

November 10, 2009

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

Termination of Plutonium Fuel (MOX) Test by Duke Energy Impacts MOX Use Validation

Dear Commissioner Jaczko:

I am writing to you in regard to the regulatory oversight of the Nuclear Regulatory Commission concerning the failed test of experimental plutonium fuel (mixed oxide fuel, MOX) in Duke Energy's Catawba Unit 1 reactor, a Pressurized Water Reactor (PWR) located near Rock Hill, South Carolina.

Under a 1999 contract with Shaw Areva MOX Services and a license amendment from the NRC, Duke in 2005 began the testing of four "lead test assemblies" (LTAs) made from U.S. weapons-grade plutonium manufactured in France. This was the first test ever of MOX made from weapons-grade plutonium. Some or all of the LTAs were required to be left in the Catawba reactor for three 18-month irradiation cycles, the same as uranium fuel, in order to provide the basis for evaluation by NRC of the batch use of MOX. Due to poor performance of the M5 assembly material, all of the LTAs were withdrawn in May 2008 from the reactor after only two irradiation cycles and placed in the reactor's spent fuel pool. Then, in December 2008, Duke allowed its contract with MOX Services to lapse.

We have now confirmed that Duke Energy has made a decision not to reload the LTAs for a third 18-month cycle in the Catawba reactor, which has just gone down for refueling. This means that the NRC's validation of "batch" use of MOX fuel in PWRs will not be possible based on the Catawba results. Any data which was collected during the aborted MOX test and subsequent post irradiation examination may prove useful but it is totally insufficient from both a regulatory and safety perspective in regards to consideration of license amendment approval by the NRC for batch use equivalent to uranium fuel.

We would thus like to receive your assurance that the NRC will comply with all pertinent regulations concerning MOX testing and that 1) the failed MOX test can in no way be used by the NRC as a basis for consideration of issuance of a license amendment for 3-cycle batch use and 2) that any future test(s) of experimental MOX fuel will have to take place for a full 3 irradiation cycles in each reactor type being considered by DOE or any contractor for batch MOX use.

Thanks very much for your attention about this matter and for your response to the questions posed in this letter.

Sincerely,

Tom Clements
Southeastern Nuclear Campaign Coordinator
Friends of the Earth