

**NEI Specific Comments on the Draft “Background and Preliminary Assumptions for an Environmental Impact Statement – Long-Term Waste Confidence Update” (U. S. Nuclear Regulatory Commission, December 2011)**

No.	Location	Comment
1.	General	The NRC’s technical and regulatory analysis of long-term waste confidence, whether conducted as a part of the proposed EIS process or, more preferably, in advance of this process, needs to consider the existing guidance for license renewal applications for dry storage licenses and cask certificates of compliance (NUREG-1927) to assure that regulatory consistency is maintained. Any inconsistencies would create an uncertain regulatory environment at a time when a number of 10 CFR 72, Subpart K certificate renewal applications will be under review.
2.	p. 1, 1 <sup>st</sup> paragraph and typical throughout the document	The document uses the terms “60 years beyond the licensed life of any reactor” and “storage beyond a 120 year timeframe” interchangeably. The relationship between these terms should be clearly explained and they should be used consistently throughout the document.
3.	p. 5, 3 <sup>rd</sup> paragraph	The document indicates that the 2010 waste confidence decision did not require an EIS because the Commission “concluded that the environmental impacts...would not be significant.” The document also indicates that the Commission “has not found that the environmental impacts of more than 120 years of storage would be significant.” Yet, no explanation is given for why the possibility of a finding of no significant impact is being set aside in this case, as reflected by the Commission’s decision to use its discretionary authority to proceed directly to an EIS. In the interest of transparency in government, such an explanation should be provided. As explained in Attachment 1, this is a fundamental reason why we believe that the EIS should be deferred.
4.	p. 5, 1 <sup>st</sup> paragraph in Section 5	The document states “... in some cases, the NRC develops an EIS for significant changes to its regulations.” It would be helpful if examples of such changes could be provided along with an explanation of how these examples support conducting an EIS in this instance.

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5.	p. 5, 2 <sup>nd</sup> paragraph in Section 5	The document states “The purpose of any resulting Waste Confidence update is to ensure that the decision and rule are informed by current circumstances (including national policy)...” The NRC should not speculate on national policy outcomes. This is one reason this EIS is premature, as there may be substantial changes in national policy in response to the recently released Blue Ribbon Commission report over the next few years. The NRC would be better served by waiting until national policy has become more thoroughly formed before undertaking this effort
6.	p. 6, last paragraph of Section 5	Please explain to what “... an associated update of the safety aspects of the Waste Confidence decision ...” refers.
7.	p. 6, Section 6	The document states “...this long-term Waste Confidence EIS will not require reconsideration of a possible update to the rule and decision every five to ten years.” We are not aware of any such requirement, in the 2010 update or elsewhere, for periodic update of the waste confidence rule. Given the relatively long storage periods addressed in the 2010 update and the fact that it concluded that a repository would be available “when necessary” it seems counterintuitive to imply that any nearer term periodic updates would be needed.
8.	p. 6, Section 6	If the NRC does conduct an EIS of long-term waste confidence, the NRC should not limit its consideration to just four “storage scenarios” as indicated in the document. Scenarios in which the government successfully carries out its obligations under the Nuclear Waste Policy Act to dispose of used fuel at various points in time prior to 300 years from now should also be considered.
9.	P.6, first paragraph in Section 7	The NRC should provide a more detailed basis for why a 200-year span is being chosen for any NEPA analysis to be conducted. The opportunity to conduct sufficient technical and regulatory analysis, to more thoroughly develop the basis for such decisions is a key reason why industry is recommending that all near term work on the EIS be deferred. The development of this basis could be more effectively accomplished through a regulatory gap analysis.
10.	p.7, paragraph that continues over from p. 6	In indicating that the NRC intends to rely on “relevant NEPA documents” staff should specifically identify these documents and describe how they will be relied upon. In particular, the NRC should describe the extent to which staff intends, or does not intend, to rely on the U.S. Department of Energy’s (DOE) Yucca Mountain EIS. For example, what role will the DOE transportation analysis from that EIS play in this effort?

