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To: <teh@nrc.gov>
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Subject: NIX MOX

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U.S. Nuclear Regulatory Commission,
 Rules & Directives Branch, Division of Administrative Services,
 Office of Administration

Dear Mr. Harris:

MOX fails spectacularly as a non-proliferation strategy. Putting weapons-grade MOX into commerce vastly decreases security. This is compounded by the Russian nuclear agency's intent to export weapons-grade MOX fuel to their nuclear "client nations," which of course, includes some typically referred to as "rogue nations" by US leaders. In any case, global trafficking in weapon's grade plutonium is a bad idea, whether done by US or Russia.

MOX fuel is uniquely vulnerable to theft since it is not highly radioactive and unlike uranium fuel, the plutonium can be separated chemically and is still weapons grade.

Claims that use of weapons MOX fuel will "get rid of the plutonium" are false. The net reduction in plutonium would actually be quite small since new plutonium is formed in the reactor at the same time.

Both kinds of plutonium fuel--weapons grade and reactor grade--make reactors harder to control and age them more rapidly and therefore decrease the margin of safety against reactor accidents. In the event of a major core breach accident, plutonium fuel is more deadly than uranium. A Chernobyl style accident at a reactor using 100% MOX fuel could cause as many as double the number of deaths from cancer. Ed Lyman of NCI did this work, and he found that when less plutonium fuel is used, there is still an increase in cancer deaths, proportionate to the percentage of plutonium fuel. One would expect increases in all other radiation impacts as well.

The four reactors operated by Duke Power that have been selected for this program have the weakest physical containment structures in the US. Dr. Lyman calls them "tissue paper containment" and one of NRC's own reports acknowledges that in the event of station black-out there is a 100% chance of core damage and containment failure at the Catawba reactors, and nearly that high a chance at the 2 McGuire reactors. We are calling on NRC to reject these flimsy ice condenser reactors from any further consideration in this program.

I urge you to:

- Support the "No Action Alternative" in this EIS, which would mean

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E-RIDS = ADM-03
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that NRC denies a license for the construction of the MOX fuel factory This would throw it back to DOE as to what to do, since NRC has no jurisdiction over plutonium disposition.

- Reject any further consideration of the Duke Power ice condenser reactors. These reactors have an unacceptable risk level with the use of uranium fuel. Use of even more risky MOX should not even be contemplated!

- Show the public the data on which NRC is calculating any of their projected impacts from the handling and use of weapon's grade plutonium as a reactor fuel. Where there is no data, please provide us with all assumptions and a statement of the degree of uncertainty associated with calculations intended to "model" weapons grade plutonium.

- Evaluation of plutonium fuel use and reactor impacts must be site specific, not generic.

- A supplemental EIS (SEIS) should be done at the time that Duke or any other utility seeks a license amendment to use plutonium fuel. This SEIS should be specific to that reactor, and also include all of their ancillary contracts (again site-specific) such as nuclear laundry, so-called "low-level" waste storage, transport, incineration and disposal, high-level waste storage (on and off-site) transport and repository impacts--MOX high-level waste is hotter in temperature and will have 2--4 times as much residual plutonium than uranium waste.

- The environmental records and operating histories of Duke, COGEMA, Stone and Webster must be made publicly available, and openly cited in NRC's analysis. To date, DCS has submitted the operating and environmental record of Savannah River Site, which is not relevant.

- Making reactor fuel would require many more steps for purification than immobilization would. One of these steps, called "plutonium polishing," would generate millions of gallons of high-activity alpha-emitting liquid waste. DCS has no plan for what to do with this waste other than put it in one of SRS's tanks, many of which are already leaking. NRC must include the disposition of all process wastes in their analysis.

- The contract for the MOX fuel factory only specifies "de-activation" at the end of 20 years. Other NRC licenses require provisions for decommissioning. If NRC licenses this facility, they should have regulatory responsibility for it through decommissioning.

- A complete environmental justice analysis must include not only the communities adjacent to Savannah River Site, but also communities down wind and down river, including subsistence fish consumers, and transport routes for both the source material and the fuel transport, as well as the reactor communities. Further consideration should be given to the fact that this entire program

has been located in the Southeastern United States and whether it fits a pattern of "dumping on Dixie."

- If an analysis of MOX use is undertaken in this EIS, it must include diminished reactor control due to the smaller number of delayed neutrons rendering control rods less effective, and plutonium fission's characteristic coefficient of heat where the hotter the reactor gets, the easier it is to split plutonium, where uranium is the opposite. There must also be assessment of acceleration in reactor component aging due to more hard, fast neutrons. Higher levels of heat and fission products should be assessed in terms of routine releases to air and water, thermal impacts, worker exposure and all waste streams. All these analysis should be straight reporting of real consequences, not modified by "risk" factors. Risk analysis should be reported clearly and separately.

- The source term (amount and type of radioactivity including persistence) used in the analysis of a plutonium core accident must be accurate, and the doses reported from projected accidents not modified by risk factors. The DOE has validated the NCI finding by Dr. Ed Lyman that there is an increased potential for cancer deaths from a core breach accident with plutonium fuel in use. A possible doubling in fatal cancers associated with use of 100% MOX fuel, and the projected 25% or more increase in cancer deaths associated with the DCS plan for a 40% core is unacceptable and should be the basis for NRC to select the no-action alternative and reject MOX license.

- Plutonium fuel increases all nuclear liabilities. The Price-Anderson Act liability limits and insurance package must be evaluated, especially with regard to increased taxpayer exposure.

Substitution of plutonium for uranium in reactors is such a complex prospect that the list goes on and on...NRC's own credentials for regulation and oversight of weapons' grade plutonium are nil. This alone should be the reason for them to select the No Action alternative!

Sincerely,
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White Noise - Don DeLillo