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Rules and Directives

**Comments of Nuclear Information and Resource Service (NIRS)
on the Nuclear Regulatory Commission (NRC)
Draft Environmental Impact Statement (DEIS) for the
MOX Construction Authorization Request**

Comments are not in order of importance.

A. NIRS agrees with Georgians Against Nuclear Energy on the wrong-headed and contradictory process that NRC has offered DCS and DOE in the two-part license, but one-part NEPA (National Environmental Policy Act) process. We submit their text verbatim:

1. The most profound flaw of the NRC's DEIS process is that it splits the MOX application into two parts < construction and operation > but the operations data is not subject to review. Environmental aspects of both must be considered. Most alarmingly, the NRC plans to sign off on its environmental review before operational plans are developed to safeguard 34 tons of plutonium during MOX processing. To separate construction and operation, and to not review critical design aspects of the basic program premise to contain the highly dangerous plutonium, is irresponsible and blatantly wrong (and is being legally challenged by GANE).

We add to this the point of view that the DEIS assumes throughout the analysis that the new MOX factory will not be subject to any of the problems seen at other plutonium handling facilities in the United States, with no apparent justification for this assumption.

At Rocky Flats where this same plutonium was handled to make the plutonium pits that will be disassembled and converted to MOX at SRS there was significant problems with materials accounting. Indeed, plutonium scrap was so concentrated in some parts of the facility (via

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*E-DEIS = ADM-03
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airborne and other vectors) that spontaneous plutonium combustion occurred. Since NRC gives no basis for their assumption that this sort of event will not happen at the new MOX Fuel Factory (MFF) we find it impossible to accept the idea that the current document can encompass all the environmental impacts of the MOX factory.

B. We further reflect in reading this document that it will provide a substrate for any future MOX fuel factory that NRC might license. As such, it is important to note that the plutonium under consideration is from dismantled warheads that were once from reprocessed irradiated fuel. The current proposal is not representative of any other MOX fuel factory that might be licensed in the future under Part 70 where waste reprocessing would be an integral part of the proposal and need to be considered. In this case, the Pit Disassembly and Conversion radiation doses and other impacts must be considered a part of the current process.

C. NIRS also finds that the entire NEPA and plutonium disposition process are flawed by the specious claim that MOX is the only alternative that would meet the specious Russian demand that the plutonium be isotopically degraded. This claim must be seen as specious since the agreements signed in the 1990's allow for immobilization of plutonium as an acceptable mode of disposition without qualification. Secondly, any isotopic degradation will only persist for a relatively short time in the long time that plutonium will have to be safeguarded. The fact is that as time goes on a higher and higher percentage of plutonium will meet the definition of "weapon grade" which is: less than 7 % plutonium 240 with its 14.4 year half life. In little more than 140 years of any isotopic "degradation" the stuff will be weapons grade again!

The proposal to reduce nuclear dangers by doubling the humanicidal properties of a nuclear reactor completely abrogates the legal responsibility of the NRC to protect public health, safety and the environment. The fact that NRC finds the risks associated with plutonium transport, processing, fuel fabrication and fuel use to be "acceptable" suggests that once again NRC is dismissing real danger in favor of reliance on computer simulation. In an era when we are told by major media sources that US reactor diagrams were found in alleged terrorist caves in Afghanistan leads this organization to ask NRC which bed it is hiding under.

NIRS humbly suggests to NRC that should reply to DCS and DOE that the Precautionary Principle dictates that no further nuclear activities should be undertaken at the Savannah River site due to the fact that it already meets or exceeds safety limits on a number of important parameters, and all federal activity should be devoted to clean-up, restoration, mitigation, free health and preventative care.

D. MIX not MOX -- NRC could further point out to DOE that it could facilitate the isotopic degradation with no reactor use and also reduce a proliferation threat by acquiring reactor grade plutonium from other countries and mix US and Russian surplus plutonium with these stocks. At that point it would be possible to immobilize or make off-spec MOX with this plutonium. Irradiated fuel could be used as the radiation barrier for this waste form.

E. NRC's DEIS does not problem solve. Instead it invokes a mandate from the State Department about what is diplomatic with the Russians. This means that environmental protection in the United States is being dictated by Moscow. This is not acceptable. If the plutonium disposition

process had been conducted “above boards” and in an open manner, instead of in secret meetings of US and Russian technocrats at Harvard hosted by John Holdren, there might have been some hope of a real solution. These secret meetings may have prevented the matter from being elevated to the level of concern it deserved within both the Clinton and Putin Administrations. Had this plutonium received the attention it deserved, it might have served as a real initiation into substantial nuclear disarmament. Instead this process has been used by the same career technocrats in the US as a cover for their real objective: a return to nuclear weapons production.