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11.	p.7, 2 <sup>nd</sup> paragraph	In assuming that nuclear power continues as a source of energy, the NRC should be more specific regarding what projections of future nuclear output will be relied on to support this assumption. For example, will the NRC rely on Energy Information Agency projections? And, if so, which growth scenarios within those projections will be considered?
12.	p.8, 1 <sup>st</sup> full paragraph	The term “below safety limits” should be “negligible and well below safety limits” to more accurately reflect experience with the storage facilities being discussed.
13.	p.8, 1 <sup>st</sup> full paragraph	How will the NRC estimate worker doses from “spent fuel handling?” Will it be assumed that casks will have to be periodically reloaded? How often? It is industry’s goal to avoid repackaging. The question of whether or not any repackaging for storage could be needed is likely to be addressed by ongoing extended storage R&D. Hence, to postulate any repackaging impacts at this time would be purely speculative. This is another reason why the NRC should wait for the results of this R&D prior to undertaking an EIS. Additionally, the NRC should not consider repackaging for disposal in the context of any storage EIS as such repackaging will be more appropriately addressed as part of a repository EIS (as it was in the Yucca Mountain EIS).
14.	p. 8, 2 <sup>nd</sup> full paragraph	The document states “Although the total amount of spent fuel and high-level waste in storage can be extrapolated over a 300-year period....” It is not at all clear how that is to be done. Again, the NRC should be more specific regarding what projections of future nuclear output will be relied on to support this assumption (see comment #11). The NRC should not speculate beyond the timeframe for which reliable projections are available.
15.	p.9, 1 <sup>st</sup> paragraph in Section 8.1	We recommend basing any NEPA analysis the NRC conducts on current transportation technologies as any “projection” of future transportation technologies would be purely speculative.

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16.	p.10, Assumption 2	<p>Although the industry believes that the proposed EIS should be deferred, we endorse the consideration of reprocessing/recycling in any NEPA analysis the NRC performs. In doing so, the NRC should be careful to coordinate the consideration of environmental impacts of extended storage associated with a reprocessing/recycling scenario with what will most likely be separate evaluations for reprocessing/recycling facilities to assure consistency and prevent overlapping scope.</p> <p>With respect to the consideration of reprocessing, we have two specific comments on the document;</p> <ul style="list-style-type: none"> <li>○ Throughout the document, “reprocessing” appears to infer the process of separating reusable materials (e.g., uranium and plutonium) from wastes. Since “reprocessing” is a term that has historically been associated with aqueous processing, as opposed to other techniques such as pyro-processing, and to defense industry applications, we recommend that the report refer to “recycling,” “recycling/reprocessing,” or “reprocessing/recycling” to ensure a technology-neutral connotation and to indicate a commercial application.</li> <li>○ In Section 8.1, assumption (2), the parenthetical following the word “reprocessing” in the last sentence states “the separation of short-lived radionuclides from spent fuel.” This is an inaccurate description of recycling/reprocessing, and we recommend using “the separation of the isotopes of uranium and transuranic actinides including plutonium or mixtures of uranium, plutonium or other actinides from used fuel.”</li> </ul>
17.	p. 10, Assumption #3	<p>The statement that “One decommissioned site is planning to continue using pools, not dry casks, for spent fuel storage until 2048” is confusing. We are not aware of any stand-alone decommissioned reactor site that is planning to do this. We suspect that the document may be referring to a case where a decommissioned reactor is co-located with operating reactors or the GE Morris site. The NRC should clarify and perhaps select more representative examples upon which to base this assumption</p>

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18.	p.10, Assumption #4	Again, the document indicates that the NRC will “consider the impacts of repackaging operations.” As in comment #13, we point out that any consideration of repackaging impacts would be purely speculative at this time and this is another reason why the NRC should wait for the results of ongoing extended storage R&D prior to undertaking an EIS.
19.	p. 11, Assumption #5	Again, the consideration of large-scale repackaging of stored fuel at this time is purely speculative. As in comment #13, we point out that any consideration of repackaging impacts would be purely speculative at this time and this is another reason why the NRC should wait for the results of ongoing extended storage R&D prior to undertaking an EIS. Furthermore, this comment specifically mentions repackaging “before disposal.” The NRC should not consider repackaging for disposal in the context of any storage EIS as such repackaging will be more appropriately addressed as part of a repository EIS (as it was in the Yucca Mountain EIS).
20.	p. 11, Assumption #6	There is no need to consider the financial resources of licensees in the context of long-term storage operations. Consistent with numerous lawsuits and settlements, the federal government is financially responsible for long-term storage operations required by the failure of the government to fulfill its contracts to manage used fuel.
21.	p. 11, Assumption #6	We endorse the NRC’s decision not to consider a collapse-of-society scenario. To do so would be impossibly speculative and pointless, as the impacts of unattended used nuclear fuel would be small compared to the overall impacts of societal collapse.
22.	p. 12-13, Assumption #8	It is premature for the NRC to be undertaking any environmental analysis of extended storage based on accident scenarios that are constructed to include “recent events” such as the March 2011 Japan earthquake and tsunami, the August 2011 Virginia earthquake, and other recent hurricanes/floods. There is extensive work being conducted on a much broader level by industry and the NRC to determine the extent to which these events warrant additional consideration in nuclear reactor design basis and beyond design basis analysis. Any extended storage evaluation should wait for this work to be completed so as not to inadvertently describe a contradictory response for ISFSIs. This is another reason to defer the proposed EIS. A regulatory gap analysis would provide a more appropriate means for the NRC to assimilate the results of ongoing design basis evaluation efforts into its consideration of extended storage.

