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S. Shackman

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Nov. 8, 1996

Department of Energy

Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

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USNRC

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February 26, 1997

Chief, Rules Review and Directives Branch
Division of Freedom of Information and Publications Services
Mail Stop T-6-D-59
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555-0001

SUBJECT: U. S. Nuclear Regulatory Commission Draft Report for Comment NUREG 1567,
Standard Review Plan for Spent Nuclear Fuel Dry Storage Facilities (OPE-SFP-
97-058)

Dear Sir:

In accordance with your solicitation for comments on NUREG 1567, Standard Review Plan for Spent Nuclear Fuel Dry Storage Facilities, the U. S. Department of Energy, Idaho Operations Office has reviewed the document. Based on its review DOE-ID considers NUREG 1567 to be well written, informative, and to be of great assistance in the preparation of future license applications. Our comments are enclosed.

If you have any questions or would like to discuss our comments, please contact me at (208) 526-0758 or Charles Maggart at (208) 526-5560.

Sincerely,

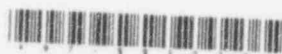
Jan Hagers
Licensing Manager

Enclosure

cc w/enc:

Dr. S. Le Roy, LMITCO, M/S 3140

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PDR NUREG
1567 C PDR



IGP-11 Guides & Records
XID3R-5 Facility License

ENCLOSURE

U. S. Department of Energy - Idaho Operations

Comments on U. S. Nuclear Regulatory Commission Draft Report for Comment
NUREG 1567, Standard Review Plan for Spent Nuclear Fuel Dry Storage Facilities

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 1

ISSUE: Department of Energy Spent Nuclear Fuel

Chapter: General Section: General Paragraph:

Type of Issue: (Please select one of the following categories.)

Suggestion: x Addition: Grammatical
Error:
Inconsistency: Clarification:

Comment:

It appears that the NUREG was written with commercial spent nuclear fuel types in mind. For Department of Energy spent nuclear fuel, some information may not be available. For these circumstances, conservative bounding assumptions would need to be considered.

Bases for Comment:

A review of some Department of Energy spent nuclear fuel results in many different fuel types with different cladding materials, and specific power profiles. In some cases, the power profiles are undetermined.

Suggested revision/Replacement Language:

Add a discussion to applicable sections describing the acceptance and use of bounding analyses (e.g., Sections 3, 7, 8, 9, 10, 11, 12).

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 2

ISSUE: Seismic

Chapter: 2 Section: 2.4.6.2 Paragraph: 1

Type of Issue: (Please select one of the following categories.)

Suggestion:	Addition:	<u>x</u>	Grammatical
Inconsistency:	Clarification:	<u>x</u>	Error: <u> </u>

Comment:

There is no mention here that probabilistic seismic hazard assessment (in accordance with Appendix B to 10 CFR Part 100 - soon to be published) is an acceptable alternative to the Appendix A deterministic procedure.

Bases for Comment:

Since the probabilistic approach is mentioned in Section 2.5.6 as an acceptable alternative, it should also be noted here.

Suggested revision/Replacement Language:

Add a final sentence to the section similar to the following: "Probabilistic assessments of the maximum vibratory ground motion at the site is an acceptable alternative, and should be performed in accordance with procedures described in Appendix B to 10 CFR Part 100."

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 3

ISSUE: Seismic

Chapter: 2 Section: 2.5.6.2 Paragraph: 2

Type of Issue: (Please select one of the following categories.)

Suggestion: _____ Addition: _____ Grammatical Error: _____
Inconsistency: _____ Clarification: x

Comment:

The first sentence of this paragraph is unclear. We believe it should refer to the "maximum displacement per event during the Quaternary"

Bases for Comment:

"the nature and amount of the maximum displacement event" does not make sense.

Suggested revision/Replacement Language:

"..., and the nature of displacement and amount of maximum displacement per event during the Quaternary."

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 4

ISSUE: Seismic

Chapter: 2 Section: 2.3 Paragraph: 72.102
2.5.6.2 3 & 4

Type of Issue: (Please select one of the following categories.)