On what basis does NRC assume that there WILL be ANY surplus plutonium?

If MOX is, instead the waste management method for new nuclear weapons production should not the NEPA process include both these actions?

If production of new, usable nuclear weapons is the real outcome of the plutonium processing at the PCDF and the waste solidification building also serves this process, is it not necessary under NEPA to consider the environmental impacts of USING the usable nuclear weapons?

F. At this point in time it is somewhat likely that the current DEIS may be the only EIS for MOX use in reactors, unless the NRC is forced to do an environmental impact statement for the use of MOX in Duke reactors by intervenors. As such, the reference reactor approach is completely unacceptable. For one thing, the Duke reactors were already under a signed DOE / DCS contract at the time that the CAR was submitted to NRC. There is no basis for not considering the specifics of the Duke reactors, including the unique features and lack of features in the Ice Condenser design.

Further, it is vital that the intersection of reactor aging and MOX use be fully analyzed, including the environmental impacts of large component replacement post MOX use.

Thermal impacts of MOX must also be assessed, and should be done so in the context of the Duke reactors specifically since persistent drought has already jeopardized the capacity of Lake Wylie to cool Catawba 1 & 2. MOX fuel may boost the thermal requirements of the reactor and thermal discharges to Lake Wylie high enough to puncture this envelope, causing Catawba to be taken off-line until Catawba River water levels rise and Lake Wylie water temperatures fall.

NIRS protests the fact that NRC has decided to exclude nuclear security issues from the NEPA process for the MFF and other nuclear licensing decisions. From our perspective, this is evidence that the NRC assumes that the decision to license is “yes” unless someone can stop them, and then systematically colludes with industry to remove all handles that might constitute a means to stop them. In other words there is no external decision-making. The United States is a Nuclear State and there is no recourse except in the courts, where NRC is unfairly given the advantage of large staffs, large federal budgets and the high ground of being the “accredited technical expert.”

These are only some of NIRS concerns about the environmental impacts of nuclear reactor use of MOX fuel. We offer them as examples of the types of issues that cannot be addressed in a generic analysis, but which must be addressed. We sincerely hope that NRC will do a full

environmental impact statement on the use of MOX in Catawaba 1 & 2 and McGuire 1 & 2 and any other nuclear power stations that apply to use this fuel elsewhere or in the future.

G. It is not acceptable to sign off on the environmental impacts of construction of the MFF without a more detailed explication of the impact of bull dozer activity on this contaminated site. The movement of soil that is contaminated will have an impact not only on workers, but also those off site as particulate is lofted into the atmosphere. NRC states on page 4-8 of the DEIS that any doses to workers from such contamination would be assessed. By whom? Why no assessment of off-site folks?

NRC also states that water would be used to limit the amount of fugitive dust (page 4-18). This water will however interact with any radionuclides or other contamination in the soil and contribute to the already acknowledged plume of contamination under the site (page 4-7). No characterization of this plume is provided. How will it be possible to determine in the future whether or not the MFF has contributed to this problem unless the current analysis includes a detailed characterization of what is currently in the soil, in the vadose zone, in the ground water, in the plume, and the direction and speed of this plume's movement.

Further, since the movement of contaminated particulate off-site and movement of contamination from soil into ground water are both cumulative, and construction of all three facilities will result in one or both of these events, it is not correct to assume that MFF and WSB construction are "bounding." It is necessary to assess the impacts of all three and look at them cumulatively, even though the PCDF construction may lag behind the other two.

H. NRC fails to consider radiological impacts on children, elders, women and anyone else who is not the "Standard Man." This is inexcusable in the 21st century. What percentage of NRC employees have had difficulty conceiving a child? How many NRC parents have children with cancer? The general public is having an epidemic. Shame on NRC for not considering these factors when moving to approve a facility that is inherently a hazard to public health and safety.

I. It is not clear which entity is responsible for plutonium security.

J. NIRS agrees with GANE's analysis of NRC's nonsensically disappearing waste inventory:

5. (GANE) The DEIS analysis of the large volume of liquid radioactive wastes to be generated in the MOX program is incomplete. The NRC's estimates are baseless and therefore not verifiable. The public must be shown how the NRC arrives at its waste estimates.

