PR 10 CFR Part 61
(77FR72997)

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IEMA
Illinois Emergency Management Agency

Jonathon E. Monken, Director
Joseph Klinger, Assistant Director

January 7, 2013

Secretary
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Attn: Rulemakings and Adjudications Staff

Attached are the Illinois Emergency Management Agency (IEMA) comments on the proposed revisions to 10 CFR Part61 (Docket NRC-2011-0012). IEMA thanks the Commission for the opportunity to comment on the proposed regulatory revision.

Any questions pertaining to the attached comments may be directed to Michael Klebe at Michael.Klebe@illinois.gov or 217-785-9986.

Sincerely,

Adnan Khayyat, Chief
Bureau of Environmental Radiation Safety

Attachment

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Comments from the Illinois Emergency Management Agency on
November 2012 Preliminary Rule Language for Proposed Revisions to
Low-Level Waste Disposal Requirements (10 CFR Part 61)
[NRC-2011-0012]

The Illinois Emergency Management Agency (IEMA) thanks the US Nuclear Regulatory Commission (NRC) for the opportunity to review the proposed revisions to Part 61. While IEMA currently has regulations that have been deemed compatible with the existing Part 61, it is uncertain as to whether they will be utilized in Illinois since the development of a regional disposal facility for the Central Midwest Compact region currently is not economically viable. It would have been easier to review a version of the proposed revised regulations that shows the deleted language stricken out and not just new language underlined. IEMA offers the following general and specific comments for the NRC's consideration

General Comments –

Regulatory Framework:
IEMA acknowledges the difficulty in promulgating revisions to Part 61 and establishing a regulatory framework that ensures long-term public health and safety. The existing disposal facilities are licensed by agreement state programs. These disposal facilities are operating under the framework of the federal Low-Level Radioactive Waste Policy Act of 1980 and the Policy Amendments Act of 1985 and are subject to the policies, procedures and regulations of their respective compact commissions and host states. Given that these facilities operate as regional facilities, the host state only has regulatory authority over the disposal facility and those low-level radioactive waste generators in their state. The only means for a sited state to "regulate" the out of state generators is through conditions placed in the disposal facility's license. The regulatory framework of Part 61 must allow for this flexibility.

In addition, the regulatory framework of Part 61 must not work counter to the federal Policy Act and Amendments Act. The Amendments Act delineates which categories of LLRW are a state disposal responsibility and which are a federal responsibility. Specifically, section 3 of the Amendments Act states:

Sec. 3. Responsibilities For Disposal Of Low-Level Radioactive Waste

Section 3(a)(1) State Responsibilities. – Each State shall be responsible for providing, either by itself or in cooperation with other States, for the disposal of –

(A) low-level radioactive waste generated within the State (other than by the Federal Government) that consists of or contains class A, B, or C radioactive waste as defined by section 61.55 of title 10, Code of Federal Regulations, as in effect on January 26, 1983;

(B) low-level radioactive waste described in subparagraph (A) that is generated by the Federal Government except such waste that is–

(i) owned or generated by the Department of Energy;

(ii) owned or generated by the United States Navy as a result of the decommissioning of vessels of the United States Navy; or
(iii) owned or generated as a result of any research, development, testing, or production of any atomic weapon; and

(C) low-level radioactive waste described in subparagraphs (A) and (B) that is generated outside of the State and accepted for disposal in accordance with section 5 or 6.

(2) No regional disposal facility may be required to accept for disposal any material–
(A) that is not low-level radioactive waste as defined by section 61.55 of title 10, Code of Federal Regulations, as in effect on January 26, 1983, or
(B) identified under the Formerly Utilized Sites Remedial Action Program.

Nothing in this paragraph shall be deemed to prohibit a State, subject to the provisions of its compact, or a compact region from accepting for disposal any material identified in subparagraph (A) or (B).

(b)(1) The Federal Government shall be responsible for the disposal of–
(A) low-level radioactive waste owned or generated by the Department of Energy;
(B) low-level radioactive waste owned or generated by the United States Navy as a result of the decommissioning of vessels of the United States Navy;
(C) low-level radioactive waste owned or generated by the Federal Government as a result of any research, development, testing, or production of any atomic weapon; and
(D) any other low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the Commission for class C radioactive waste, as defined by section 61.55 of title 10, Code of Federal Regulations, as in effect on January 26, 1983.

[Note – paragraphs (b)(2) and (b)(3) have not been reproduced here.]

Any revision to Part 61 cannot change what LLRW states are responsible for providing disposal capacity. Revision to the waste classification tables in Part 61.55 would generate confusion on the part of the regulated community in delineating what is a state responsibility and what is a federal responsibility.

Period of Compliance:

As part of the creation of the United States Enrichment Corporation, 42 USC §2297h-11 states:

(c) State or interstate compacts

Notwithstanding any other provision of law, no State or interstate compact shall be liable for the treatment, storage, or disposal of any low-level radioactive waste (including mixed waste) attributable to the operation, decontamination, and decommissioning of any uranium enrichment facility.

Illinois is the host state for the Central Midwest Interstate LLRW Compact. The Commonwealth of Kentucky is the other member state of the compact. The depleted uranium wastes produced at the enrichment facility in Paducah, KY are a responsibility of the federal government and not the Commonwealth of Kentucky. Therefore, those wastes would not be disposed at a regional disposal facility in the Central Midwest Region. The disposal of DU in the regional disposal facility would be limited to incidental amounts of DU metal from ammunition projectiles,

counterweights and shielding. There would be no disposal of large quantities of DU. There would be no need for a 10,000 year period of compliance.

