

293 Los Pueblos St.
Los Alamos, New Mexico 87544

April 16, 2015

Mr. Ernest Moniz
U.S. Department of Energy
1000 Independence Avenue, Southwest
Washington, D.C. 20585

Dear Mr. Moniz,

My name is Kimberly Pestovich and I am a senior at Los Alamos High School. As a materials science high school co-op student at Los Alamos National Laboratory, I am learning a great deal about the importance and inner workings of nuclear energy. I understand that you are a member of the Blue Ribbon Commission of America's Nuclear Future, and I am concerned about just that, the nation's future with nuclear energy.

I understand that nuclear energy plays a role in promoting energy sustainability in the world's future as we transition away from the heavy use of fossil fuels. However, in securing the nation's future with nuclear energy, two main concerns come to my mind: the materials challenges in an aging arsenal of reactors and the stigma many citizens have against nuclear energy. Addressing these concerns grows in importance as we continue to live in a world requiring increasing amounts of energy to meet minimum electricity requirements.

Under normal operating conditions, light water nuclear energy systems must satisfy design criteria based on tensile properties, creep, and fatigue in addition to resisting radiation damage and corrosion and maintaining chemical compatibility. While these designs ensure safe operating of the reactors, a majority of the current reactors in the United States are nearing the ends of their initial 40-year age licences. Research must be done to improve materials performance if these age licences are to be extended. With the extension of a reactor's operating period, the maximum expected damage level will be increased as materials are exposed to the harsh environment within reactors for an extended period of time. What is the process for starting to solve this issue? In the end, will the effort match the results?

As it is, many civilians in the U.S. share fears about nuclear reactors and nuclear energy. Accidents publicized in the media facilitate this fear, which could potentially hold nuclear energy back from becoming a main power source. While there certainly are dangers and hazards in nuclear energy, they can be managed with proper safety management. Without gaining an understanding of nuclear energy, it cannot progress to become a highly sustainable energy source. I ask you, how can we improve the nation's education on nuclear energy?

Thank you for your time, Mr. Moniz. This is a topic I am learning about at work, and I am interested in your thoughts on these points. I look forward to your response.

Sincerely,

Kimberly Pestovich