

Court Rules Against 10 000-Year Radiation Safety Standard at Yucca Mountain

Saying the Environmental Protection Agency “unabashedly” ignored a National Academy of Sciences report on future radiation levels at the facility, a US appeals court sends the radioactive waste problem back to Congress.

In the hours after the US Court of Appeals for the District of Columbia rendered its 9 July decision on the future of the Yucca Mountain nuclear waste facility, all sides in the case were declaring victory. At the Department of Energy, Secretary Spencer Abraham said he was “pleased” with the decision and noted that the court “dismissed all challenges to the site selection of Yucca Mountain. Our scientific basis for the . . . project is sound.”

Out in Nevada, where Yucca Mountain is located, State Attorney General Brian Sandoval all but pronounced the project dead, saying, “Simply put, Yucca is stopped in its tracks because the court recognizes that the project isn’t rooted in sound science. We wouldn’t trade places with the opposition.” Sandoval was referring to the court’s ruling that the US Environmental Protection Agency’s (EPA’s) 10 000-year safety standard for the facility doesn’t follow the 1992 Energy Policy Act.

Back in Washington, DC, the Nuclear Energy Institute (NEI), the organization that represents the nuclear industry, was expressing confidence that DOE would be able to meet the “eventual standard” of radiation safety for Yucca and that “the licensing process for the repository will continue without interruption or delay.” NEI added that the “scientific basis for the facility . . . is still sound today.”

So the science is sound or it isn’t, depending on whether you are in favor of or opposed to the federal government’s plans to move some 77 000 tons of high-level radioactive waste into the mountain, beginning in 2010. Most of the waste is now sitting in pools and dry-storage casks at more than 100 interim storage sites in 39 states.

The nuclear industry would like to see the waste go to Yucca Mountain, and so would DOE and the Bush administration. Democratic presidential candidate John Kerry would like to shut down the Yucca Mountain project, as would most local, state, and federal politicians from Nevada.

What exactly did the court rule, and what does that ruling mean for Yucca Mountain’s prospects? The court consolidated 12 lawsuits against Yucca into one case, and then dismissed all challenges to the project—except one. The court ruled that the EPA “unabashedly rejected” earlier findings by the National Academy of Sciences (NAS) that said “some potentially important exposures [to radiation] might not occur until after several hundred thousand years.”

The academy, in a 1995 report, said that the radiation standard for the facility should be measured at “the time of peak risk, whenever it occurs.” That could be on the order of a million years, the academy noted.

In passing the 1992 Energy Policy Act, Congress required the EPA to set

standards for Yucca Mountain consistent with the time frame for radiation risks as determined by the NAS. The EPA, according to the court, intentionally disregarded the NAS peak-dose standard as, quoting from an EPA regulation, “not practical for regulatory decision making.” Instead, the EPA settled on a 10 000-year standard based on “policy considerations,” the court said.

The court concluded that the EPA must either issue a revised standard that is “consistent with” the NAS peak-dose standard “or return to Congress and seek legislative authority to deviate from the NAS report.”

“It was Congress that required the EPA to rely on NAS’s expert scientific judgment,” the court decision said, “and given the serious risks nuclear waste disposal poses for the health and welfare of the American people, it is up to Congress—not EPA and not this court—to authorize departures

Frankfurt Honors Hans Bethe

Hans Bethe as creator of the Sun. That’s a nod to Bethe’s research on energy production in stars, for which he received the 1967 Nobel Prize in Physics. The painting, by Bavarian artist Jürgen Jaumann, was commissioned to coincide with an honorary doctorate bestowed on Bethe this summer by the Johann Wolfgang Goethe University in Frankfurt, Germany.

Bethe, who turned 98 in July, had foresworn accepting any more honors. He made an exception this time. “I felt delighted,” he said in a statement read by his half brother, who represented Bethe at the ceremony. “Frankfurt is the familiar town of my youth.” Bethe attended school and began his university studies in Frankfurt, and held his first teaching position there. He left Nazi Germany in 1933 after he was dismissed from a professorship because he is half Jewish. In the US, he worked on the Manhattan Project and has been on the faculty of Cornell University since 1935.

Horst Schmidt-Böcking, the retired dean of physics at the Frankfurt university and a driving force behind both the painting and the honorary doctorate, says, “Frankfurt owes Hans Bethe a lot in terms of science. We will fight to make his name well known in this city. This honor was long overdue.”

The portrait hangs in the Frankfurt university’s new physics building. Cornell will be given a second, similar portrait.

Toni Feder