Given the anticipated waste to be disposed at a regional disposal facility in Illinois, the remaining inventory (including ingrowth of daughter products) remaining after 100 years is approximately 13% and 3% after a 1000 years. This decline in inventory does not justify a period of compliance longer than 1000 years.

The longer the period of compliance, the more difficult it is to perform the required analyses with any level of certainty. The number and likelihood of disruptive features, events or processes increase. There are several geologic processes that become more problematic the longer the compliance period considered. The central Unites States is subject to earthquakes primarily along the New Madrid and Wabash Valley seismic zones. According to the USGS, "the geologic record of pre-1811 earthquakes reveals that the New Madrid seismic zone has repeatedly produced sequences of major earthquakes, including several of magnitude 7 to 8, over the past 4,500 years." In addition, historical climate changes have brought significant change to the landforms of the upper Midwest portion of the country. The longer the compliance period, the more uncertain any analysis of climate related landform changes becomes.

IEMA recommends a compliance period of 1000 years. This is in keeping with Option 9 presented in the NRC's Regulatory Analysis for Proposed Revisions to Low-Level Waste Disposal Requirements dated November 29, 2012. It is also keeping with the intent of having a site specific analysis. Not all disposal facilities will receive large quantities of DU. Those that do should have a longer compliance period. A longer compliance period for facilities that will not receive large quantities of DU is not warranted. Option 9 has a second tier evaluation to peak dose with no specific dose limit. Not having a dose limit for the second tier could be problematic, but is warranted by the determination of a peak dose magnitude and time of occurrence.

Specific Comments –

The following comments are organized based on the numbering system used in the proposed revision.

1. In 10 CFR Part 20 Appendix G:

II. Certification –

IEMA concurs with the proposed changes. The additional language should address the concerns of host states that the waste is suitable for disposal and that deleterious alterations to the waste were not made by an intermediate party.

III. Control and Tracking

IEMA concurs with the proposed changes. The additional language clarifies the responsibility of the out of state generator to comply with the disposal facility's waste acceptance criteria and provides an enforcement mechanism for the LLRW generator or processor's regulatory agency.

2. In § 61.2

IEMA agrees that a definition should be provided for the term "Compliance period". The agency disagrees with the numerical value of 10,000 years. The compliance period needs to be site specific based on the anticipated waste streams to be disposed at the facility. Not all LLRW disposal facilities will receive significant quantities of long-lived waste or waste that will have significant ingrowth of daughter products. Just like site specific waste acceptance criteria, each disposal facility should have its own compliance period. IEMA proposes a 1000 year compliance period unless site specific conditions (anticipated waste receipts) warrant otherwise. This coincides with Option 9 from the NRC's Regulatory Analysis dated November 29, 2012.

3. In § 61.7

(a)(2) – It is not certain as to why the NRC retained the 500 year evaluation timeframe for evaluating a site. Does this 500 year period act counter to the length of time specified in the compliance period? Is this 500 year period the length of time for geologic, seismic or climatological impacts must be evaluated?

(c)(1) – In conducting the technical analysis, how long is the "long term"? Does this relate to the compliance period or the performance period or some other length of time?

(c)(5) – What defines "significant" in terms of concentrations or quantities of long-lived waste? Is it a numerical quantity or a relative percentage of overall inventories or some other measure?

(d) – IEMA supports the development of site specific waste acceptance criteria. As mentioned previously in these comments, each disposal facility is unique in its setting, design and anticipated waste streams. As such, it is appropriate that each disposal facility have specific waste acceptance criteria.

(g) – While IEMA agrees with the intent of the dose methodology used to demonstrate compliance, the Agency must reference specific documents or standards. The Illinois General Assembly's Joint Committee on Administrative Rules allows state agencies to incorporate standards by reference as long as it is to a specific standard with a specific edition number or date. IEMA would not be allowed, regardless of the required level of compatibility, to use the term "issued by consensus scientific organizations".

4. In § 61.12

(i) – IEMA supports the use of site-specific waste acceptance criteria. This allows the sited state regulator a greater level of control and certainty over waste originating in another state.

5. In § 61.13

The analyses identified in this section become more uncertain the longer the compliance period. Guidance would be required to assist the applicant and regulator in defining the range of performance variables for natural and engineered features of the disposal facility and the range of degrading mechanisms and disruptive processes.

9. In § 61.41

The ALARA objective for the performance period analysis is subject to debate as to what is a reasonable release. IEMA agrees that a fixed dose limit is not appropriate. However, specific guidance is warranted to assist the applicant and regulator as to what should be seen as reasonable.

10. In § 61.42

The addition of the 5 milliSieverts (500 millirems) standard for the inadvertent intruder dose during the compliance period eliminates the uncertainty for the applicant and regulator. Specific guidance is warranted to assist the applicant and regulator as to what should be seen as a reasonable intruder dose during the performance period.

15. In § 61.58

The addition of the site specific waste acceptance criteria is a positive action for the sited states. It allows the sited states to have greater certainty of the proper classification and characteristics of the waste disposed.

RulemakingComments Resource

From: Klebe, Michael [Michael.Klebe@illinois.gov]
Sent: Monday, January 07, 2013 3:06 PM
To: RulemakingComments Resource
Subject: Docket NRC-2011-0012 - Comments from IEMA
Attachments: IEMA comments docket NRC-2011-0012.pdf

Rulemakings and Adjudications Staff –

Attached please find comments from the Illinois Emergency Management Agency on the proposed revision to 10 CFR Part 61 (docket NRC-2011-0012). Please contact me if you have any questions.

Thank you,
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