Suggestion: x Addition: _____ Grammatical
Error: _____
Inconsistency: _____ Clarification: x

Comment:

NUREG 1567 implies that an ISFSI should have the same level of seismic hazards assessment and seismic design as a commercial nuclear power plant (i.e., prescribing 10 CFR Part 100, Appendix A and B). In reality, this is probably "overkill" because the risk (hazard times consequence) associated with an ISFSI is not comparable to that of a power plant.

Clarification should be provided about what the design earthquake is for sites that are not located near nuclear facilities. For ISFSIs that do not have the level of risk of nuclear plants, it is unnecessary to design to the earthquake that engenders the greatest peak acceleration. The NRC should decide the level of risk or provide a procedure to determine an appropriate level of risk for an ISFSI. The design earthquake should be consistent with this specified level of risk (or safety). From that basis, the design earthquake should be developed using seismic hazards analyses consistent with 10 CFR Part 100, Appendix A (or B) and Regulatory Guide 1.165.

Bases for Comment:

Beyond design basis events can be used as a bounding limit to identify unmitigated consequences of an event. If the unmitigated consequences are significantly less than the dose limit specified in 10 CFR Part 72.106(b), then the less stringent seismic design should be used.

Horizontal storage modules can be designed to protect its contents against credible accidents and reduce the possibility for overturning during seismic events.

Suggested revision/Replacement Language:

Develop and incorporate criteria into NUREG 1567 that is more appropriate to the risk associated with an ISFSI.

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 5

ISSUE: Scismic

Chapter: 2 Section: 2.5.6.2 Paragraph: 4

Type of Issue: (Please select one of the following categories.)

Suggestion:	Addition:	<u>x</u>	Grammatical
			Error:
Inconsistency:	<u> </u>	Clarification:	<u> </u>
	<u> </u>		<u> </u>

Comment:

The second sentence of this paragraph should also reference Wells and Coppersmith, 1994 as an accepted source for fault length-magnitude relationship: Wells, D. L. and Coppersmith, K. J. (1994) New empirical relationships among magnitude, rupture length, rupture area, and surface displacement; Bulletin of Seismological Society of America, v.84, p.974-1002.

Bases for Comment:

This paper includes a compilation that is a decade more recent than the other two references, and includes a much larger empirical database on which to develop magnitude relationships.

Suggested revision/Replacement Language:

Add Wells and Coppersmith (1994) to the citation list and revise reference list accordingly (the complete citation is given above).

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 6

ISSUE: Seismic

Chapter: 2 Section: 2.5.6.2 Paragraph: 4

Type of Issue: (Please select one of the following categories.)

Suggestion:	<u>x</u>	Addition:		Grammatical
				Error:
Inconsistency:	<u> </u>	Clarification:	<u> x </u>	<u> </u>

Comment:

The fourth sentence refers to a "floating earthquake". A more "up-to-date" term is "background earthquake".

Bases for Comment:

Usage in a recent (1996) probabilistic seismic hazards assessment done for DOE's Idaho National Engineering and Environmental Laboratory.

Suggested revision/Replacement Language:

Add "(background earthquake)" after "floating earthquake"

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 7

ISSUE: Venting of Storage System

Chapter: 3 Section: General Paragraph:

Type of Issue: (Please select one of the following categories.)

Suggestion: x Addition: Grammatical
Error:
Inconsistency: Clarification:

Comment:

In some situations, fuel or fuel debris may need to be stored in a storage cask system that is vented through a filtration system.

Bases for Comment:

It is possible that some fuel types may be such that complete drying, including the removal of water of hydration may not be practical (e.g., TMI-2 core debris).

Suggested revision/Replacement Language:

It would be helpful if some provisions were made for vented system, and if acceptance criteria were provided in the NUREG for such systems.

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 8

ISSUE: Structural Analysis Methodology

Chapter: 7 Section: 4 Paragraph: 7.4.2.3

Type of Issue: (Please select one of the following categories.)

