

Yucca Mountain E-mails Indicate Data Were Falsified

The proposed Yucca Mountain nuclear waste repository in Nevada, already behind schedule and mired in controversy, suffered another setback in March when Department of Energy lawyers discovered a series of e-mails indicating that some scientific data relating to the long-term environmental safety of the site had been falsified. The e-mails, between US Geological Survey (USGS) scientists developing and running modeling programs for the project, are rife with comments about sloppy work and made-up data.

At a hearing before a House subcommittee on the federal workforce and agency reorganization in early April, DOE officials said a preliminary examination led them to conclude that the e-mails weren't important because the bad data they referred to had not been included in a licensing application for the nuclear waste repository. In written testimony to the subcommittee, Theodore Garrish, deputy director of DOE's Office of Civilian Radioactive Waste Management, said, "We have no evidence that the underlying science was affected."

More than a score of the e-mails, some heavily blacked out, were released to the subcommittee by DOE and the Department of the Interior in early April. Many of the edited e-mails are unclear, but a few are straightforward. "In the end, I keep 2 sets of files, the ones that keep QA [quality assurance] happy and the ones that were actually used," an unnamed scientist says in one. Another states, "Science

by peer pressure is dangerous but sometime[s] it is necessary."

The discovery of the e-mails prompted Energy Secretary Samuel Bodman to launch a "scientific investigation of the data and documentation that was part of this modeling activity." Bodman said in a statement that a document review in preparation for the site's licensing application to the Nuclear Regulator Commission brought the e-mails to light.

"DOE contractors discovered multiple e-mails written between May 1998 and March 2000 in which a USGS employee indicated that he had fabricated documentation of his work," Bodman said. If any of the work is found to be "deficient," he said, "it will be replaced or supplemented with analysis and documentation that meets appropriate quality assurance standards to ensure that the scientific basis is sound."

Bodman's assurances did little to satisfy opponents of the Yucca Mountain project, especially members of the Nevada congressional delegation, who have long opposed hosting the nuclear waste repository. In a 17 March letter to US Attorney General Alberto Gonzales and FBI Director Robert Mueller, Nevada Senators Harry Reid (D) and John Ensign (R) asked for the Department of Justice and the FBI to "immediately intervene to protect and preserve any and all records associated with the Yucca Mountain Project."

They also indicated that Bodman's

review of the modeling data wasn't enough and asked the Justice Department and the FBI to "initiate an independent investigation of the document review and DOE's license application to the NRC" for the nuclear waste repository. "Given the magnitude of human health and safety implications of the [Yucca Mountain Project], we hope that you will act decisively on this request," the letter concludes. A spokesman for Reid said the senators were still waiting for a response.

After calling a hearing on the e-mails, Representative John Porter (R-NV), chairman of the Government Reform Committee's subcommittee on the federal workforce and agency organization, posted 26 of the edited e-mails on the subcommittee's website (<http://reform.house.gov/fwao/news/documentsingle.aspx?documentid=7447>). "I am appalled at the blatant misconduct by federal employees," Porter said in a statement before the hearing. "The information that I reviewed is damning. The legitimacy of the science surrounding the storage of nuclear waste at this facility is indeed in question."

The project has suffered a series of setbacks in the past two years. Last July, the District Court of Appeals in Washington, DC, ruled that the radiation standards set by the Environmental Protection Agency were not nearly stringent enough for the long-term safety of the Yucca Mountain repository and didn't follow a recommendation by the National Academy of Sciences. In January 2004, DOE had to set up a silicosis screening program after it was learned that tunnel workers during the early years of the project at Yucca Mountain had not been required to wear protective breathing gear (see PHYSICS TODAY, May 2004, page 30).

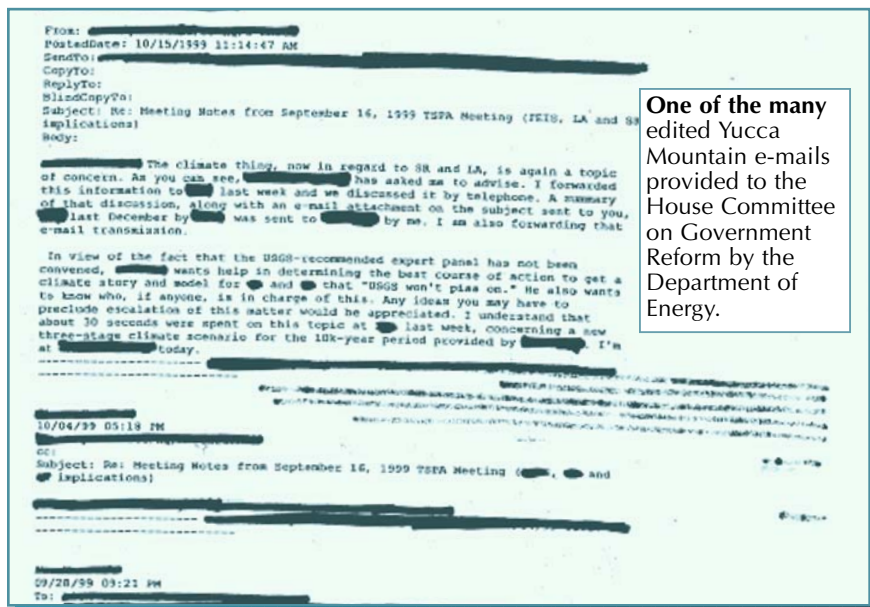
The proposed completion date for the project remains unclear, with DOE officials giving opening dates ranging from 2012 to 2017. But the officials remain optimistic and are requesting \$651 million for Yucca Mountain for fiscal year 2006, \$74 million more than the FY 2005 appropriation.

