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December 1, 2009

Gregory B. Jaczko
Chairman of Nuclear Regulatory Commission
U.S. Nuclear Regulatory Commission
Mail Stop O-16G4
Washington, DC 20555-0001

Dear Chairman Jaczko,

I attended the small and modular reactor workshop that the NRC sponsored at which you gave opening remarks. I would like to congratulate the NRC for taking the initiative of holding such a workshop due to the increasing interest in small and modular reactors as possible alternatives to large light water plants currently being considered. During the course of the two day conference, several challenges were brought up in terms of the regulatory approach to small reactors which were well documented in the breakout sessions.

One key point which was not discussed during the breakout sessions was the importance of a regulatory process that allowed for technical innovation which many of these reactor designs present. The nuclear industry in the United States has been lacking in innovation in terms of technology and design and one might argue that the basic reason for that is the rigid regulatory structure in which we now operate.

As you know, my interest has been in high-temperature gas reactors, and as you also are aware, the code of federal regulations guiding the NRC are focused entirely on water-based plants. As we look to the future of nuclear energy technologies, we see many alternatives that are both large and small, for which the regulatory process is simply not geared to address. These include sodium cooled fast reactors, molten salt cooled reactors, high temperature gas reactors cooled by helium or other gas coolants, new and innovative technologies being proposed by other vendors including hydride fuels.

The point of this letter is that the only way to allow for innovation in nuclear energy systems is to proceed along the path the NRC has started but apparently has put aside. This is the formalization of a technology-neutral licensing framework. As you are aware, this framework provides an opportunity to demonstrate the safety of alternative technologies including small modular reactors by making a risk-informed safety case for

the technology without the confines of a rigid deterministic regulatory structure based on water.

I would encourage the Nuclear Regulatory Commission and the Department of Energy to resume the development of the technology-neutral framework. A great deal of progress has been made but more needs to be done to allow this new regulatory approach to be implemented on a broad scale. This regulatory approach based on fundamental risk informed safety principles is needed to encourage much needed innovation in nuclear reactor design and safety.

If you have any questions, I would be most pleased to answer.

Sincerely yours,

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AK//lch