



INSTITUTE FOR ENERGY AND ENVIRONMENTAL RESEARCH

6935 Laurel Avenue, Suite 201
Takoma Park, MD 20912

Phone: (301) 270-5500
FAX: (301) 270-3029
e-mail: ieer@ieer.org
<http://www.ieer.org>

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For more information contact:
Anita Seth, 301-270-5500
Bob Schaeffer, 617-489-0461

PRESS RELEASE

**NEW STUDY FINDS WATER PENETRATED YUCCA MOUNTAIN,
QUESTIONS SAFETY OF PROPOSED NUCLEAR WASTE REPOSITORY**

**INDEPENDENT INSTITUTE CALLS FOR PAUSE IN DECISION
REGARDING SITE'S VIABILITY PENDING COMPLETION OF SCIENTIFIC
STUDIES**

Decision on Site's Viability Now Would Be Contrary to Good Science

WASHINGTON, DC, December 1: Water has welled up into the region of the proposed Yucca Mountain repository in the geologic past, according to a new scientific study released today. The study's findings cast doubt on the viability of the only site that the Department of Energy (DOE) is considering for possible burial of the country's most highly radioactive waste. The DOE's plans for disposal of nuclear waste at the Nevada facility, slated for preliminary approval later this month, assume the underground area will remain dry for hundreds of centuries.

The report, [*Fluid Inclusion Studies of Samples from the Exploratory Study Facility, Yucca Mountain, Nevada*](#), is based on mineral samples collected in June 1998 from the five-mile long tunnel that DOE has drilled into the mountain. "DOE's predictions of performance of a Yucca Mountain repository depend centrally on whether the repository is saturated, humid, or relatively dry," said Dr. Yuri Dublyansky, the geologist who authored the study. "The mineral samples that I examined have tiny pockets of fluid trapped in them called 'fluid inclusions.' There is compelling evidence that these fluids are the result of past upwelling rather than percolation down from the surface of meteoric or other sources of water. This means that at some time in the past, the repository area was flooded."

Dr. Dublyansky, a geologist at the Siberian Branch of the Russian Academy of Sciences, has studied Yucca Mountain mineral samples for several years. The Institute for Energy and Environmental Research (IEER) retained Dr. Dublyansky to study the 1998 samples after the US

Geological Survey refused to conduct joint studies with him to confirm his preliminary findings based on samples he collected in 1995.

The DOE is now exploring the possibility of joint sampling and study of fresh mineral samples with Dr. Dublyansky. "There are some indications that water may have entered the repository area in the recent geologic past," said Dr. Dublyansky. "My study is not conclusive, however. The age of these mineral deposits is the most important question that needs to be resolved by further work. This would be a major portion of the joint research that I have been discussing with various officials." Dr. Dublyansky has, in the past, been a consultant to the State of Nevada on the issue of fluid inclusions.

The report also presents some evidence of trace quantities of hydrocarbons in some inclusions that could only have come from upwelling fluids. "The data on aromatic hydrocarbons are very preliminary and scanty," Dr. Dublyansky noted. "But they provide one more piece of evidence for the upwelling of water into the repository site." The study also presented evidence that the water that entered the site was at elevated temperatures. Such water may rapidly corrode the containers that DOE proposes to use to package the highly radioactive spent fuel from nuclear power plants.

"Energy Secretary Richardson has promised the people of Nevada and the rest of the country that the decision about Yucca Mountain will be based on good science," said Dr. Arjun Makhijani, president of IEER, who has written extensively on the subject of nuclear waste management. "A conclusion that Yucca Mountain would be a viable repository on the basis of present knowledge is scientifically inappropriate because there is a significant body of evidence that points to the opposite conclusion," said Dr. Makhijani. "IEER today is [asking Secretary Richardson to defer the issuance of the Viability Assessment](#) until these crucial issues can be resolved, which is likely to take two years, perhaps more. It would be Alice-in-Wonderland science if the DOE issued a judgment about site viability first and then engaged in the scientific studies that are critical to one of the most crucial questions that affects viability."

The first draft of the report released by IEER today was subjected to a wide ranging review, which included independent fluid inclusion experts in the United States, England, and France as well as reviewers selected by Dr. Lake Barrett, Acting Director of the DOE's Office of Civilian Radioactive Waste Management. Almost all the reviews concurred in the high quality of the scientific work in the draft report. IEER also commissioned Dr. Larryn Diamond of the University of Leoben in Austria to examine some of the Yucca Mountain mineral samples collected by Dr. Dublyansky.

Only one review, arranged by the DOE, by Joe Whelan, James Paces, Brian Marshall, Zell Peterman, John Stuckless, Leonid Neymark (all of the USGS) and Edwin Roedder (Harvard University), disagreed with some of the central scientific conclusions of Dr. Dublyansky. Even this review agreed with the report's main recommendation that further research was needed to definitively resolve the issues raised by Dr. Dublyansky's research. The DOE-arranged review also contained negative personal remarks and allegations against Dr. Dublyansky. According to the Foreword to the report written by Dr. Makhijani, the review also contained serious

misrepresentations of scientific data. The DOE-arranged review was published in the report along with Dr. Dublyansky's point-by-point response to it.

IEER also released a [letter from Dr. Makhijani to Dr. Barrett](#) about the review. "Disagreements on complex issues are normal, but this review contains material that is beyond the bounds of reasoned scientific discourse," said Dr. Makhijani. "This is a serious matter, quite apart from any scientific issues relating to Yucca Mountain or nuclear waste management. It goes to the heart of whether scientific ideas can be discussed on their merits. The reviewers should issue a prompt and public correction."