



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 15, 2014

William J. Boyle, Ph.D., Director
Office of Used Nuclear Fuel Disposition
Research and Development
United States Department of Energy
Washington, DC 20585

SUBJECT: ISSUANCE OF VOLUME 3 OF THE SAFETY EVALUATION REPORT
RELATED TO DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN A
GEOLOGIC REPOSITORY AT YUCCA MOUNTAIN, NEVADA

Dear Dr. Boyle:

The U.S. Nuclear Regulatory Commission (NRC) has issued NUREG-1949, Volume 3 of a Safety Evaluation Report (SER) for the U.S. Department of Energy (DOE) license application submittal dated June 3, 2008 (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML081560400), as updated by letter dated February 19, 2009 (ADAMS Accession No. ML090700817), seeking authorization to construct a geologic repository at Yucca Mountain, Nevada.

Safety Evaluation Report Related to Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada; Volume 3: Repository Safety After Permanent Closure (ADAMS Accession No. ML14288A121), documents the NRC staff's review and evaluation of the Safety Analysis Report (SAR), Chapter 2: Repository Safety After Permanent Closure, of the DOE license application. The NRC staff also reviewed information that DOE provided in response to the NRC staff's requests for additional information and other information that DOE provided related to the SAR. In particular, SER Volume 3 documents the results of the NRC staff's evaluation to determine whether the proposed repository design for Yucca Mountain complies with the performance objectives and requirements that apply after the repository is permanently closed.

The NRC staff finds that DOE has demonstrated compliance with the NRC regulatory requirements for postclosure safety, including, but not limited to, "Performance objectives for the geologic repository after permanent closure" in 10 CFR 63.113; "Requirements for performance assessment" in 10 CFR 63.114; "Requirements for multiple barriers" in 10 CFR 63.115; and "Postclosure Public Health and Environmental Standards" in 10 CFR Part 63, Subpart L. In particular, the NRC staff finds that the proposed repository at Yucca Mountain (1) is comprised of multiple barriers and (2) based on performance assessment evaluations that are in compliance with applicable regulatory requirements, meets the 10 CFR Part 63, Subpart L limits for individual protection, human intrusion, and separate standards for protection of groundwater. This volume is one of five volumes that comprise the SER. Other portions of the NRC staff's safety review have been, or will be, documented in other volumes. SER Volume 1, which documents the results of the NRC staff's review of DOE's General Information, was published in August 2010 (ADAMS Accession No. ML102440298). SER Volume 2 will document the results

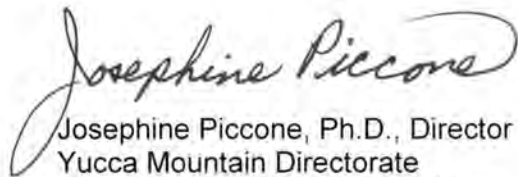
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of the NRC staff's review and evaluation of DOE's compliance with preclosure safety objectives and requirements. SER Volume 4 will document the results of the NRC staff's review and evaluation of DOE's demonstration of compliance with administrative and programmatic requirements. SER Volume 5 will document the NRC staff's review and evaluation of probable subjects of license specifications and proposed conditions of construction authorization.

The publication of NUREG-1949, Volume 3 is one of several steps that need to occur before a decision can be made on the license application seeking authorization to construct a geologic repository at Yucca Mountain. A decision on whether to authorize construction can be made only after the NRC staff has completed its SER, a supplement to DOE's environmental impact statement has been prepared, a hearing has been conducted on contested issues, and the Commission has completed its review of contested and uncontested issues under 10 CFR 2.1023(c).

Sincerely,

A handwritten signature in cursive script that reads "Josephine Piccone". The signature is written in black ink and is positioned above the typed name and title.

Josephine Piccone, Ph.D., Director
Yucca Mountain Directorate
Office of Nuclear Material Safety
and Safeguards

Enclosure: NUREG-1949, Volume 3

cc: See enclosed list

Identical letter sent to:

Catherine Haney, NMSS/NRC

Scott Moore, NMSS/NRC

James Rubenstone, YMD/NMSS/NRC

Annette Vietti-Cook, SECY

Peter B. Lyons, DOE

Mary Louise Wagner, DOE

Jessica Bielecki, OGC/NRC

Carrie Safford, OGC/NRC

Norman St. Amour, OGC/NRC

Thomas S. Moore, Chairman
CAB 04
Atomic Safety and Licensing Board Panel

Paul S. Ryerson
CAB 04
Atomic Safety and Licensing Board Panel

Richard E. Wardwell
CAB 04
Atomic Safety and Licensing Board Panel

Brooke Poole, Director
Office of Commission Appellate Adjudication

Christine Pineda, NMSS/NRC

Charles J. Fitzpatrick
Egan, Fitzpatrick, Malsch & Lawrence, PLLC

John W. Lawrence
Egan, Fitzpatrick, Malsch & Lawrence, PLLC

Martin G. Malsch
Egan, Fitzpatrick & Malsch, PLLC

Robert Halstead, Executive Director
Nuclear Waste Project Office
Nevada Agency for Nuclear Projects

