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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

DOCKETED
USNRC

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**RE: Docket No. 50-219-LR; ASLBP No. 06-844-01 LR
Judge Hawkins, Judge Abramson, and Judge Baratta
Atomic Safety and Licensing Board Panel**

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Dear Sir or Madame:

I spoke briefly at the above-mentioned hearing on May 31, 2007, regarding the relicensing of the Oyster Creek nuclear power plant, and I would like to submit some additional written comments. I would like to thank you again for allowing the public to speak about this important matter.

I am opposed to the extension of the license of the Oyster Creek nuclear power plant in Lacey Township, NJ. I am asking that the Nuclear Regulatory Commission consider the following in its decision.

I recently sent a letter to the Union of Concerned Scientists (UCS) to ask their position on the relicensing of the Oyster Creek nuclear power plant. David Lochbaum, a nuclear safety engineer who holds a degree in nuclear engineering from the University of Tennessee and who worked for nearly 20 years in the U.S. commercial nuclear power industry prior to joining the UCS in 1996, replied to me. He stated that the UCS "advocates that the NRC's relicensing process needs to identify the difference between today's regulatory standards and those in effect when the nuclear plant was licensed and then evaluate whether the differences are acceptable. It's possible that the standards may be different but that both provide adequate safety. But it's also possible that today's standards are better, and the NRC's decision made years ago not to require existing nuclear plants to upgrade to the new standard was based on the plants operating for only X more years and that decision would have been different had the NRC known the plants were going to operate for X + 20 more years. The challenge these entities face is that the NRC's license renewal rule is terrible—it does not allow interveners to challenge spent fuel storage, security, and new but non-applicable safety standards." In addition, Mr. Lochbaum said that the UCS has "focused on the safety of spent fuel in interim storage at the plant sites. Our position is best described in a July 2004 letter to the NRC about spent fuel storage at Indian Point." [See http://www.ucsusa.org/clean_energy/nuclear_safety/us-nuclear-plants-in-the-21st-century.html] He continued, "This position applies even more at Oyster Creek because the spent fuel pool at Oyster Creek is 4 or 5 floors above ground level, while the spent fuel pool at Indian Point is in a safer, more secure location below ground level. The State of New Jersey, the U.S. Government Accountability Project, the National Academy of Science, and, in fact, everyone except the nuclear industry and the NRC agree that the present scheme of spent fuel storage could not be made less safe and less secure (absent perhaps replacing the water in the spent fuel pool with kerosene)."

Oyster Creek is the oldest operating nuclear power plant in the country. The plant's reactor has a faulty design that in 1972 was prohibited from use in further construction. Oyster Creek's major components were designed to last for only 40 years. If this license extension is granted, the components will be used for 60 years. Age-related factors have already led to a history of

mechanical and equipment failures and unplanned shutdowns at Oyster Creek. As nuclear plants age, the rate of structural malfunctions increases—30% of recent equipment failures at nuclear plants were due, at least in part, to age-related degradation. The plant cannot be entirely rebuilt. In particular, the containment liner is dangerously corroded. The extent of this corrosion cannot even be fully known. Given these factors, the likelihood of an accident or a terrorist infiltration at Oyster Creek is even greater than at a newer nuclear facility.

AmerGen Energy Company, the owner of Oyster Creek, should have a comprehensive plan for the next 20 years. I would ask that they guarantee, for the next 20 years, that the plant and all of its employees function perfectly. There must be no security breach, and there must be not a single miscalculation or accident. They must guarantee that the plant will not experience a meltdown or a “criticality accident.” It may seem unfair that I ask for perfection, since other industries are not required to be perfect, but the nuclear industry is not like other industries. One accident, security breach, or imperfection at Oyster Creek—especially because it is such an outdated plant—could potentially contaminate extensive areas of land and cause many deaths. We all know that nothing—no person, no organization, no computer, no technology—is perfect; however, the stakes of imperfection in this industry are too high to ask for anything less.

Any leak—even a small one—can release plutonium and other radioactive particles into the air, where people may inhale them; the particles can be carried great distances on the wind (thus, radiation levels in areas miles away may be higher than those close to a plant) and be deposited on soil, plants, and water. As per the Environmental Protection Agency Web site: “Internal exposure to plutonium is an extremely serious health hazard. It generally stays in the body for decades, exposing organs and tissues to radiation, and increasing the risk of cancer. Plutonium is also a toxic metal, and may cause damage to the kidneys.”

AmerGen must provide a safe evacuation plan in case of a severe accident or a terrorist attack on the Oyster Creek plant. This plan must take into account prevailing winds at the time of the accident or attack so that appropriate areas of the region could be properly warned. An effective evacuation will most likely will not be possible, however, considering the huge numbers of people who live in New Jersey and the already crowded conditions of our roads, and considering the distances that radioactive material can be carried quickly by the wind.

I live in Rumson, NJ; I am not a resident of Ocean County, where the reactor is located. Radioactive waste, however, has no boundaries; essentially, the Oyster Creek plant *is* in my “backyard.” It is in New York’s backyard; it is in Rhode Island’s backyard; it is in Vermont’s backyard. Air travels all around the world.

