

Report on Waste Burial Charges

Draft NUREG-1307, Rev.16

Changes in Decommissioning Waste Disposal Costs at Low-level Waste Burial Facilities

Comment - Resolution Matrix

Stakeholder	Comment ML	Comment	Staff Response
Rodney McCullum, Nuclear Energy Institute (NEI)	ML16356A322	Industry believes that Revision 16 represents a significant improvement to NUREG-1307 in that it addresses important changes in the low-level radioactive waste (LLRW) disposal landscape since Revision 15 was finalized. We recommend that the NRC finalize this revision in January 2017 to support preparation of the biennial decommissioning funding status reports, which are due by March 31, 2017.	No specific comments were provided that require resolution. No change to Report.
Philippe Soenen, Pacific Gas and Electric (PG&E) Company	ML16357A411	The addition of burial/disposition adjustment values (Bx) values for generators located in compact-affiliated states having no disposal facility could lead to licensees underfunding their decommissioning trust fund. The revised Bx values for generators located in compact-affiliated states having no disposal facility is based on the assumption that the limit of 30-percent of total licensed capacity for non-compact generators at the compact waste facility (CWF) in Andrews County, Texas will not be exceeded by the time that licensees start their decommissioning low level waste (LLW) disposal in the future. The NUREG identifies that LLW could be significant for plants with extended operating periods and therefore an additional source of LLW that will go toward the 30-percent of total licensed capacity for non-compact generators at the CWF in Andrews County, Texas. The NUREG also identifies that licensees may	The following sentence has been added to footnote "c" for Table 2-1: "These Bx factors are recommended for use for plants that currently have no disposal site available within their designated LLW Compact. Accordingly, given this consideration, licensees may want to set aside additional decommissioning trust funds to avoid significant future shortfalls in funding." This is essentially the same as a similar statement already made in the "Forward" of the report.

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		want to set aside additional decommissioning trust funds to avoid significant future shortfalls in funding and potential enforcement actions. The challenges to the assumption that the 30-percent of total licensed capacity for non-compact generators at the CWF in Andrews County, Texas are the limited number of CWFs currently available, the LL W volume could be significant for plants with extended operating periods, and the increased announcements of plants planning to decommission in the near future. There should be emphasis added to footnote (c) to Table 2-1 that the values provided are the' minimum values to be used by licensees and that licensees should consider additional decommissioning trust funds to avoid significant future shortfalls in funding and potential enforcement actions.	
Anonymous Comment, Unknown Affiliation	ML16357A412	First, how do these burial charge costs compare to monitored, above ground, disposal in cost? It is entirely unacceptable that you continue to allow burial of this radioactive waste, most of	This report utilizes reported disposal rates for operating LLW disposal facilities to estimate the cost to dispose of LLW from decommissioning. Since all currently operating LLW disposal facilities dispose of LLW below ground, the cost of monitored above-ground LLW storage is not an option considered in this report. No change to report. Title 10 of the Code of Federal Regulations (CFR) Part 61 allows for the land disposal of radioactive waste. No change to report.

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		<p>which is long-lived and not low-level. If it were truly short-lived - meaning half-lives in days - then it could be held on-site.</p> <p>Do these charges include digging the waste up, re-packaging them?</p> <p>This quote with "Error! Reference source not found" says it all about this poorly written and badly organized document, bad even for the US NRC's usual low standards. As almost always the case you are in violation of the rule that these documents are to be readable! "In support of Revision 16 of NUREG-1307, a similar survey was conducted. In response to this 24 survey, a price quote to disposition the components of the reference PWR and BWR at the Utah 25 disposal facility was obtained. Unit costs, exclusive of taxes, were provided for several different 26 categories of components, which are provided in Error! Reference source not found. The 27 updated rates represent an average increase of 8.3 percent, with the exception of evaporator 28 bottoms which</p>	<p>The report assumes that the LLW from decommissioning is packaged and disposed of in accordance with NRC regulations in 10 CFR Part 61, which is regulated/monitored by the NRC or the state regulator. Hence, removal and repackaging of LLW is not considered. No change to report.</p> <p>The noted errors were introduced during the conversion of the WORD version of the report to the Adobe PDF version of the report. All of these errors have been corrected.</p>

