

IN RESPONSE, PLEASE
REFER TO: M990824

August 24, 1999

MEMORANDUM FOR: William D. Travers
Executive Director for Operations

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

SUBJECT: STAFF REQUIREMENTS - AFFIRMATION SESSION, 2:00 P.M.,
TUESDAY, AUGUST 24, 1999, COMMISSIONERS'
CONFERENCE ROOM, ONE WHITE FLINT NORTH, ROCKVILLE,
MARYLAND (OPEN TO PUBLIC ATTENDANCE)

I. SECY-99-202 - Final Rule -- "Changes to Requirements for Environmental Review for
Renewal of Nuclear Power Plant Operating Licenses (10 CFR Part 51)

The Commission (with all Commissioners agreeing) approved a final rule which amends 10 CFR Part 51 to eliminate the requirement that license renewal applicants address the generic and cumulative environmental impacts associated with transportation operations in the vicinity of a high-level waste repository site. This final rule also considers the potential impacts of more highly enriched and high burnup fuel. The rule also addresses local traffic impacts attributable to continued operation of the plant during the license renewal term.

The Commission approved the publication and implementation of this final rule subject to the changes indicated in Attachment 1.

Following incorporation of the changes, the Federal Register notice should be reviewed by the Rules Review and Directives Branch in the Office of Administration and forwarded to the Office of the Secretary for signature and publication.

The Commission also approved the press release and Congressional letters subject to the changes indicated in Attachments 1 and 2.

Attachments:

1. Comments and Changes to the Final Rule in SECY-99-202, Including the *Federal Register* Notice, Notice of Availability, NUREG-1437, Vol. 1, Addendum 1, Press Release, and Congressional Letters
2. Changes to Congressional Letters

cc: Chairman Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield
EDO
OGC
CIO
CFO
OCAA
OCA
OIG
OPA
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)
PDR - Advance
DCS - P1-17

Comments and Changes to the Final Rule in SECY-99-202

General Comment

1. Where edits have been made to either the FRN or Addendum, the staff should ensure that conforming changes are made to ensure consistency between the documents, particularly the “comment and response” sections.

Comments on *Federal Register* Notice

2. The following text should be inserted on page 2, as the last paragraph of the “SUMMARY:” section:

In analyzing the environmental impact of transporting spent fuel and waste in the vicinity of a single repository, the NRC evaluated the impact in the vicinity of Yucca Mountain and specifically the impacts in the vicinity of Las Vegas, NV. The NRC elected to evaluate the impacts in the vicinity of Yucca Mountain because Yucca Mountain is the only location currently being evaluated for a repository under the Nuclear Waste Policy Act. The NRC’s analysis of the impacts in the vicinity of Yucca Mountain in this instance does not prejudice the eventual licensing of Yucca Mountain as a repository. Rather, it reflects NRC’s existing license renewal process by reflecting current repository activities and policies. If an application is filed by the Department of Energy (DOE), the licensing process for a repository in the vicinity of Yucca Mountain will constitute an entirely separate regulatory action from the proposed final rule. Furthermore, if, based on technical or national policy considerations, some site other than Yucca Mountain is selected in the future for study as a repository, the NRC will evaluate the applicability of the generic environmental impact statement for the license renewal process to other proposed repository sites.

3. Revise page 5, last paragraph, third sentence, as follows:

Although the NRC did not extend the public comment period, ~~the NRC staff did, however,~~ consider comments dated as late as June 25, 1999, and received as late as early July 1999.

4. Revise page 6, second full paragraph, eighth line, as follows: delete “ever” after “If an application is”

5. Revise page 11, last paragraph, third sentence, as follows:

While the notice’s title did not include the specific term “transportation,” ~~the titles define~~ the subject matter of ...

6. Revise page 12, first full paragraph: delete the last sentence that begins “Consequently, the NRC believes”

7. Revise the sentence which starts at the bottom of page 13 and continues onto page 14, as follows:

Before HLW is actually transported to Yucca Mountain, Nevada, the State, local Governments, Indian Tribes, and the public ~~have will have~~ the opportunity to **provide input comment** on site-specific transportation impacts **by commenting on** ~~when DOE's publishes its draft EIS for the proposed a repository at the Yucca Mountain site-, which was made available for a 180-day comment period beginning on August 13, 1999~~ (<http://www.ymp.gov>).

8. Revise page 15, last (partial) sentence on the page: replace "the U.S. Department of Energy" with "DOE"

9. Revise page 17, first paragraph, last sentence, as follows:

However, these revised dose estimates ~~are~~ **remain well below regulatory limits for members of the public and** small compared to natural **background** and other sources of radiation exposure.