Nevada's Reid has a different view. "It should be clear to anyone that this project is not going anywhere," he said at a March senate hearing.

Jim Dawson

Why Women Leave Academic Physics

Poor pay. Long hours. The two-body problem. Family-unfriendly envi-



ronment. Having to move repeatedly. The grant grind. Sexual harassment. These are some of the reasons that female physicists and astronomers leave academia, according to an ongoing survey launched in early March.

The survey asks why people left, whether they felt gender discrimination, and how happy they were before and after leaving academia. By press time, some 75 women from all rungs on the academic ladder had filled out the survey.

The most interesting trend, says survey author Sherry Towers, a postdoc in particle physics at Fermilab, "is that women who left academia after doing at least one postdoc appear to be far more unhappy with the field upon leaving than women who leave academia immediately after finishing their PhD." None of the respondents, she adds, said they left academia because they felt they couldn't match the performance of their male peers. (Read the responses or participate in the survey at http://www-d0.fnal.gov/~smjt/survey_response.html.)

Posting the survey responses on the World Wide Web "gives people a chance to look at what's going through other people's heads," says Towers.

"Leaving academia is often seen as a failure, and the culture of physics academia strongly discourages people from even talking about the fact that they might be considering alternate career paths."

Among the survey's flaws, says Towers, are that "the responses are voluntary, so you don't know if they are just some unhappy tiny fraction of people, or the norm. And you don't know if men leave for the same reasons that women complain about—they couldn't see balancing work and family, no role models, isolation, discrimination." What's more, given that the survey was advertised on list servers for women in physics, it's unlikely to reach those who have not kept close ties with the field. Towers says her next step will be a more statistically rigorous survey, of both women and men, that would "look at whether there are career dissatisfactions that are gender dependent."

For her part, Towers is job hunting—outside of academia. "Having two or more kids, in my subfield, is often the kiss of death to your academic career if you are a woman," she says. "So it looks like I'll leave academia this summer. I don't want to leave. I adore physics."

Toni Feder

Argonne Finds New Director In-House

On 18 April, after a nationwide search, Argonne National Laboratory got a new director from within its own ranks. Robert Rosner, an astrophysicist, had served for three years as the lab's chief scientist and associate director for physical, biological, and computing sciences. Rosner succeeds Hermann Grunder, who had held the directorship since 2000. "It's time to make space for younger people who have a lot of good ideas," says Grunder. "Bob will make sensible decisions whatever the circumstances."

As Argonne's new director, Rosner says the biggest challenge for him and the staff will be fulfilling under a tight budget the laboratory's 20-year strategic plan for science and technology. Rosner was key in developing the strategic plan after joining the lab in 2002. Argonne, a US Department of Energy



Rosner

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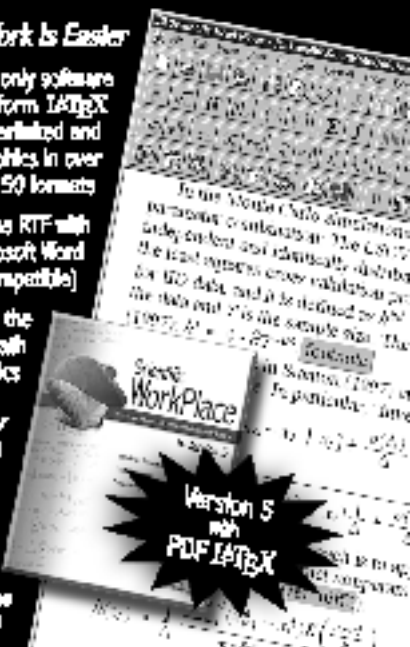
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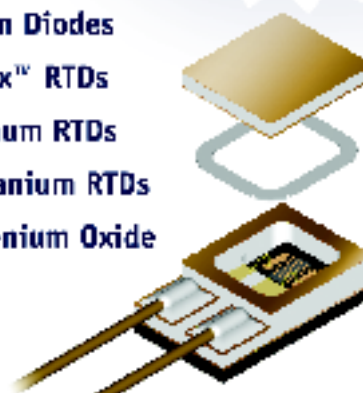
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