Chernobyl was also an aging plant. The accident there contaminated an area much larger than New Jersey’s Ocean County. According to an international Web communications platform on the long-term consequences of the Chernobyl disaster (<http://www.chernobyl.info/index.php?navID=2>), “In the night of 25 to 26 April 1986, the explosion of the reactor in Chernobyl, the greatest industrial disaster in the history of humankind, released one hundred times more radiation than the atom bombs dropped over Hiroshima and Nagasaki.... In addition to the reactor’s immediate surroundings—an area with a radius of about 30 km—other regions were contaminated, particularly in Belarus, Russia and Ukraine. ... International estimates suggest that a total of between 125 000 and 146 000 km² in Belarus, Russia and Ukraine are contaminated with caesium-137 at levels exceeding 1 curie (Ci) or 3.7 x 10¹⁰ becquerel (Bq) per square kilometer. ... This is an area greater than that of the neighbouring countries of Latvia and Lithuania combined. At the time of the accident, about 7 million people lived in the contaminated territories, including 3 million children. About 350 400 people were resettled or left these areas. ... Because of variable weather conditions in the days following the

accident, radiation also spread over large parts of Scandinavia, Poland and the Baltic states, as well as southern Germany, Switzerland, northern France and England.”

A major accident or terrorist attack is probably extremely unlikely; however, it is *possible*, and therein lies the problem. The magnitude of devastation that could be caused by a nuclear accident or a nuclear terrorist attack at Oyster Creek cannot be compared to that caused by Katrina or the terrorist attacks of 9/11. Although it was perhaps made more devastating because of global warming, Hurricane Katrina was basically a *natural* disaster. Plutonium is a manmade substance, not a natural one. (Before 1945, plutonium was essentially nonexistent in the environment. Plutonium can now be found in small amounts in the soil throughout the Northern Hemisphere because of fallout from the atmospheric testing in the 1950s and 1960s.) Though it might be unwise or economically impossible, survivors of the hurricane can return to New Orleans and its environs, and plants and wildlife might one day flourish there again. The September 11 attacks were heartbreaking, and many lives were lost, but it might be possible for us to one day rebuild at the site and rejuvenate our spirits, and New York City lives on. A severe nuclear incident, however, could render our area uninhabitable for thousands of years. There might no longer *be* a New York City or a Jersey shore that we could return to, even if we were to survive the initial accident or attack. And death would come later to thousands more in the form of cancer.

Even if there is no accident or attack, it would be better to not have any amount of plutonium, even if contained, added to our ecosystem. But the old, outdated tank at Oyster Creek and the plant's above-ground spent fuel pool should not be trusted to contain this deadly material for the next 20 years.

In making your decision, you must make sure that AmerGen has considered *all* aspects of the operation of the plant through the next 20 years, which would include the radioactive waste that will be produced by the plant during that time. One waste that will be produced by the plant is plutonium-239, which has a half-life of 24,000 years. Of course, this means that the plutonium produced will be radioactive and hazardous much longer than 24,000 years—it will be in existence and dangerous for possibly hundreds of thousands of years. I would give AmerGen a break, however, and ask that they provide a plan for dealing with this waste for merely the next 24,000 years.

I expect that this plan would be extensive, considering the span of years it must cover is longer than the recorded history of man.

I would ask that AmerGen's plan include the safe on-site storage, handling, and transportation of this material as well as its permanent storage in an above-ground or below-ground facility that will not be affected by any atmospheric or geological changes (such as hurricanes, tornados, volcanoes, or earthquakes) for the next 24,000 years. I would also ask that they guarantee, for 24,000 years, that there will be no leakage into the air or groundwater from any storage facilities.

As per the Environmental Protection Agency Web site: “We can't treat plutonium or other radioactive materials to get rid of their radioactivity. We can only isolate and store them until they decay.” A *Scientific American* article from June, 1996 (Chris G. Whipple, “Can Nuclear Waste Be Stored at Yucca Mountain?”) stated, “In the half century of the nuclear age, the U.S. has accumulated some 30,000 metric tons of spent fuel rods from power reactors and another 380,000 cubic meters of high-level radioactive waste, a by-product of producing plutonium for nuclear weapons. None of these materials have found anything more than interim accommodation, despite decades of study and expenditures in the billions of dollars on research, development and storage. The fuel rods, which accumulate at the rate of six tons a day, have for

the most part remained at the nuclear reactors where they were irradiated, in water-filled basins and, in some cases, in steel containers on concrete pads. . . . Some tanks have leaked, making conspicuous the lack of a more permanent, efficient and coherent solution for the nuclear waste problem." Nothing has really changed since that time. The newest materials developed to try to contain nuclear waste have not proved hopeful (see, for example, <http://www.newscientisttech.com/article/mg19325865.400-setback-for-safe-storage-of-nuclear-waste.html> or <http://physicsweb.org/articles/news/11/1/5/1>). Reprocessing of spent nuclear fuel is not a solution to the storage problem; in reality, reprocessing would not reduce the need for the storage and disposal of radioactive waste. Worse, reprocessing creates a radioactive substance that can be more easily used by terrorists to create dirty bombs and provide other nations with the means of developing nuclear weapons programs.

It is ludicrous, perhaps, to even think of the plant's existence or the existence of storage areas 24,000 years from now. However, by allowing the continuing creation of plutonium, you are necessitating this planning. So what is truly ludicrous is the continued creation of plutonium.

Nuclear energy is not a viable alternative energy to fossil fuel energy. It is simply not sensible or ethical to try to solve one global problem by creating another problem—one with possible consequences that are even more devastating.

The percentage of power that is provided to Ocean County by Oyster Creek is small enough that it could easily be replaced by a concerted effort by citizens to reduce their energy consumption, beginning, for example, with the use of compact fluorescent bulbs—a small price to pay for their future safety.

It is time to start looking at the big picture. It is time to start protecting New Jersey and the East Coast from the defunct and aging nuclear plant at Oyster Creek. It is time to stop the production of nuclear fission energy and to adopt clean, waste-free energy such as wind and solar energy instead. It is time to start giving humanity and a life-sustaining ecosystem a greater chance for survival into the next 24,000 years.

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