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Subject: Comment on MOX EIS

Comments:

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May 19, 2001

Michael T. Lesar
U.S. Nuclear Regulatory Commission
Mail Stop T6D59
Washington DC 20555

Dear Mr. Lesar,

I am providing comments for the NRC's Environmental Impact Statement on the processing and use of Mixed Oxide (MOX) fuel for production of commercial electricity. I oppose the plan for many reasons.

1. MOX use in the U.S. will lead to substantial movement of fresh MOX fuel on our highways and railroads. The potential is very real that this material will be intercepted and processed to extract weapons-grade plutonium, possibly for use in terrorist weapons within the U.S., possibly for use elsewhere. This additional threat to national security is completely unjustified by any benefit.
2. Encouragement of a vigorous weapons-grade plutonium economy among Russia and its former satellites is completely contrary to the interests of the U.S., because of the obvious the risk that weapons material will be clandestinely recovered and used in nuclear weapons against the U.S. or our allies. Whether this is within the scope of the EIS is up to the NRC, but I believe that wise government policy will not emerge if each agency takes a blindered view of its responsibilities.
3. Put simply, the detonation of a terrorist nuclear weapon somewhere in the U.S. could be the largest imaginable environmental impact of the new MOX program, and for the NRC to ignore it in the NEPA process would be irresponsible.
4. The reactors to be modified for this purpose utilize Ice Condenser containments, one of the least effective designs for protecting the public from accident-induced radioactivity. From my career in nuclear accident analysis at Sandia National Laboratories, I have a thorough understanding of the problems with these containments. For example, I was an author of the NRC's most recent study of ice condenser performance in severe accident conditions (NUREG/CR-6427). Given that this type of plant is marginal with respect to safety, it is highly unwise to add a new mission that has the potential to compromise the commitment of the plant owners to keep safety at the top of their priorities. That is to say, I believe that coupling the plants' missions to produce electricity for the grid with a new national-security-related mission directed by the military side of the government has the potential to undo, in unpredictable ways, the careful work of the past 20 years by the NRC and the licensees to instill an awareness of severe accident issues and a 'safety culture' from the bottom of the organizations to the top.

Mr. Michael T. Lesar

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5. Given the weakness of the containment system in severe accident conditions, increases in the Core Damage Frequency (CDF) tend to lead directly to relatively large increases in the Large Release Frequency. But the impact of using MOX fuel in these plants on CDF is extremely hard to estimate. We will be depending on DCS to carry out the neutronics and melt progression calculations, and to pull the story together with a risk analysis. But it is well known that these complicated calculations can be 'coaxed' into any desired outcome by judicious selection of assumptions and parameters. The IPEs for the ice condenser plants are generally considered to be an embarrassment to the nuclear industry because of the way the numbers have been manipulated to paint a rosy picture (e.g., see NUREG-1560, or the April 2000 review by the Union of Concerned Scientists titled 'Nuclear Plant Risk Studies: Failing the Grade). The NRC, of course, will review these studies thoroughly, but I am sure the pressure will be intense to complete their reviews as soon as possible. And I think that it will be difficult for the risk analysts to be resistant to the pressure to confirm the CGS perspective. It will be an unprecedented situation to have the military side of the federal government looking over the shoulder of regulators of civilian nuclear power, one agency encouraging the other to play ball. This is not what the checks and balances in NRC's licensing processes were set up to deal with.
6. There are effective alternatives for making the existing stores of weapons-grade plutonium less available for diversion. They should be pursued instead. From the NRC's EIS perspective, this supports the 'No Action' alternative, but from the overall perspective of federal government actions, this supports immobilization.
7. For such a complicated issue, there has not been enough time for public comment on this plan. I request that the comment period be extended.

Sincerely,



Kenneth D. Bergeron