Rulemaking1CEm Resource

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Subject: FW: Waste Confidence Rule & EIS Comments
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From: Brandieall [mailto:brandieall@aol.com]
Sent: Wednesday, December 18, 2013 5:29 AM
To: RulemakingComments Resource; Gallagher, Carol
Subject: Waste Confidence Rule & EIS Comments

Hello,

Attached our comments on the proposed waste confidence rule (Docket ID NRC-2012-0246) and the Waste Confidence Generic Environmental Impact Statement.

Alicia B. Batobato

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Waste Confidence Draft Generic Environmental Impact Statement

Alicia B. Batobato

The following comments have been compile, based on input from nationally recognized environmental, nuclear, and safety specialists.

General Comments:

The NRC Commission, and its past and present Division of License Renewal (DLR) management have perpetuated an indefensible scientific fraud upon the American public, an in particular, the stakeholders who will have to pay the burden for a future nuclear calamity.

Specific Comments:

1. *Risk of Severe Accidents:* NRC has routinely concluded that the risk of a "severe accident" at a nuclear power is "small." Likewise the Waste Confidence Generic Environmental Impact Statement (WCGEIS) concluded that the risk of a "severe accident" involving a spent fuel is "small." This conclusion is bogus and indefensible. The probability of a severe accident involving spent fuel is much larger than NRC is attempting to portray to the public. The probability of a severe nuclear reactor accident triggering a severe accident involving spent fuel only increases the risk of a tragic accident. The analysis presented in the WCGEIS needs to be redone to openly assess and disclose the true probability and consequences of a severe accident. Based on this re-analysis, the risk needs to be reassigned as "moderate" or "large.

2. *Failure to Compute the Complete Risk of an Accident*: Neither the WCGEIS nor NRC's LR EISs have evaluated the total risk that the public faces from accidents involving the nation's fleet of operating reactors. Nor has the WCGEIS evaluated the total risk from all spent-fuel stored around the nation. The WCGEIS must be revised to assess the total national risk posed by a severe accident from the entire fleet of operating nuclear reactors and spent fuel storage. The WCGEIS must also be revised to assess the total risk posed by a severe accident from all nuclear reactors combined with the risk posed by a severe accident involving the spent-fuel for all nuclear power plants.

3. *The Impacts of Severe Accidents are not Investigated*: The NEPA regulations are clear: The "impacts" or "consequences" must be evaluated NOT the risk of an accident. The LR EISs utterly fail to perform even a rudimentary assessment of the consequences of a severe accident. The environmental and health consequences of a severe accident need to be evaluated and disclosed to the public. Conflicting scientific opinions by other experts must also be addressed. This LR EIS re-analysis

needs to combined with the impact assessment of the spent-fuel basins provided in the WCGEIS to evaluate the combined effect posed by the nation's fleet of operating reactors.

4. *Failure to adequately disclose radioactive air emissions.* Many LR EISs failed to publicly and accurately disclose radioactive emissions and increased dosages over time, including failure to compute emissions from multiple reactors at a single station. Nor have they computed reasonable foreseeable trends in increased emissions such as those witnessed at the Columbia Generating Station. Nor have they adequately computed the cumulative emissions to individuals over the 20-years licensing extension period. The WCGEIS needs to the total emissions and health effects from all operating nuclear reactors, combined with the emissions from all spent-fuel storage.

5. The WCGEIS failed to disclose controversial or opposing technical and scientific views including other radiation and health studies that contradict NRC's conclusions. The WCGEIS needs to be revised to address these opposing views. This comment applies to a host of other controversial issues described in the WCGEIS.

6. *Failure to Address Defects o Mark 1 Containment Vessel:* NRC's own nuclear experts have known for years that the Mark 1 design, including it's containment vessel are flawed and particularly susceptible to a major nuclear accident. Yet, NRC utterly failed to even mention this new information in their LR EISs – the very document where such problems are to be investigated and publicly vetted. The WCGEIS needs to be revised to address this safety concern and how it could affect spent-fuel storage, including potential accidents. The WCGEIS needs to consider the option of closing down and not reissuing licenses to reactors, including those based on the Mark 1 design.

7. *No-action Alternative isn't Even Afforded Serious Considered:* NRC does not even seriously consider the alternative of no-action (halting nuclear reactor operation) – a legal requirement. The WCGEIS pays little more than brief 'lip service' to this option. The WCGEIS needs to be revised to address this alternative particularly in terms of the reduced emissions, reduction in spent fuel and radioactive waste, and reduction in radioactive emissions, and enhanced safety.

8. *Impacts of Natural Disasters*: The potential risk and effects posed by potential disasters such as posed by floods, dam failures, solar storms, and tsunamis' have not been adequately evaluated in the WCGEIS. New scientific data clearly shows that the risk posed by some of these events is much greater than NRC has acknowledged. For instance, the risk of a dam failure and flooding resulting in a sever accident to the nuclear reactor and/or spent fuel basin has not been adequately addressed. The WCGEIS needs to be revised to address the risks and impacts posed by such events in terms of a national fleet of operating reactors and spent-fuel basins.

9. *Terrorist Attacks*: Terrorist could attack "soft targets" such as the utility lines or generators that supply electricity to plants. This could lead to a severe nuclear power plant accident and/or a severe accident involving the spent-fuel basins. The WCGEIS needs to be revised to address these risks and impacts posed by such events in terms of a national fleet of operating reactors and spent-fuel basins.

10. *Inadequate Consideration of Impacts or Mitigation of a Station Blackout*: One of the most devastating events facing any nuclear plant is that of a station blackout. DLR's EISs have virtually ignored such an event and consequently have failed to evaluate the impacts on the public or mitigation measures for preventing such an event. The WCGEIS needs to be revised to address these risks and impacts posed by such events in terms of a national fleet of operating reactors and spent-fuel basins.