10. Revise the page 18 "Response:" section, as follows:

Make the current last paragraph the new second sentence of the first paragraph and change "Finally," to "However,"

Combine the rest of the current first paragraph (sentences two and three) that begins with "To a limited extent, " with the current second paragraph to form a new second paragraph.

11. Revise page 20, first full paragraph, sixth sentence: insert "traditionally" between "NRC" and "considers"

12. Revise page 22, first line, as follows: delete "--"

13. Revise page 23, first partial paragraph, by adding the following sentence:

Its availability will be noticed in the Federal Register.

14. Revise page 24, first line, as follows: change "anticipated" to "included"

15. Revise page 24, last sentence, as follows:

The NRC staff notes that DOE ~~will address~~ **es** transportation ..."

16. Revise page 26, second paragraph of Issue 7 response, as follows: delete first "be" of "be still be acceptably small"

17. Revise page 30, last paragraph, second sentence: correct capitalization of “The”
18. Revise page 31, as follows: add an “of” before “SNF”
19. Revise page 33, first partial paragraph, second complete sentence, as follows:

The NRC notes that DOE will address transportation impacts, mitigation measures, and alternative transportation modes in its EIS for the proposed action to develop a repository at Yucca Mountain.
20. Revise page 37, first full paragraph, last line, as follows: correct spelling of “adjust”
21. Revise page 37, “Comment.” paragraph, as follows: add “schedule” after “DOE is behind”
22. The following text should be inserted at the bottom of page 41:

On June 22, 1999, the Nevada Attorney General filed a petition with the Commission which requested the NRC to amend regulations governing safeguards for shipments of spent nuclear fuel against sabotage and terrorism and to initiate a comprehensive assessment. In particular, the petition indicated that NRC should factor into its regulations the changing nature of threats posed by domestic terrorists, the increased availability of advanced weaponry and the greater vulnerability of larger shipping casks traveling across the country. If, as a result of reviewing this petition, the NRC reaches conclusions that are inconsistent with the results or assumptions in the present rulemaking, the Commission will need to revisit the analysis presented here.

Comments on Notice of Availability

23. Revise first paragraph, as follows:

Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, to Include Consideration of Certain Transportation Impacts, and Availability of Supplemental Environmental Impact Statement

Comments on NUREG-1437, Vol. 1, Addendum 1

24. Revise page 5, second line, as follows: delete “and” before “Section 2.4 discusses”
25. Revise page 5, Section 2.1, last line, as follows: change “only using” to “using only”
26. Revise page 6, end of first paragraph, by adding the following sentence after “its final EIS until 2000.”

DOE recently issued its draft EIS for a 180-day public comment period beginning on August 13, 1999.

27. Revise page 7, second full paragraph, last line, as follows: change “of the order of 75,000” to “on the order of 75,000”
28. The first full paragraph on page 13 is not consistent with the first full paragraph on page 27. The text on page 13 states that the radiation dose to the public from the casks was assumed to consist entirely of gamma radiation for calculation of the incident-free dose. The text on page 27 states that the increase in the total radiation dose rate due to higher burnup is complicated because the dose rate is the sum of the gamma-ray and the neutron dose rates. Correct or clarify these paragraphs.
29. Revise page 15, section 2.3.1, third paragraph, last three sentences, as follows:

More simply put, the LRFc figures represent the additional number of total potential fatalities assumed within the Clark County population due to the shipment of all of the SNF over the entire life of the **transportation campaign to the repository**. Table 4 shows that, using the bounding assumptions for this study, between 2 and 3 excess fatal cancers are predicted. The sum of incident-free and accident risks is 2.592 LRFc for the southern route using the beltway **over the entire life of the transportation campaign to the repository**; other scenarios have lower estimated risks.
30. Revise page 18, first line, as follows: add “for incident-free transport” after “maximally exposed individual would”
31. Revise page 21, as follows: change “LRCFs” and “LRCF” to “LRFcs” and “LRFc,” respectively
32. Revise page 21, section 2.5, first paragraph, as follows:

As shown in Table 4, the conservatively estimated LRFc assumed to result from radiation exposure related to transportation of SNF in Clark County **over the entire 40-60 year life of the transportation campaign to the repository** is between 1.6 and 2.6 (including the risk due to potential accidents) **or less than 0.05 LRFc/year**. For comparison, it is estimated that there would be about 5700 ~~LRCF~~-LRFc for each year **in Clark County** from causes unrelated to SNF transport.
33. Revise page 21, section 2.5, second paragraph, fourth line, as follows: add “entire” after “about 2.3 and 2.6 fatalities over the”
34. Revise page 23, second paragraph, first sentence, as follows: add “, even under accident scenarios.” to the first sentence.
35. Revise page 26, second paragraph, sixth line, as follows: add “and, in some cases, as many as 40 years earlier.” after “5 years earlier”
36. The discussion in the first full paragraph on page 26 regarding the “5-year cooling period” for spent fuel should be enhanced to point out that 5 years is an extremely conservative estimate. For example, there is almost 40,000 tons of spent fuel in storage now, some of which has been in storage for decades. At the earliest, if Yucca Mountain were found suitable and if DOE were successful in obtaining an NRC license, it will be at least 11

years from now until Yucca Mountain would be ready to accept spent fuel for storage. It would take many years to work off the backlog of stored spent fuel much less the spent fuel that will be generated in the intervening years.

37. Revise page 26, section 3.2, first paragraph, first sentence, as follows: add “, motivated in part by a desire to minimize spent fuel inventory,” after “irradiated to higher burnup levels”
38. Revise page 27, second full paragraph, first line, as follows: change “half” to “halve”
39. Revise page 39, second full paragraph, first line, as follows: add “conservatively” after “the revised RADTRAN analysis”
40. Revise page 40, first partial paragraph, sixth line, as follows: delete “might” after “Even though these events”
41. Revise page 43, Issue 7, “Response:” section, as follows:

Second line: add “fuel” after “analysis of higher burnup”

Eighth line: add “, all other things being equal.” after “with radiological releases would also increase”
42. Revise page 43, Issue 9, “Response:” section, first sentence, as follows:

transportation of fuel and waste to and from a nuclear power plant **at a repository such as as long as** Yucca Mountain, Nevada, **which** is under consideration as a HLW repository.
43. Revise page 45, fifth paragraph, eighth line, as follows: add “of” before “SNF”
44. Revise page 48, fifth paragraph, fifth line, as follows: correct spelling of “adjust”
45. Revise page 48, seventh paragraph, second line, as follows: add “schedule” after “DOE is behind”
46. Revise page 49, second full paragraph, last sentence, as follows:

Rather than speculate on which transportation option or options will ultimately be selected, the NRC staff has chosen a mode and routes to Yucca Mountain which in its judgement will have the greatest potential environmental impacts **in order to do a bounding analysis for the purpose of this rulemaking.**
47. The following text should be inserted at the bottom of page 50 (it should appear as the last paragraph to the response on the sabotage comment):

On June 22, 1999, the Nevada Attorney General filed a petition with the Commission which requested the NRC to amend regulations governing safeguards for shipments of spent nuclear fuel against sabotage and terrorism and to initiate a comprehensive assessment. In particular, the petition indicated that NRC should factor into its regulations the changing nature of threats posed by domestic terrorists, the increased availability of

advanced weaponry and the greater vulnerability of larger shipping casks traveling across the country. If, as a result of reviewing this petition, the NRC reaches conclusions that are inconsistent with the results or assumptions in the present rulemaking, the Commission will need to revisit the analysis presented here.

Comments on Press Release

48. Revise page 1, title of press release, as follows:

NRC AMENDS ENVIRONMENTAL REVIEWS TO RENEW NUCLEAR POWER PLANT OPERATING LICENSES TO INCLUDE CONSIDERATION OF CERTAIN TRANSPORTATION IMPACTS

49. Revise and replace the page 2, second paragraph, first sentence, as follows:

Regarding the first change, new studies have given the NRC confidence that the expected environmental impact of transporting spent fuel from all plant sites to a repository, such as Yucca Mountain, can be ~~handled~~ applied generically -- that is, in a fashion that is equally applicable way that applies to each plant within the whole nuclear power industry, rather than focusing on each. ~~This conclusion eliminates the need for each licensee to conduct its own specific site evaluation as part of at the time its license renewal application, is undergoing NRC review.~~ as long as no new and significant information exists. In its generic analysis, the staff made a number of "conservative" assumptions which means that the assumptions would lead to an overestimate of the actual environmental impacts of transporting spent fuel to a single location.