Further, the assumption that simply transferring this waste to SRS and the Department of Energy is an end-point when it comes to environmental impact is specious. For instance, stating that the MFF associated "low-level" wastes is some percentage of the SRS "low-level" waste implies to the unschooled reader that in fact MFF is cleaning up SRS. ANY incremental addition to the radioactive burden on the banks of the Savannah River is an unacceptable impact for the future generations that will, hopefully persist during the interminable period of hazard that plutonium

poses. The claim that this program will reduce nuclear dangers does not apply to the workers and the people of the area surrounding Savannah River Site.

K. Environmental Justice and Mitigation. The very fact that NRC has found that there will be a disproportionate impact from an accident – and we believe from routine operations at Savannah River Site as well -- on low income and minority populations is a reason to deny DCS and DOE the privilege of poisoning or irradiating one more person of any color or any income!

The very fact that mitigation is being offered is admission that there is an adverse environmental impact. We do not care how many people NRC projects will suffer from an accident since we question NRC's basis for calculating radiological impact. The fact that one individual is projected to die and that mitigation is being suggested is the reason to deny this license.

In terms of mitigation, NRC falls short of anything that could possibly off-set the destructive impact of plutonium jobs and potential accidents on the present and future of these communities.

This writer finds it somewhat puzzling that page 7-18 gives as part of the glossary the following definition:

mitigation: a series of actions implemented to ensure that projected impacts will result in no net loss of habitat value or wildlife populations. The purpose of mitigative actions is to avoid, minimize, rectify or otherwise compensate for any adverse environmental impact.

If we construe the words "habitat value" to mean the homes and public areas of the communities that would be most impacted by operations and accidents at the MFF, then clearly we can see that the best mitigation is to avoid the hazard and the risk. Deny the license.

It is not possible to rectify or compensate for loss of functioning health, loss of life, loss of ability to procreate, loss of healthy normal children. The only cure is prevention.

That NRC staff are advocating an information campaign is not only not enough, it is mildly offensive. We are going to let them threaten your home with the leftovers of weapons of mass destruction, but all we are going to offer you is the information that you should use some of the money you need for your children's shoes and education or your own prescriptions for duct tape! This is not acceptable. Nor is it plausible. This program is projected to last 1 – 2 decades. Will the information officers go out and re-instruct people periodically. Remind them that they are in the path of such danger, paid for by their own hard earned tax dollars? We think not. What about the environmental impact of cutting down all those trees for that one-time "mitigation" with its glossy pictures? THIS is supposed to "rectify" the deaths that would come from a plutonium accident? Not good enough!

We in no way suggest that the following are mitigations – but any dangerous operation should at the very least provide clean water for everyone in the area – there is currently tritium in the rain that falls within 25 miles of SRS, and there will be more due to the new programs that have been sited there, in part due to the MOX program.

The folks who are being disproportionately placed at risk and who are already daily subjected to hazard from living near SRS should have free health care, including education about ways to reduce the inventory of radioactivity and other "badies" that their bodies are exposed to thanks to living near SRS.

There should be sirens that sound when any event occurs at SRS that warrants either sheltering or evacuation and the sound of the siren should signal which action is recommended.

There should be funding for summer programs for children to leave the area for months when they are out of school and this should favor low income and minority individuals. They should be sent to places, such as there are, where the food and water are less likely to contain radioactivity.

All of these things should be done now. None of them justify further nuclear production at Savannah River Site.

This writer challenges NRC to at the very least define the term "mitigation" in terms of the human populations they claim to be considering. If, however this is all the agency sees fit to do in the face of admitting that the MFF has the potential to sever families and lives in irreparable and immitigable ways, this will be one more example for the public of just how devalued our safety and health are when compared to the billions of dollars that Duke, COGEMA, Stone and DOE will see, not to mention the money NRC will get to "regulate" this killer. Prevention is the only cure. Now is the time to end this proposal and save the tax dollars so they can still be used to address the plutonium problem in a safer way.

L. NIRS affirms the following points made by GANE:

6. The DEIS assumes a 10-year MOX program but DCS plans to apply for a 20-year license. The DEIS must analyze MOX production over 20-year duration.

7. Sabotage and terrorism have become increasingly common in recent years. The DEIS must analyze environmental risks from sabotage, malevolent acts, or terrorist attacks to: the MOX facility; reactors using MOX; transports of fresh fuel to reactors; or transports of plutonium to SRS. MOX, by involving weapons-grade plutonium, is an intrinsic security risk, and must be considered to have a strong attraction to terrorists. Absence of analysis of this environmental risk hampers efforts of public health authorities to respond to emergencies posed by potential security breaches.

Respectfully Submitted,



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