February 12, 2014

MEMORANDUM TO: Mark A. Satorius
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary /RA/

SUBJECT: STAFF REQUIREMENTS – SECY-13-0075 – PROPOSED RULE: LOW-LEVEL RADIOACTIVE WASTE DISPOSAL (10 CFR PART 61) (RIN 3150-A192)

The Commission has approved publication of the proposed rule and draft guidance for public comment subject to the comments and changes note below.

1. The proposed rule should be revised to include a regulatory compliance period of 1,000 years.

2. The proposed rule should be published with a compatibility category “B” applied to the most significant provisions of the revised rule, including the Period of Compliance; the Protective Assurance Analysis Period and its analytical threshold, which, as it is approached, requires the applicant to propose remedial changes to the disposal site design, or impose inventory limits, or propose alternative methods of disposal; and the Waste Acceptance Criteria.

3. The Commission has approved staff's proposal to require a 10,000 year intruder assessment analysis, built upon the same assumptions as the compliance and protective assurance analyses contained in the rule, which should be detailed in guidance documents.

4. The site-specific analysis for protection of the general public within the 1,000-year compliance period should set a specific dose limit of 25 mrem/yr.

5. The staff should focus on ensuring a thorough review of the draft guidance by the limited community of disposal operations in the U.S. This includes the licensees, Agreement States, and interested public. The staff should also ensure the draft guidance is reviewed by the broader scientific and academic community and other government agencies with disposal experience.

6. The proposed rule should clearly indicate that the intruder assessment should be based on intrusion scenarios that are realistic and consistent with expected activities in and around the disposal site at the time of site closure.

7. A further protective assurance analysis should be performed for the period from the end of the compliance period through 10,000 years. Given the significant uncertainties inherent in these long timeframes, and to ensure a reasonable analysis, this performance assessment should reflect changes in features, events, and processes of the natural environment such as climatology, geology, and geomorphology only if scientific information compelling such changes from the compliance period is available. In general, this analysis should strive to minimize radiation dose with the goal of keeping doses below a 500 mrem/yr analytical threshold. The radiation doses should be reduced to a level that is reasonably achievable based on technological and economic considerations.

8. The Commission has approved the staff's proposal for applicants to provide a qualitative analysis covering a performance period of 10,000 years or more after site closure to evaluate the ability of the disposal system to mitigate long-term risks associated with the disposal of long-lived low-level radioactive waste.

9. The proposed rule should include a clear statement that licensing decisions are based on defense in depth (DID) protections, such as siting, waste forms and radionuclide content, engineered features, natural geologic features of the disposal site, and on performance assessment (PA) goals and insights, as well as scientific judgment. This combination of DID and PA should be identified as the "safety case" for licensing. The staff should clearly describe the attributes of the safety case in the proposed rule, as modified by this SRM, in terms of the types of DID protections and the role of the PA in satisfying performance criteria and establishing a safety case. Confirming changes should be made throughout the rulemaking package.

10. The staff should develop a specific question for the *Federal Register* notice that introduces this proposed rule regarding whether the compatibility designations assigned to the various sections of the proposed rule as modified by this SRM are appropriate and solicit comments on whether changes should be considered and for what reason. Although the Commission has assigned Compatibility "B" for the Compliance Period and the Protective Assurance Analysis Period, the staff should specifically solicit comment on that designation. In addition, a question should be added to the FRN regarding whether 500 mrem/yr is an appropriate analytical threshold for the Protective Assurance Analysis period.

11. The Advisory Committee on Reactor Safeguards (ACRS) is encouraged to continue to provide their independent review and recommendations on the technical basis supporting this rule, and the accompanying draft guidance, during the rulemaking period.

12. The public comment period should be extended to 120 days.

13. The revised *Federal Register* Notice (FRN) arising from the direction in the staff requirements memorandum should be provided to the Commission for its review no later than 10 business days prior to its transmittal for publication.

14. The following specific changes should be made to the FRN:

a. On page 1, 1st full paragraph, revise line 3 to read ' ... development of site-specific criteria ....'

b. On page 3, under "I." insert 2 new subtitles: "A. Accessing Information." and "B. Submitting Comments."

c. On page 13, last paragraph, revise line 2 to read ' ... to develop site-specific criteria ....'

d. On page 16, delete the 1st full paragraph (Development of … this notice.)

e. On page 16, 2nd full paragraph, revise line 4 to read ' ... streams in quantities greater than previously expected. In ....' Revise line 5 to read ' … in the ~~future~~ generation ….'

f. On page 16, delete the 3rd full paragraph (Some radionuclides … (47 FR 57456).)

g. On page 25, 1st full paragraph, revise line 7 to read ' ... would ~~have to~~ identify ....'

h. On page 60, paragraph 1., in line 2, delete the 2nd comma. In line 3, delete the comma.

i. On page 64, last paragraph, revise line 2 to read ' ... must ~~have to~~ be ....'

j. On page 83, 1st full paragraph, revise line 2 to read ' ... must ~~have to~~ be ....'

k. On page 105, paragraph II., revise line 3 to read ' ... disposal for a specific site; are properly ....'

l. On page 107, next to last paragraph, revise line 4 to read ' ... the waste included in or generated from a low-level radioactive waste facility.'

m. On page 111, paragraph (3), revise line 1 to read ' ... ~~It is possible, but unlikely, that persons~~ Inadvertent intruders might ....' Delete the sentence in lines 2 and 3 (These persons … intruders.)

n. On page 112, paragraph (4), revise line 1 to read ' ... The i~~I~~ntruder assessment must d~~D~~emonstrate~~ing~~ protection of inadvertent intruders ~~by requires requiring~~ through the ~~an~~ ....'

o. On page 114, paragraph (3), revise line 2 to read ' ... years is typically designated as ....'

15. The following specific changes should be made to the Regulatory Analysis:

p. On page 3, last paragraph, revise line**s** 6 and 7 to read ' ... classification limits (Note that the dose to an intruder exposed to a large volume of disposed LLRW at the classification limits could exceed 5 mSv/yr (500 mrem/yr)). By complying ….'

q. On page 10, paragraph 2., revise line 1 to read ' ... in the ~~Office of Management and Budget (~~OMB~~)~~ Circular ....'

cc: Chairman Macfarlane
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff
OGC
CFO
OCA
OPA
Office Directors, Regions, ACRS, ASLBP (via E-Mail)
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