50. The following text should be inserted as the penultimate paragraph of the press release:

In analyzing the environmental impact of transporting spent fuel and waste in the vicinity of a single repository, the NRC evaluated the impact in the vicinity of Yucca Mountain and specifically the impacts in the vicinity of Las Vegas, NV. The NRC elected to evaluate the impacts in the vicinity of Yucca Mountain because Yucca Mountain is the only location currently being evaluated for a repository under the Nuclear Waste Policy Act. The NRC's analysis of the impacts in the vicinity of Yucca Mountain in this instance does not prejudice the eventual licensing of Yucca Mountain as a repository. Rather, it reflects NRC's existing license renewal process by reflecting current repository activities and policies. If an application is filed by the Department of Energy (DOE), the licensing process for a repository in the vicinity of Yucca Mountain will constitute an entirely separate regulatory action from the proposed final rule. Furthermore, if, based on technical or national policy considerations, some site other than Yucca Mountain is selected in the future for study as a repository, the NRC will evaluate the applicability of the generic environmental impact statement for the license renewal process to other proposed repository sites.

Comments on Congressional Letters

51. While the staff adequately explained in the *Federal Register* Notice that this rulemaking and the supporting addendum to the generic environmental impact statement are not related to a decision regarding licensing of Yucca Mountain as a repository, the letters to Congress should be revised to reflect the same sensitivity. The staff should revise the letters in a manner consistent with attachment 2.

Attachment 2

The Honorable James M. Inhofe, Chairman [Revise letter to Rep. Barton similarly]
Subcommittee on Clean Air, Wetlands, Private
Property and Nuclear Safety
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The U.S. Nuclear Regulatory Commission intends to publish in the *Federal Register* the a final rule, "Changes to Requirements for Environmental Review for Renewal of Nuclear Power Plant Operating Licenses," that amends requirements to the Commission's rule in 10 CFR Part 51 - Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions.

~~The final rule amends requirements that were published in the *Federal Register* on December 18, 1996 (61 FR 66537), "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses," by eliminating from 10 CFR Part 51 the requirement that license renewal applicants address the generic and cumulative environmental impacts associated with transportation operations in the vicinity of a high-level waste repository site. This final rule also considers the potential impacts of higher enriched and higher burnup fuel than is currently covered in 10 CFR 51.52 and is supported by the generic analysis in the final report of NUREG-1437, Vol. 1, Addendum 1, titled "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Main Report Section 6.3—Transportation, Table 9.1 Summary of findings on NEPA issues for license renewal of nuclear power plants."~~

The final rule enhances the efficiency of the NRC's license renewal process for operating reactors by eliminating the existing requirement for individual license renewal applicants to evaluate the environmental impact of transporting fuel and waste. To support the change, the NRC has evaluated generically the environmental impacts associated with transporting spent nuclear fuel in the vicinity of a single high level waste repository site. The NRC also evaluated generically the environmental impact associated with the transport of spent fuel with higher uranium enrichments and higher burnups than were assumed in previous analyses. The analysis of higher enrichments and burnups accounts for the characteristics of current inventories of spent fuel and of spent fuel likely to be generated during the period of extended operation provided by the license renewal process.

In analyzing the environmental impact of transporting spent fuel and waste in the vicinity of a single repository, the NRC evaluated the impact in the vicinity of Yucca Mountain and specifically the impacts in the vicinity of Las Vegas, NV. The NRC elected to evaluate the impacts in the vicinity of Yucca Mountain because Yucca Mountain is the only location currently being evaluated for a repository under the Nuclear Waste Policy Act. The NRC's analysis of the impacts in the vicinity of Yucca Mountain in this instance does not prejudice the eventual licensing of Yucca Mountain as a repository. Rather, it reflects NRC's existing license renewal process by reflecting current repository activities and policies. If an application is filed by the Department of Energy (DOE), the licensing process for a repository in the vicinity of Yucca Mountain will constitute an

entirely separate regulatory action from the proposed final rule. Furthermore, if, based on technical or national policy considerations, some site other than Yucca Mountain is selected in the future for study as a repository, the NRC will evaluate the applicability of the generic environmental impact statement for the license renewal process to other proposed repository sites.

The NRC study which supports this final rule is enclosed and is entitled NUREG-1437, Vol. 1, Addendum 1, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Main Report Section 6.3 — Transportation, Table 9.1 Summary of findings on NEPA issues for license renewal of nuclear power plants."

Also, this amendment incorporates rule language to be consistent with the findings in NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (May 1996), to address local traffic impacts attributable to continued operation of the plant during the license renewal term. This issue was identified in NUREG-1437 for inclusion in the rule. However, the issue was inadvertently omitted from the 1996 rule. The net effect of this action will be to reduce the regulatory burden on licensees without compromising environmental protection.

Sincerely,

Dennis K. Rathbun, Director
Office of Congressional Affairs

Enclosures: (1) *Federal Register* Notice
(2) NUREG-1437, Vol. 1, Addendum 1,

cc w/enclosure: Senator Bob Graham
Senator Pete Domenici
Senator Harry Reid