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Submitter Information

Name: Samson Lai
Address:
771 Ferst Dr
Rm 252
Atlanta, GA, 30332
Email: samsonium@gmail.com

General Comment

Dear United States Nuclear Regulatory Commission,

I am a Ph. D. student at the Georgia Institute of Technology and I would like to offer my comments on Docket ID NRC-2011-0012. Although I am not an expert in low-level radioactive waste, I have been educated at a broad level of the history and operation of the nuclear industry in the United States and have a keen interest in the future of nuclear power. Thus, while I cannot advocate as an expert, I would like to bring to your attention what I consider important points and other potential options that may not have been considered.
A necessary requirement to protect the future of the environment, given the stated concern over an unpredicted influx of depleted uranium from the renewed interest in uranium enrichment facilities. Even if current standards are considered sufficient, the action of more stringent regulations also serves a public relations purpose. Further, site-specific analyses are especially appropriate in light of the consideration of unique combination of challenges that faced Fukushima Daiichi. Such unique combinations of disasters require more careful precautions and considerations for safeguards.
Another key consideration of extending the compliance period to 1,000-year period is that this extends well into a period where climate change is certain to have negative effects. What exacerbates the situation is that as climate change accelerates, major positive and negative feedback loops, like methane in the permafrost, changes in albedo, and ocean acidification, are still dormant and poorly understood. What is likely is that extreme weather patterns will become more common as atmospheric CO2 continues to increase. Besides temperature, it would be important to consider that humidity and rainfall could change significantly, which would affect the

site-specific requirements. Corrosion and flooding are two major problems that could become more impactful as climate change progresses further.

Nuclear power was, and to some extent, still is a clean source of energy but, in my opinion, increasing the cost of nuclear is a long-term benefit. It has become clear recently is that more cost-effective, technological choices have emerged, primarily through higher efficiencies, solar, and wind power. Public support has faded since the Fukushima incident and recent failures of projects to control costs, such as Plant Vogtle in Georgia and South Carolina Electric and Gas's V.C. Summer reactor, have demonstrated that nuclear power needs to go back to the drawing board to prepare for a different future that competes with economically viable renewable technologies and plentiful natural gas. Although the forecasted cost to industry $4 million is small in comparison to an entire construction project, which is typically on the order of billions, higher costs will cause consumers to re-examine similar low carbon sources of electricity, ultimately to the benefit for a more competitive, less capital intensive, and most importantly, less government-reliant power source.

Nuclear power will remain a poor governmental choice until public support rebuilds and changes are made in the leadership and for national security so that refinement opportunities are viable in the U.S. once more. Without these major cultural shifts in policy and public perception, this will only be a stopgap measure. With nuclear power having such a volatile effect on public opinion, it may be necessary to prepare information for the public that explains the meaning of low-level radioactive waste and how low is low, but not distribute this information until the situation warrants, as the information may needlessly cause commotion.

Although I lack the pedigreed credentials to deem myself a nuclear waste expert, I hope that I have provided some thoughtful comments and stimulated new considerations. Based on the technical detail demonstrated by the NRC staff, an educated and concerned citizen like me has reason to trust that the NRC will make the right choices to maximize benefit and protection of the public.