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23.	p. 13, Assumption #9	There should be no consideration of acts of terrorism against a dry storage installation. NEI believes that the assumption reflects a departure from Commission precedent, will create practical difficulties, and is unnecessary. Attachment 3 provides a detailed explanation of our position on this assumption.
24.	p.14, 2 <sup>nd</sup> paragraph	The NRC should not consider the use of alternate approaches to disposal in any NEPA analysis of extended storage. This will be more appropriately addressed in specific disposal NEPA analysis to be conducted by the DOE.
25.	p. 14, 2 <sup>nd</sup> paragraph	The NRC's intent to consider, in its four scenarios, "advanced spent fuel management technologies" seems inconsistent with assumptions #2 and #4, which appear to rely on the continued use of existing fuel types and storage technologies.
26.	p. 14, Scenario 1	This scenario refers to a 300-year assessment period, yet assumption #6 and Section 7 refer to a 200-year assessment period. In Section 7, the NRC states that they are going to do a 200-year assessment that may include fuel as old as 300 years. This document, at times, appears to confuse the two. The NRC should assure that consistent terminology is used throughout.
27.	p. 14, Scenario 1	The assumption that reactor sites operate and maintain pools presently at sites as long as fuel is in dry cask storage, which implies that pools will be maintained beyond decommissioning, is not valid. It is inconsistent with existing reactor decontamination and decommissioning plans. It is also inconsistent with current practice at several shutdown plants. With respect to this issue, we agree with the comments of the Decommissioning Plant Coalition, <sup>1</sup> in that the NRC should assume that, for facilities where the spent fuel pool has been decommissioned, spent fuel will be removed to a consolidated interim storage facility prior to the need for reconstruction of repackaging infrastructure.

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<sup>1</sup> Letter, Callahan to Pineda, February 16, 2012.

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28.	P. 14, Scenario 1	It is not clear why the NRC would need to evaluate impacts for between “5 to more than 20” generic sites. The fact that this range is so wide and the potential number of sites is indicative of the dilemma that the NRC faces in attempting to evaluate environmental impacts ahead of much of the technical work that would better inform such an evaluation. A more thoroughly developed knowledge base would allow the NRC to greatly narrow the number of generic sites needed, should an EIS be found necessary. This is another reason to defer the decision to prepare an EIS until additional technical and regulatory analysis can be conducted. A determination of an appropriate number of sites could be more effectively made through a regulatory gap analysis.
29.	p. 15, Scenario 2	When discussing time periods of several centuries, the age of the fuel (e.g., 20 years versus 200 years) can significantly affect the type and magnitude of potential transport impacts. Additional clarity on when transportation will begin, and how much fuel will be transported in discrete time periods, will need to be considered. This is another reason to defer decisions regarding preparation of an EIS as the national policy framework, which will affect the timing of transportation, may be better known after the nation has had an opportunity to respond to the recommendations of the Blue Ribbon Commission. This is another case where a regulatory gap analysis could be used, in this instance to better define a reasonable set of transportation assumptions.
30.	p. 15, Scenario 3	We recommend the use of “consolidated” in place of “centralized” for interim storage, consistent with the terminology used by the Blue Ribbon Commission.
31.	p. 17 Section 11	The NRC provides no explanation of why it plans to carry out a preliminary scoping process prior to performing actual scoping. As explained in Attachment 1, we believe this activity should be deferred until more information is known and the NRC is in a better position to assess the scope of any potential action.