities is well measured, well monitored, and known to be very small. The doses of radiation that are received by members of the public as a result of exposure to nuclear power facilities are so low (i.e., less than a few millirem) that resulting cancers have not been observed and would not be expected. To put this in perspective, each person in this country receives a total annual dose of about 360 millirems from natural sources of radiation. Radiation from natural and man-made sources is not different in its properties or effect. Although a number of studies of cancer incidence in the vicinity of nuclear power facilities have been conducted, there are no studies, to date, that are accepted by the scientific community that show a correlation between radiation dose from nuclear power facilities and cancer incidence in the general public.

To ensure that the plants are operated safely within these requirements, the NRC licenses the plants to operate, licenses the plant operators, and establishes license conditions for the safe operation of each plant. The NRC provides continuous oversight of plants through its Reactor Oversight Process to verify that they are being operated in accordance with the NRC rules and regulations. The NRC has full authority to take whatever action is necessary to protect public health and safety and may demand immediate licensee actions, up to and including a plant shutdown.

We appreciate your willingness to express your concerns and provide us with information relevant to our mission to protect public health and safety. If you have additional concerns

A. Avery

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about the possible impacts on the health of Ocean County residents from radiation exposure to Oyster Creek's radioactive effluents, those concerns will be regarded as an operating nuclear power plant issue outside of the license renewal process.

**/RA/**

Pao-Tsin Kuo, Director  
Division of License Renewal  
Office of Nuclear Reactor Regulation

A. Avery

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/RA/

Pao-Tsin Kuo, Director  
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Office of Nuclear Reactor Regulation

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Letter to A. Avery from P.T. Kuo, dated March 7, 2008

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SUBJECT: LICENSE RENEWAL FOR OYSTER CREEK NUCLEAR POWER STATION –  
RADIATION STANDARDS

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