Brian W. Hembacher
Deputy Attorney General
California Attorney General's Office

Timothy E. Sullivan
Deputy Attorney General
California Department of Justice

Kevin W. Bell
Senior Staff Counsel
California Energy Commission

Donald J. Silverman
Morgan, Lewis & Bockius, LLP

Thomas A. Schmutz
Morgan, Lewis & Bockius, LLP

Thomas C. Poindexter
Morgan, Lewis & Bockius, LLP

Paul J. Zaffuts
Morgan, Lewis & Bockius, LLP

Alex S. Polonsky
Morgan, Lewis & Bockius, LLP

Lewis Csedrik
Morgan, Lewis & Bockius, LLP

Raphael P. Kuyler
Morgan, Lewis & Bockius, LLP

Susan L. Durbin
Deputy Attorney General, CA

Ross D. Colburn

Shane Thin Elk
Fredericks Peebles & Morgan, LLP

Martha S. Crosland
U. S. Department of Energy

Angela M. Kordyak
U. S. Department of Energy

Nicholas P. DiNunzio
U. S. Department of Energy

James Bennett McRae
U. S. Department of Energy

Sean A. Lev
U. S. Department of Energy

Malachy R. Murphy

George W. Hellstrom
U.S. Department of Energy
Office of the General Counsel

Robert M. Andersen
Akerman Senterfitt, LLP

Frank A. Putzu, Counsel, Naval Reactors
Naval Sea Systems Command

John M. Peebles
Fredericks Peebles & Morgan, LLP

Darcie L. Houck
Fredericks Peebles & Morgan, LLP

Elizabeth A. Vibert, Deputy District Attorney
Clark County, Nevada

Ellen C. Ginsberg
Nuclear Energy Institute, Inc.

Anne W. Cottingham
Nuclear Energy Institute, Inc.

Jerry Bonanno
Nuclear Energy Institute, Inc.

Kelly Brown, District Attorney
White Pine County District Attorney's Office

David A. Repka
Winston & Strawn, LLP

William A. Horin
Winston & Strawn, LLP

Rachel Miras-Wilson
Winston & Strawn, LLP

Jay E. Silberg
Pillsbury Winthrop Shaw Pittman, LLP

Timothy J.V. Walsh
Pillsbury Winthrop Shaw Pittman, LLP

Gregory L. James

Robert F. List
Kolesar & Leathman

Jason M. Bacigalupi
Kolesar & Leathman

Diane Curran
Harmon, Curran, Spielberg, & Eisenberg,
LLP

Ian Zabarte, Board Member
Native Community Action Council

Curtis G. Berkey
Alexander, Berkey, Williams, & Weathers,
LLP

Scott W. Williams
Alexander, Berkey, Williams, & Weathers,
LLP

Rovianne A. Leigh
Alexander, Berkey, Williams, & Weathers,
LLP

Bret O. Whipple

Gregory Barlow

Andrew A. Fitz
State of Washington
Office of the Attorney General

H. Lee Overton
State of Washington
Office of the Attorney General

Jonathan C. Thompson
State of Washington
Office of the Attorney General

Todd R. Bowers
State of Washington
Office of the Attorney General

Connie Simkins

Kenneth P. Woodington
Davidson & Lindemann, PA

Thomas R. Gottshall
Haynesworth Sinkler Boyd, PA

S. Ross Shealy
Haynesworth Sinkler Boyd, PA

Dr. Mike Baughman
Intertech Services Corporation

Michael Berger
Attorney for the County of Inyo

Robert S. Hanna
Attorney for the County of Inyo

Philip R. Mahowald
Prairie Island Indian Community

James Bradford Ramsay
National Association of Regulatory Utility
Commissioners

Don L. Keskey
Public Law Resource Center, PLLC

Christopher B. Clare
Clark Hill PLC

Marta Adams, Chief Deputy Attorney General
Bureau of Government Affairs
Nevada Attorney General

Steve Frishman, Tech. Policy Coordinator
Nevada Agency for Nuclear Projects
Nuclear Waste Project Office

Celeste Sandoval, Quality Assurance
Records Spec.
Nye Co. Nuclear Waste Repository Project
Office

Theodore Beutel, District Attorney
Eureka County Office of the District Attorney

Abigail Johnson
Nuclear Waste Advisory for Eureka County

Loreen Pitchford
NWOP Consulting, Inc.

Ronald Damele, Director
Eureka County Public Works

Tara Baugh
Armstrong Teasdale, LLP

Edwin Mueller, Director
Esmeralda County Repository Oversight
Program- Yucca Mountain Project

Linda Mathias, Director
Mineral County Nuclear Projects Office

Mike Simon, Director
White Pine Co. Nuclear Waste Project Ofc

Cathreen Richards, Senior Planner
Inyo Co Yucca Mtn Repository Assessment
Ofc

George Gholson, Chairman
Timbisha Shoshone Tribal Council

Editor
Indian Country Today

Daryl Crawford
Inter-Tribal Council of Nevada

Yucca Mountain Site Characterization Office
Public Reading Room
in Churchill County

Yucca Mountain Site Characterization Office
Public Reading Room
in Eureka County

Beatty Yucca Mountain Science Center

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in Esmerelda County

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Yucca Mountain Site Characterization Office
Public Reading Room
in Nye County

Yucca Mountain Site Characterization Office
Public Reading Room
Nevada Division of State Lands

Yucca Mountain Site Characterization Office
Public Reading Room
State of Nevada State Clearinghouse

Yucca Mountain Site Characterization Office
Public Reading Room
at the University of Nevada, Las Vegas

Yucca Mountain Site Characterization Office
Public Reading Room
at the University of Nevada, Reno

Las Vegas Yucca Mountain Science Center

Pahrump Yucca Mountain Science Center