

August 2, 2005

Mr. Joseph D. Ziegler, Director  
Office of License Application and Strategy  
Office of Repository Development  
U.S. Department of Energy  
1551 Hillshire Drive  
North Las Vegas, NV 89134-6321

SUBJECT: PRELICENSING EVALUATION OF PRECLOSURE KEY TECHNICAL ISSUE  
PRE.3.01

Dear Mr. Ziegler:

The purpose of this letter is to address issues related to the current aircraft hazard analysis approach that the U.S. Department of Energy (DOE) has presented to support a potential License Application (LA) for the geologic repository operations area at Yucca Mountain, Nevada. Aircraft hazards have been a subject of the preclosure technical issue agreement PRE.3.01. In response to the Key Technical Issues agreement, DOE recently provided updates to the two documents related to aircraft hazards titled "*Identification of Aircraft Hazards*" and "*Frequency Analysis of Aircraft Hazards for License Application*." In addition, on June 1, 2005, U.S. Nuclear Regulatory Commission (NRC) and DOE met in a technical exchange to discuss the updated aircraft hazard approach.

At the June 1, 2005, technical exchange the NRC discussed several topics such as the hazard identification and crash frequency estimation methodologies, the bases for various assumptions, potential discrepancies in the use of aircraft mishap data, and credit for structural robustness of the preclosure facilities. During the technical exchange, DOE indicated it would perform additional analysis (e.g., sensitivity studies) to further address some of the questions.

NRC staff has reviewed the two aircraft hazards documents that DOE provided in response to Agreement PRE.3.01. Based on our review of these documents, and information provided at the June 1, 2005, technical exchange, the NRC considers Agreement PRE.3.01 to be closed, because DOE provided a plan for identification and estimation of aircraft hazards for the LA, as requested by Agreement PRE.3.01. However, several issues remain regarding the basis for DOE's identification and estimation of aircraft hazards. Also, the suitability of DOE's current methodology for assessing the structural robustness of engineered barriers is unclear. These items are addressed in the NRC staff feedback that is provided in Enclosure 1 to this letter.

It is up to DOE to decide how, or whether, to respond to the staff's feedback. However, DOE should note that it may need to address some or all of these items in a potential LA, depending on the final aircraft hazard analysis approach used in the preclosure safety analysis. The DOE should also note that the NRC intends to continue reviewing DOE information related to aircraft crash hazards for the purpose of preparing for a potential LA, including specific issues related to structural robustness and aircraft impacts. As such, NRC staff would be interested in reviewing any potential updates to the supporting documents and related analyses.

In accordance with 10 CFR 2.390 of the NRC's "Rules of General Applicability," a copy of this letter will be available electronically in the NRC Public Document Room or from the Publicly Available Records component of the NRC's document system (ADAMS). The ADAMS package accession number is ML051960063. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this matter, please contact David M. Dancer at 301-415-6618 or by e-mail at [dmd@nrc.gov](mailto:dmd@nrc.gov).

Sincerely,

/RA/

Lawrence E. Kokajko, Deputy Director  
Division of High-Level Waste Repository Safety  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: NRC Staff Feedback on DOE Aircraft Hazard Analyses

cc: See attached list.

Letter to J. D. Ziegler from L. E. Kokajko, dated: August 2, 2005

cc:

A. Kalt, Churchill County, NV	A. Elzeftawy, Las Vegas Paiute Tribe
R. Massey, Churchill/Lander County, NV	J. Treichel, Nuclear Waste Task Force
I. Navis, Clark County, NV	W. Briggs, Ross, Dixon & Bell
E. von Tiesenhausen, Clark County, NV	R. Murray, DOE/ORD
G. McCorkell, Esmeralda County, NV	G. Runkle, DOE/Washington, D.C.
R. Damele, Eureka County, NV	C. Einberg, DOE/Washington, D.C.
L. Marshall, Eureka County, NV	S. Gomberg, DOE/Washington, D.C.
A. Johnson, Eureka County, NV	W. J. Arthur, III, DOE/ORD
A. Remus, Inyo County, CA	R. Dyer, DOE/ORD
M. Yarbrow, Lander County, NV	J. Ziegler, DOE/ORD
J. Donnell, DOE/ORD	A. Gil, DOE/ORD
M. Baughman, Lincoln County, NV	W. Boyle, DOE/ORD
L. Mathias, Mineral County, NV	D. Brown, DOE/OCRWM
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M. Henderson, Cong. J. Gibbon's Office	C. Hanlon, DOE/ORD
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M. Simon, White Pine County, NV	A. Benson, DOE/ORD
J. Ray, NV Congressional Delegation	N. Hunemuller, DOE/ORD
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T. Story, NV Congressional Delegation	M. Mason, BSC
R. Herbert, NV Congressional Delegation	S. Cereghino, BSC
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S. Lynch, State of NV	J. Kennedy, Timbisha Shoshone Tribe
P. Guinan, Legislative Counsel Bureau	B. Durham, Timbisha Shoshone Tribe
R. Clark, EPA	R. Arnold, Pahrump Paiute Tribe
R. Anderson, NEI	J. Birchim, Yomba Shoshone Tribe

cc: (Continued)

R. McCullum, NEI

S. Kraft, NEI

J. Kessler, EPRI

D. Duncan, USGS

R. Craig, USGS

W. Booth, Engineering Svcs, LTD

C. Marden, BNFL Inc.

J. Bacoeh, Big Pine Paiute Tribe of the Owens Valley

P. Thompson, Duckwater Shoshone Tribe

T. Kingham, GAO

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E. Hiruo, Platts Nuclear Publications

G. Hernandez, Las Vegas Paiute Tribe

K. Finrock, NV Congressional Delegation

P. Johnson, Citizen Alert

A. Capoferri, DOE/Washington, DC

J. Williams, DOE/Washington, DC

A. Robinson, Robinson-Seidler

M. Plaster, City of Las Vegas

D. Wilson, Sen. Reid's Office

L. Lehman, T-REG, Inc.

W. Barnard, NWTRB

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C. Meyers, Moapa Paiute Indian Tribe

R. Wilder, Fort Independence Indian Tribe

D. Vega, Bishop Paiute Indian Tribe

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J. Leeds, Las Vegas Indian Center

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C. Bradley, Kaibab Band of Southern Paiutes

R. Joseph, Lone Pine Paiute-Shoshone Tribe

L. Tom, Paiute Indian Tribes of Utah

E. Smith, Chemehuevi Indian Tribe

D. Buckner, Ely Shoshone Tribe

V. Guzman, Walker River Paiute

D. Eddy, Jr., Colorado River Indian Tribes

H. Jackson, Public Citizen

J. Wells, Western Shoshone National Council

D. Crawford, Inter-Tribal Council of NV

I. Zabarte, Western Shoshone National Council

S. Devlin

G. Hudlow

D. Irwin, Hunton & Williams

J. Ziegler

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It is up to DOE to decide how, or whether to respond to the staff's feedback. However, DOE should note that it may need to address some or all of these items in a potential LA, depending on the final aircraft hazard analysis approach used in the preclosure safety analysis. The DOE should also note that the NRC intends to continue reviewing DOE information related to aircraft crash hazards for the purpose of preparing for a potential LA - including specific issues related to structural robustness and aircraft impacts. As such, NRC staff would be interested in reviewing any potential updates to the supporting documents and related analyses.

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Sincerely,

/RA/

Lawrence E. Kokajko, Deputy Director  
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Office of Nuclear Material Safety  
and Safeguards

Enclosure: NRC Staff Feedback on DOE Aircraft Hazard Analyses

cc: See attached list.

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