11. *Failure to address current and future safety conditions*: The WCGEIS fails to address current and future safety conditions. The Affected Environment section does not adequately address worker or public dosages, emissions, scrams, or safety violations in terms of either nuclear power plants or the spent-fuel basins. Moreover, no consideration has been given to safety issues such as number or trends in SCRAMS or safety violations and how this may affect future safety operations. The WCGEIS needs to be revised to address the risks and impacts posed by such events in terms of a national fleet of operating reactors and spent-fuel basins.

12. The WCGEIS fails to address new data and studies about the harmful effects of radiation. The WCGEIS needs to be revised to address these findings in terms of a national fleet of operating reactors and spent-fuel basins.

13. The scope of the WCGEIS involves consideration of options and alternatives for storage and disposition of the national inventor of spent-fuel from the nation's fleet of operating nuclear power reactor. This constitutes a "new national program." A programmatic EIS is required to be prepared for a new national program of this scope and complexity. The purpose of a programmatic EIS (PEIS) is to identify, evaluate, and determine a national course of action. As its name implies, the WCGEIS is a generic EIS, designed to assess generic issues common to the storage and disposal of spent fuel. The WCGEIS is NOT a programmatic EIS. Thus, NRC needs to prepare a programmatic EIS to rigorously study alternatives and develop a national path forward, and then supplement it with the WCGEIS to determine generic issues for use in preparing later tiered LR EISs.

1. This constitutes a national program and requires a programmatic EIS.
2. Purpose and Need
3. xxviii Risk Assessment (http://www.nrc.gov/aboutnrc/regulatory/risk-informed.html./) doesn't exist therefore cant understand it
4. Admitte on page Xiii that env impacts of spent fuel are "large" should be "LARGE"
5. Flooding, Earthquakes Page 4-73 risk is small- no evidence. Solar flares never considered.
6. Page xii states "the environmental impacts of these postulated accidents involving continued storage of spent fuel in pools are SMALL" Incorrect, the risk is small not consequences
7. No consideration of beyond design accidents
8. Page 4-68/69 says that impact could be low if prob is low- incorrect. The risk is low but the consequences are large.
9. New Alternative: Shut reactors down until a permanent method of disposal is found.
10. Cumulative risk from all spent fuel sites in the nation. They only looked at risk form spent fuel fire at one site!

I can absolutely, unequivocally prove that the risk of an accident is not small.

I took half a day off from my consulting practice to review the Waste Confidence EIS. In just half a day, I can see this analysis is profoundly flawed.

The flaws start on Chapter 1 (Statement of Purpose and Need [SPN]) and continue into all the other sections that I briefly reviewed. For instance, NRC couldn't even define its "purpose" and "need" correctly - and in fact confused both terms).[1] Since the SPN form the basis for the range of alternatives this may mean that the scope of alternatives is also flawed.

But I see much more interesting problems. For example:

1. The EIS actually states (admits) that the impacts of a severe accident would be "large" and "significant and destabilizing." [This is a logical and correct statement]

2. It then argues that impact determinations are made with consideration of the low probability of an accident. The environmental impact determination is based on the risk (product of the probability and the consequences of an accident). [This is incorrect. The risk determination is based on probability. The consequences are as they admitted above "large"]

3. It then *incorrectly* concludes that a high-consequence low-probability accident (severe accident), could result in a "small impact determination, if the risk is sufficiently low."

This conclusion is completely bogus. They have mixed up the engineering concept of "risk" with NEPA's concept of "impacts." They started off admitting that the "impacts" of a large accident

are “large” and “significant and destabilizing.” Then they introduce “risk” to argue that these same impacts are actually “SMALL.” They have mixed up the concept. The “risk” of an accident could indeed be “SMALL.” But that does not mean that the “impact” posed on the public is “SMALL.” The actual impact of a sever accident would in fact be “LARGE”!

In other words:

R = I x P

The impacts are large and will always remain large. It is the risk that they argue (incorrectly) is small. But as the equation shows, it is the risk of an accident that they argue is small not the impacts.

I did a word count. The NEPA Regulations provide direction and mention the concepts of “impact”, “effect”, and consequences, 77 times, 55 times, and 5 times, respectively. Not once do the regulations state that “risk” can be substituted for evaluating impacts or reaching a significance determination of an impact (e.g., effect or consequence). NRC is on mighty shaky ground in its attempt to show the public that there is nothing to worry about.

This is a huge error and very misleading to political leaders, decision-makers, stakeholders, and the public. Moreover the entire analysis has neglected other vital considerations such “similar actions,” “cumulative impacts,” “cumulative risk”……..I could go on and on. These other factors could significantly increase both the impacts and risk of an accident.

Finally, they have reached these implausible conclusions without a technical justification or basis. To me, this looks, walks, and quacks like an “arbitrary and capricious” conclusion. In fact, I have a published mathematical technique that can absolutely prove, unequivocally prove, that the risk of an accident is <u>not</u> small. I can irrefutably prove that the risk is “LARGE”

If this is anything like the LR EISs (I suspect its much worse given how fast they slapped this thing together) it is flawed to high heaven. You should be able to rip this thing to smithereens! I only wish I had more time to examine this in real detail.

1 Eccleston, *Environmental Impact Statements: A Comprehensive Guide to Project and Strategic Planning*, “Schmidt’s Model for Defining the Scope of Alternatives.” pp92-93
Eccleston, *The EIS Book, Chapter 3, “*Defining the Statement of Purpose and Need,” 2013.