Suggestion:	<u>x</u>	Addition:		Grammatical
Inconsistency:	<u> </u>	Clarification:	<u> </u>	Error: <u> </u>

Comment:

The NUREG does not recognize DOE-STD-1020-94 as an acceptable methodology.

Bases for Comment:

Within the DOE system, DOE-STD-1020-94 would be used relative to the requirements for a dynamic analysis approach, damping factors, inelastic absorption factors, wind, flood, etc.

Suggested revision/Replacement Language:

Incorporate DOE-STD-1020-94 into NUREG 1567 as an acceptable methodology.

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 9

ISSUE: Direct Dose to Off-site Public

Chapter: 9 Section: 9.4.6 Paragraph: 2

Type of Issue: (Please select one of the following categories.)

Suggestion:	Addition:	Grammatical
Inconsistency:	Clarification:	Error:
<u>x</u>	<u></u>	<u></u>

Comment:

Section 9.4.6 does not address dose to members of the public by any other means than direct radiation. An evaluation of public dose should include pathways of inhalation and ingestion.

Bases for Comment:

Section 9.4.4.2, dose to workers within the controlled also addresses inhalation.

Suggested revision/Replacement Language:

Total dose for public should be included as it is for workers in Step 9.4.4.2.

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 10

ISSUE: Level of detail requested to be in the licensing documentation.

Chapter: 15 Section: General Paragraph: _____

Type of Issue: (Please select one of the following categories.)

Suggestion:	Addition:	Grammatical
Inconsistency: _____	Clarification: <u>x</u>	Error: _____

Comment:

Chapter 15 provides very prescriptive criteria for a license application. Normally this level of detail is not defined in a QA Program Topical Report or the QA chapter of a license application. This level of detail is normally contained within the QA Program of the licensee which may include a QA Topical Report, a QA Program Manual, and appropriate implementing procedures. All of these are available for review and, or verification by the NRC staff.

Bases for Comment:

Based on past involvement with licensing efforts, this level of detail expands what has previously been acceptable to the NRC staff. It also increases preparation and review time on the part of the licensee and NRC staff.

Suggested revision/Replacement Language:

Reduce the specificity and prescriptive nature of Chapter 15, and allow licensees to maintain this level of detail within QA program implementation documents.

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations

Comment No: 11

ISSUE: Application and definition of graded approach

Chapter: 15

Section: 15.1

Paragraph: 3

72.144

(b)

72.154

(c)

15.4

1 through 5

Type of Issue: (Please select one of the following categories.)

Suggestion: x

Addition:

Grammatical

Error:

Inconsistency:

Clarification:

Comment:

The referenced paragraphs use statements like: "...in a graded approach..., ...to an extent commensurate with the importance to safety..., ...consistent with the importance...; and, ...to their importance to safety (graded approach)." There have been many interpretations of "graded approach" which has lead to inconsistency and confusion.

Sections 3.4.2.2, 5.3, and 7.3 also mention graded approach but do not tie back to Chapter 15.

Section 3.4.2.2 also identifies NUREG/CR-6407 as guidance for classifying systems, structures, and components according to safety. However, this guidance is not identified in Chapter 15.

Bases for Comment:

Prior experience applying graded approach concepts.

Suggested revision/Replacement Language:

The acceptance and addition of guidance such as provided in Regulatory Guide 7.10 Appendix A would be helpful in determining the appropriate management controls for this application.

COMMENT SHEET
NUREG 1567

Commentator: Jan Hagers, DOE-Idaho Operations Comment No: 12

ISSUE: Applicability of QA Program to contractors

Chapter: 15 Section: 15.4.1 Paragraph: First dash under first bullet

Type of Issue: (Please select one of the following categories.)

Suggestion:	Addition:	Grammatical Error:
Inconsistency: <u> </u>	Clarification: <u> x </u>	<u> </u>

Comment:

This section states: "...and by contractors with continuing functional responsibilities."

Bases for Comment:

It is unclear as what constitutes "continuing functional responsibilities."

Suggested revision/Replacement Language:

Provide explanation of what constitutes "continuing functional responsibilities."