

# Nuclear Waste Update

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## Train Hits Chemical Truck at Beowawe

On May 21, a freight train struck and destroyed the cab of a chemical truck on State Route 306 in Beowawe, NV. According to a Nevada Highway Patrol spokesman, the tractor trailer driver had just started to cross the train tracks when the lights began flashing and the arm barrier signaling the arrival of a train went down. The driver did not have enough time to finish crossing the tracks, so he tried to back up, but was unable to get the truck in reverse. He jumped out before the train hit the cab.

The tractor trailer, owned by DuPont in Carlin, had been used to haul cyanide to Cortez Mine, and was empty. A hazardous materials crew from Cortez responded to the accident scene, but there was no chemical spill. No one was injured. (Elko Daily Free Press, 5/21/03)



Chemical Truck wreckage on State Route 306 in Beowawe. (Source: Elko Daily Free Press)

## Art Exhibition in Eureka:

### *Universal Warning Sign: Yucca Mountain*

How can you design a warning sign that will not only last 10,000 years, but will also be comprehended by humans of every culture over the next 10 millennia?

That is the question tackled by the *Universal Warning Sign: Yucca Mountain* exhibit on display at the Eureka County Court House this summer. The exhibit features winning designs of a contest organized by Joshua Abbey, director of the non-profit Desert Space Foundation. The purpose of the competition was to create “an effective universal warning sign/permanent marker” to ward off human intrusion at the Yucca Mountain radioactive waste disposal site.

The competition received more than 150 entries from around the world. Entries were made by professional artists, graduate students, architects, and engineers. Designs were submitted in a variety of media, with ideas ranging from simple painted signs to complicated technological feats, such as Fabian Winkler’s proposal to mechanically generate unpleasant heat waves and seismic sound vibrations around Yucca Mountain.

According to Abbey, submissions fell into two general categories. The first includes more technical, practical, and possibly viable designs; the second “more symbolic commentary on the futility of effectively being able to achieve a marker that would really work.” The competition was judged by a committee consisting largely of UNLV art professors.

The competition’s winner, *Blue Yucca Ridge*, by UCLA School of Architecture graduate student Ashok Sukumaran, is one of the more symbolic designs. Sukumaran, who received the competition’s \$1,000 prize for best of show, proposed seeding Yucca Mountain with genetically-altered blue vegetation. While scientists dismissed Sukumaran’s blue Yucca concept as having “no merit”, judges saw the beauty and symbolism of the idea. They liked the notion of “one mutated life form acting as a guard over another mutation [nuclear waste]”, said Abbey.

A potential problem with Sukumaran’s concept, however, is that it might attract curios-

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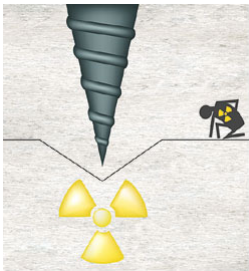


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ity rather than drive people away. Other designs of menacing sculptures and unpleasant effects have the same problem: the paradox of a keep-out sign. "After all," said Abbey, "who can resist a good mystery?"

Many entries, such as that of art student Maho Kishi, chose to incorporate the common three-triangle yellow symbol for radioactivity. Her sign portrays a sickened figure slumping beside a giant drill; both the human figure and the drilling pit are marked with the radioactive symbol. Another design by Yulia Hansen consists of a the same symbol constructed three-dimensionally of stone and stainless steel mesh. Designs like these, however, assume that humans 10,000 years into the future will know what the radioactive symbol means.

In reality, just about anything could happen in 10,000 years: changing governments, evolving technologies, and even potentially crippling major catastrophes (such as



Warning sign by  
Maho Kishi  
(Source: Washington Post)

meteor impact, biological warfare, etc.). A 1995 study by the National Research Council concluded that it was impossible to predict either the risk of intrusion at Yucca Mountain or the effectiveness of any preventative measures such as guards or signs. There are too many variables: inadvertent versus malicious intrusion, the level of geologic technology, and above all, time. The 10,000-year period exceeds all recorded human history.

Many contest entries assume that future peoples will not necessarily be able to interpret past languages and symbols. They explore other means to keep people away.

