JIM GIBBONS
Governor

STATE OF NEVADA

ROBERT R. LOUX
Executive Director

OFFICE OF THE GOVERNOR
AGENCY FOR NUCLEAR PROJECTS
1761 E. College Parkway, Suite 118
Carson City, Nevada 89706
Telephone: (775) 687-3744 • Fax: (775) 687-5277
E-mail: nwpo@nuc.state.nv.us

March 29, 2007

The Honorable Dale Klein, Chairman
US Nuclear Regulatory Commission
Washington DC 20555

RE: "RELIABLE, TRANSPARENT, *AND TRACEABLE*" AS APPLIED TO TSPA SIMULATION RESULTS PRESENTED BY DOE IN ITS LICENSE APPLICATION FOR A POTENTIAL REPOSITORY AT YUCCA MOUNTAIN

Dear Mr. Chairman:

In response to our March 14 inquiry about the application of quality assurance to the Energy Department's prospective license application for Yucca Mountain, Jack R. Strosnider, Director of your Office of Nuclear Material Safety and Safeguards, wrote back on March 23 to assure us that while QA would not formally apply, nevertheless, as NRC has "repeatedly stressed:"

> . . . NRC continues to expect that any license application for the repository will be high-quality and will include technical analyses based on, for example, models, software, and data that are reliable, transparent, and traceable.

"Reliable, transparent, and traceable" are indeed essential standards, and they have powerful implications for the evaluation of DOE's Total System Performance Assessment ("TSPA") — the computer simulation that will form the core (nearly the totality) of DOE's license application. NRC needs to make these standards explicit because DOE clearly does not seem to understand them at this point.

I will devote myself here to *traceable* and what this means to the State. At a minimum, this means that DOE's calculations should be *reproducible* by a third party. Reproducibility should be not only theoretically possible but also practical to accomplish on the time scale of the hearing:

1. The TSPA computer model and supporting documentation should be publicly available early enough so that participating parties like Nevada (and the NRC Staff as well) have time to become sufficiently acquainted with them to run simulations.

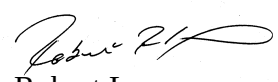
2. All the input parameters for the individual runs should be available at the same time so that runs can be duplicated.

3. The computing power necessary to run calculations, both to examine in detail results obtained using DOE assumptions and to evaluate the implications of adopting alternative assumptions, should be within reasonable reach of at least parties like Nevada – one with significant resources but with nothing like the computing power available to DOE.

Unless these minimal conditions are satisfied (to say nothing of what public interest group parties with far more modest resources may require), there can be no meaningful public hearing or credible NRC licensing decision. I must add that after seeing a recent DOE slide on the size of their computer system necessary to run the TSPA—a network involving nearly a thousand computers—we are also extremely concerned about condition 3 and will shortly be writing to you about this separately. Our view is that the TSPA, as currently described by DOE, will be inscrutable and untraceable by any third party, including the NRC Staff.

The bottom line is that the forthcoming Yucca Mountain licensing hearing cannot be an inquiry about a black box. We look to NRC to apply forcefully its standard of "reliable, transparent, *and traceable*."

Sincerely,



Robert Loux
Executive Director

cc: ACNW
DOE
TRB
Nevada Congressional Delegation