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Subject: FW: Docket NRC-2012-0246; WIEB HLRW Committee
Attachments: NRC WC GEIS and Rule, 13-12-18, final.doc

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TITLE: Waste Confidence—Continued Storage of Spent Nuclear Fuel

COMMENT#: 00488

From: Jim Williams [<mailto:jwilliams@westgov.org>]
Sent: Wednesday, December 18, 2013 1:01 PM
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RulemakingComments Resource

From: Jim Williams <jwilliams@westgov.org>
Sent: Thursday, December 19, 2013 2:38 PM
To: RulemakingComments Resource
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Please substitute the attached for the comments sent yesterday (NRC WC GEIS and Rule, 13-12-18 final). Apologies. Thanks you, JimWms

From: Jim Williams
Sent: Wednesday, December 18, 2013 11:01 AM
To: 'Rulemaking.Comments@nrc.gov'
Subject: Docket NRC-2012-0246; WIEB HLRW Committee



Western Interstate Energy Board

December 18, 2013

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U.S. Nuclear Regulatory Commission,
Office of Nuclear Material Safety and Safeguards
www.regulations.gov

RE: Waste Confidence:
Continued Storage of Spent Nuclear Fuel; Proposed Rule;
Docket No. NRC-2012-0246

The Western Interstate Energy Board (WIEB) High-Level Radioactive Waste (HLRW) Committee appreciates the opportunity to review and comment on NRC's Waste Confidence Generic Environmental Impact Statement (GEIS) and Proposed Rule. We appreciate NRC's effort to provide opportunity for public input as it formulates its response to the June 2012 D.C. Circuit Court decision. We also appreciate that NRC cannot itself resolve the nation's issue regarding permanent disposal of commercial spent nuclear fuel (SNF); it can only regulate commercial utilities while other federal government branches and agencies attempt to resolve the issue--hopefully following the very sound recommendations made by the Blue Ribbon Commission on America's Nuclear Future (BRC) in January 2012.

The GEIS Findings/Presumptions

The purpose of the GEIS is to establish general presumptions regarding the environmental impacts of NRC's licensing decisions regarding "continued storage"¹, which may not then be challenged in licensing decisions regarding particular reactors or reactor sites—thereby increasing the efficiency of site-specific licensing processes. We are concerned that the GEIS is insufficient to establish the desired presumption that in several resource areas:

¹ The period after the end of the licensed life of operations for a nuclear reactor, and before final disposal in a permanent repository.

- **Transportation**

The GEIS finds that the effects on transportation are “small to moderate.” However, it reaches this conclusion only because it considers transportation only within the vicinity of reactor or interim storage sites—commuting of site workers, deliveries of supplies and replacement equipment, etc. Even within the site vicinity, the effects of overweight truck shipment and/or large-load rail shipment, often on sub-par infrastructure, are not addressed.

Short-term and long-term storage presume eventual large-scale transport of SNF, possibly cross-country and affecting hundreds of corridor as well as origin and destination communities. The GEIS appears to assume that such transport is not an effect of its site-specific licensing decisions, or that cross-country transport resulting from short or long-term storage is no different than that which would occur during licensed operations—i.e. that cross-country transport is an effect of licensed operations, not of continued storage after licensed operations, even if it occurs during “continued storage”.

Cross-country transport is a major impact of SNF generation at 100 reactors on 75 sites. The formulation of the GEIS does not warrant ignoring this impact. The GEIS should recognize that SNF transport on this scale has not been demonstrated in the U.S., and that it results from its many site-by-site licensing decisions, except in the (undesirable) indefinite storage case.

- **Accidents and Sabotage/Terrorism**

In the GEIS, the “probability weighted” impacts of severe accidents (i.e. “design basis” accidents, exceeding parameters to which facilities are designed and built) and “postulated accidents” (hazards from natural phenomena) are estimated to be small, since severe potential consequence is offset by very low calculated probability.

Particularly when the potential consequence is severe, NRC’s equal weighting of probability and consequence simply does not “calculate” for those most directly affected. For them, the potential consequence of a spent fuel fire or potential sabotage cannot be offset by an analyst’s calculation of its very low probability. Thus, the same stakeholders make the same criticisms and suggestions over and over; NRC listens politely; and the critics never feel “heard” by NRC.

Perhaps the recently-released NRC white paper on a risk management regulatory framework² can suggest ways in which NRC can adjust its heavy reliance on technical risk to the exclusion of other perspectives and other dimensions.