One example is Andy Griffith's design to make Yucca Mountain look like an active volcano. Ironically entitled *The Great Lie*, Griffith's submission includes plans for a false molten core, craters, and steam vents to be added to the mountain.

Other entries with a political tinge include *Fate of the Nevada Seal* and the irreverent *Poppin' Fresh*. The first shows the State Seal deteriorated into the three-triangle radioactive symbol. The second satirically suggests placing a giant turkey thermometer in Yucca Mountain that will pop up when done (after 10,000 yrs).



Photo from Sukumaran's  
Blue Yucca Ridge  
(Source: desertSPACE.org)

One of the judges, UNLV art professor David Hickey, found irony very appropriate to the contest. He thought the contest was "a good idea" but that the concept of an everlasting universal sign was in some sense "a total outrage."

"In a project like this, the artist's only option really is some kind of irony," he said.

For his part, Abbey maintains that *Universal Signs: Yucca Mountain* plays an important educational role. The exhibit raises issues of the "implications of the legacy of nuclear by-products," Abbey said, as well as the moral and ethical questions involved. "Whatever marker is chosen needs to be a monument to our mistakes, not our achievements," he said. ☒

(Bulletin of the Atomic Scientists Sept/Oct 2002; Las Vegas City Life 1/17/2002; Las Vegas Sun 1/31/02; Las Vegas Review-Journal 2/8/02)

### Exhibit Info:

- ◇ On display from May 5 to August 15, 2003 in the Eureka County Courthouse Exhibit Hall
- ◇ Gallery hours are Monday through Friday, 8:00 AM – 5:00 PM
- ◇ Admission is free
- ◇ More information and select entries are available online at [www.desertSPACE.org](http://www.desertSPACE.org)

Joshua Abbey of the Desert Space Foundation will give a talk about the exhibit at the Eureka Opera House on August 15<sup>th</sup> at 7:00 p.m.

## Nevada still pushing for full-scale cask testing

Nevada government and environmental representatives are urging the Nuclear Regulatory Commission (NRC) to perform full-scale testing of casks that will be used to haul nuclear waste to Yucca Mountain. The NRC has released a draft of proposed plans to test casks, but Nevada officials say the tests are too limited and too focused on computer simulation. Robert Halstead, transportation adviser to Nevada's Nuclear Waste Project Office, says the NRC should test real-life, full-scale casks in all of the multiple cask designs to be used. Casks should be tested for leaks, pressure checks, heat resistance, and be subjected to forceful accident impacts.

NRC's current plan, to be carried out by Sandia National Laboratories in 2005, only calls for real-life testing of one rail and one truck cask in two scenarios: a 30-minute fire test, and a simulated 75 mph crash into an unyielding surface.

In related news, the National Academy of Sciences announced in February that it will conduct a two-year, \$850,000 study of Yucca nuclear waste shipment risks. Funded mostly by DOE, the NRC, and the Department of Transportation, the study will examine a broad range of issues, including cask testing, route selection, public perception, and possible health impacts. ☒

(Las Vegas Sun 3/12/03; Las Vegas Review-Journal, 2/22/03)



## More Problems with Yucca Mountain's Quality Assurance Program

Over the past year, the problematic Yucca Mountain Quality Assurance Program hit more snags as auditors were dismissed or reassigned and the Energy Department filed a stop-work order with its top contractor.

In March, the Department of Energy (DOE) issued a stop-work order to its program contractor, Bechtel SAIC, after auditors found flaws in the Yucca Mountain project's Quality Assurance program. The order was narrow in focus, however, and did not bring the project to a halt.

The Yucca "QA" program is designed to keep tabs on processes of collecting scientific data at the site. Because the data is used by DOE to support their claim that Yucca Mountain is a safe place to bury lethal radioactive waste, the QA program is very important. It needs to be effectively executed and carefully monitored, especially given DOE's rush to meet the December 2004 deadline for their license application to the Nuclear Regulatory Commission.

Several quality assurance auditors and DOE employees have found flaws in the program. But three of the four-member audit team who found Quality Assurance errors last winter were subsequently reassigned. One of the auditors, Don Harris, said he was struck with "disbelief" when he was given other duties "cleaning up old paperwork." Harris had been a Yucca Mountain auditor for 14 years.