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		<p>increased by approximately 78.5 percent, compared to the 2012 rates."</p> <p>Among other things, the entire costs for Utah's Clive facility should have been included. How are we supposed to know anything from so much per cubic foot when the size of the objects are not readily available online! Since Energy Solutions is trying to buy the WCS facility this is extra important.</p> <p>We are also left without an idea of why the cost in South Carolina is so much higher as compared to Washington State? Is there a difference between practices in South Carolina vs. Texas vs. Washington State? If so, what? Is it based on climatic considerations or greed? And, why the huge reduction in cost in Washington State over the course of a decade?</p> <p>The average American, including working in government, is much worse in Math and has a much lower educational level than I do. And, much less time. If I can't glance through it over a couple of hours and figure it out this will be true of the majority and perhaps all. Once again, this is in violation of the rule that these documents are supposed to be</p>	<p>The capital costs of construction, annual operating costs, long-term monitoring costs, and other taxes and fees associated with each disposal facility are not needed for this report since unit disposal rates provided by each disposal facility operator are utilized to estimate the cost of disposal of the LLW from decommissioning. The LLW volume estimates are provided in the referenced reports, namely NUREG/CR-0130 and NUREG/CR-0672 (and associated addendums). No change to report.</p> <p>This report utilizes disposal rates as reported by each disposal facility operator. The NRC is not responsible for setting rates at the LLW disposal facilities and does not have information on how rates are set at each of the disposal facilities. The commenter should contact the disposal facility operators for information on how disposal rates are set at each facility. No change to report.</p> <p>The purpose of the report is to provide updated Bx, Ex, and Lx factors, applicable to the decommissioning fund formula in 10 CFR 50.75(c) and to show how these are developed. The detailed information on how the base decommissioning cost estimates and decommissioning fund formula were developed are provided in the associated reference,</p>

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		understandable for the general public. Understandable does not mean pouring over it for days, especially as this was posted for only one month.	namely NUREG/CR-0130 and NUREG/CR-0672 (and associated addendums). The commenter is referred to these reports for more details about how the decommissioning cost estimates in Table 3-1 and the decommissioning fund formula in 10 CFR 50.75(c) were developed. No change to report.
Mr. Robert Bledsoe, Unknown affiliation, but his e-mail represents Southern California Edison (SCE)	ML16362A183	Please see referenced file. My comments are primarily editorial, however, please note that the mathematical formulas on pages 13-14 are misstated and should be corrected.	<p>The NRC staff disagrees that the mathematical formulas on pages 13-14 are misstated. These formulas utilize standard accepted hierarchy for mathematical expression evaluation. Specifically, multiplication/division operators are evaluated first followed by addition/subtraction operators. Hence, the proposed changes were not made to the mathematical formulas on pages 13-14.</p> <p>Responses to other comments:</p> <p>In Chapter 1, third paragraph, the missing Chapter numbers and references to Appendices have been corrected.</p> <p>Footnote "a" for Table 2-1, the missing reference to Appendix B has been corrected.</p> <p>In Table 3-2 an editorial correction is made to the BWR "Transportation" cost by underlining the value "7.54".</p>

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			<p>In Section 3.1, first and second paragraphs, missing table numbers "3-2" have been corrected.</p> <p>In Section 3.2, second paragraph, missing reference to Appendix C has been corrected.</p> <p>In Section 3.2, equations, spacing within the equations has been corrected.</p> <p>Throughout the document "Ref" and "Refs" has been changed to "Ref." and "Refs."</p> <p>In Section 3.3, fifth paragraph, "contractor's cost models" is changed to "contractors' cost models". The fifth paragraph use of "models" is correct. The third paragraph is changed from "contractor's cost model" to "contractors' cost models".</p> <p>In Section 3.3, fourth paragraph, fourth bullet, "since" is revised to ", because".</p> <p>In Section 3.4, first paragraph, missing reference to Appendix D has been corrected.</p> <p>In Section 3.4, Examples, abbreviation for megawatt thermal is changed from "MWth" to "MW_{th}".</p>

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			<p>In Section 3.4, Examples, spacing within the equations has been corrected.</p> <p>In Section 3.4, Examples, equations as written are correct. No change (see the first response to this reviewers' comments above).</p> <p>In Section 3.4, Examples, the missing reference to Table 3-2 has been corrected.</p> <p>In Appendix A, first paragraph, the missing reference to Appendix B has been corrected.</p> <p>Appendix A.3, first paragraph, comma is removed after "Andrew County, Texas".</p> <p>Appendix A.4, third paragraph, comma is added after "facilities".</p> <p>Appendix A.4, fourth and fifth paragraph, the comma after "NUREG-1307" is correct. No change.</p> <p>Appendix A.4, sixth paragraph, the missing reference to Table A-2 has been corrected.</p> <p>Exhibit A-1, the spacing has been corrected.</p> <p>Appendix B.6, reference to "10 CFR Part 72" is technically correct. No change.</p>

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			In Appendix C, first paragraph, the missing reference to Chapter 3 has been corrected.