2 Which entertains questions regarding the acceptable level of risk, how risk should be measured and monitored, how to treat uncertainties, and the application of “defense-in-depth”.

- **Resource Areas in Which Impacts May Be Small, Moderate or Large**
The GEIS finds that the effects on several resource areas may be small, moderate or large (in short-term, long-term or indefinite storage) depending on site-specific conditions.³ We assume that, in these resource areas, the general GEIS presumption that the effects will be small does **not** apply, and that effects will be addressed site-by-site in licensing for short-term, long-term or indefinite storage.

The “Current Technology” Assumption (1): Storage and Subsequent Transportation

The GEIS states that its analyses are based on “current technology and regulations”. Our understanding is that current technology has (in combination with substantial strengths) substantial limitations: e.g.

- How well are we able to monitor the condition of SNF in pool storage?
- How well are we able (based on such monitoring) to anticipate hazards such as spent fuel fires or pool leaks?
- How well does the inspection of spent fuel assemblies when removed from pools provide the basis for long-term storage in sealed canisters?
- How well can we monitor the condition of spent fuel stored long-term in sealed canisters?
- Is it realistic to expect utilities to repackage spent fuel if there is a probability (but no assurance) that the current packaging may be safe for extended storage and subsequent transportation?
- What is the assurance that spent fuel that is safely stored in canisters will also be safe in transport, with its increased temperature (due to the sealed transportation cask) and substantially increased physical stress?

We are doubtful that current technology and knowledge regarding the above questions support a conclusion that SNF is assuredly safe in continued storage and (except in the indefinite storage case) subsequent transportation.

The “Current Technology” Assumption (2): Replacement of Canisters and Casks

The GEIS assumes that, as long as SNF remains on site, all canisters and casks would be replaced every 100 years. The GEIS further assumes that, after all SNF is removed from a pool and the pool is shut down, a dry transfer system would be built at the site, and maintained, and replaced every 100 years, until all SNF is removed.

We question this assumption on both institutional and technological grounds. On institutional grounds, utilities may be reluctant to replace all canisters and casks, given the cost and hazard of

³ Examples include historic and cultural resources, and environmental justice.

replacement, as well as the perhaps ambiguous information regarding the need.

Continued

storage requires assurance that utilities at up to 75 sites can be persuaded to build such facilities. On technical grounds, we question whether site-built hot cells can reliably be used to cut open and repackage large sealed canisters (something that utilities are very reluctant to do in currently operating spent fuel pools), and then do it again 100 years hence, when the facility may be degraded. We also question whether mobile hot cells (current technology) could do the job that the GEIS continued storage assumption presumes.

Institutional Controls During Continued Storage

The GEIS assumes that “institutional controls” (i.e. NRC regulation of site owners/operators who are willing and able to meet NRC regulations) are in place as long as there is wet or dry storage on any commercial site.

The recent government shutdown should give pause to the assumption that institutional controls will remain in place and effective indefinitely. Current NRC regulation is of an industry that is profitably generating power, assumes it has a future, and understands that an assurance of safety is a necessary pre-condition for its future. Under “continued storage”, alternative assumptions regarding institutional controls warrant consideration—e.g. a future in which a less well-funded NRC is regulating an industry that is no longer producing power, and an industry for which regulatory costs are no longer a manageable expense in a profitable overall operation. Does the GEIS and proposed rule consider that “institutional controls” might become weaker and less effective, even if still “on the books”?

The “When Necessary” Assumption

The proposed rule finds that sufficient mined geologic repository capacity will be available “when necessary”, and that “continued storage” can be safely provided (under NRC regulation) until permanent disposal is available, or even (in “indefinite storage”) if it is not provided.

This is the latest revision of a rule in which NRC has concluded that its regulation can assure safe storage (and safe subsequent transportation) in a repeatedly extended (and now indefinite) interim period. Such a conclusion requires increasingly heavy reliance on the capabilities of current technology and the persistence of current institutional controls.

To the D.C. Circuit Court’s challenge that the NRC must address whether SNF will be managed safely if a federal repository is not made available, the NRC might respond that its “hard look”⁴ does not provide absolute assurance that SNF

4 At: a) Current knowledge and technical capabilities; b) Issues of repackaging in indefinite storage; and c) Vulnerabilities of the current institutional regime.

can be managed safely into the indefinite future, and that NRC cannot solve this problem for Congress and other federal agencies.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Niles". The signature is fluid and cursive, with a large initial "K" and "N".

Ken Niles
Committee Chair
High-Level Radioactive Waste