Harris was one of the key witnesses who promised to give testimony at a hearing arranged by NV Sens. Reid and Ensign. Concerned about flaws in the QA program, the Senators decided to hold a field hearing in Las Vegas on May 28. Harris, however, failed to show up. So did another key witness, former DOE Quality Assurance Director Robert Clark, who was reassigned last year.

**"People are afraid of retaliation and retribution. It's unhealthy. And it's not good for the program." — Bill Belke**

The Nevada Senators fear Clark and Harris were silenced by intimidation from DOE, but the department denies the implications. "These witnesses can testify at any time if they choose to do so and we did not stifle anybody," said DOE spokesman Joe Davis. The Senators said they would still try to get Clark and Harris' concerns on record, and they are looking into whether DOE has broken any whistle-blower laws. "There is the potential for some very serious violations that could potentially affect the quality of the program at Yucca Mountain, and we need to get to the bottom of it," said Ensign.

Bill Belke, former on-site Yucca inspector for the Nuclear Regulatory Commission, said it is common for worker concerns to be dismissed or ignored. "This creates a chilling effect on the project," Belke said. "People are

afraid of retaliation and retribution. It's unhealthy. And it's not good for the program."

Other past problems with the Yucca Quality Assurance program include two stop-work orders, one between 1988 and 1989, and one between 1995 and 1998. In both cases, concerns were raised about neglected quality controls for data collection at the site. ☒ (Las Vegas Sun, 4/25/03, 4/28/03; Las Vegas Review-Journal 5/9/03, 5/29/03)

## Goshute Nuclear Waste Storage Site Rejected, Appealed

On March 10, the Atomic Safety and Licensing Board ruled that a private nuclear waste storage facility in Skull Valley, Utah, could not be built because of proximity to a nearby Air Force training range. Although the waste facility would meet other safety standards, including earthquake resistance, the board said the danger of an F-16 crashing into the storage site was too great.



Private Fuel Storage

Private Fuel Storage (PFS), a consortium of eight utilities that operate nuclear power plants, seeks to build and run a nuclear waste storage area on the Goshute Indian Reservation, about 45 miles southwest of Salt Lake City.

All public and private organizations managing nuclear materials must apply for a license first from the Nuclear Regulatory Commission. Applications are granted or denied by the Commission's Atomic Safety and Licensing Board.

PFS submitted a license application last year, and a formal hearing was held in mid-2002 by the licensing board. A panel of judges heard testimony from PFS, the State of Utah, and Air Force pilots. PFS argued that a pilot would be able to steer a plane away from the storage site before any crash occurred. The Federal regulators, however, thought the chances were too great. The Air Force flies thousands of missions a year over the vast Utah Test and Training Range. (Associated Press, 3/11/03)

PFS has asked the board to reassess the aircraft analysis. The utility consortium also submitted a scaled-back waste storage plan to the board in April. PFS said the smaller site would decrease the chances of a jet fighter crashing into the facility.

The original plan called for the storage of 4,000 casks containing 40,000 metric tons of radioactive waste, but the new plan proposes storing only 336 casks. Although PFS intends ultimately to prove its facility will be safe at the 4,000-cask size, it wants the licensing board to grant a temporary license based on a smaller-size facility.

The Atomic Safety and Licensing Board said the plan was improperly filed, but that if PFS resubmits the appeal, it will be expedited. ☒

(Las Vegas Review-Journal, 5/30/03, and Las Vegas Sun, 4/22/03)

***Nuclear Waste Update***  
**Eureka County Nuclear Waste**  
**Repository Program**

The Eureka County Nuclear Waste Update is published by the Eureka County Yucca Mountain Information Office, P.O. Box 714, Eureka, NV 89316, (775) 237-5372. The purpose of the *Update* is to provide information to the public about issues related to the proposed nuclear waste repository at Yucca Mountain.

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**Eureka County on the web! New updates on the Yucca Mountain project!**

Check out the county's website at [www.co.eureka.nv.us](http://www.co.eureka.nv.us). Log on to our nuclear waste website at [www.yuccamountain.org](http://www.yuccamountain.org) to get information on Yucca Mountain and its effects on the residents of Eureka County. Info includes news, maps, links, photos, and transportation updates.

**Current Events ♦ Photographs ♦ Yucca Mountain Lawsuits**



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