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Your Eye on the State Capitol

NEVADA STATE RECORDER

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NEVADA NEWS AND ISSUES

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DOE Track Record Questioned

Nuclear Waste Report Panned by State

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"It's important to see the big picture surrounding creation of a national nuclear waste dump, Bob Loux stressed this week. Loux, Executive Director of Nevada's Nuclear Waste Project Office, has been looking at issues involved with the waste dump since 1979. In his view, planning for the facility that will be in place for "thousands of years" is in the hands of "the federal agency with the worst track record of any agency in the federal government."

The Department of Energy, Loux reminds us, is made up of "the same people who brought us above ground nuclear weapons testing, and more recently, the collapse of Ranier Mesa. These are the Yucca left over from the AEC weapons days who feel the public is better off not knowing what they're up to. "And it is an agency, he charges, that is overwhelmingly guilty of "best case planning."

"If the federal government had approached NASA the same way the DOE is approaching nuclear waste disposal, we'd still have John Glenn in orbit without a way to bring him

not that seismic records have only been kept at the site for a few years and are "far too short" to allow for predictions of what will occur during the next 90 years. "There is substantial evidence that earthquakes



Bob Loux

larger than those predicted from historical seismicity may be anticipated at the site," Bell asserts. Yucca Mountain would never

the west is politically weak. There are not a lot of Congressional delegations from the west."

"That area (Yucca Mountain) of southern Nevada and California had volcanos everywhere 35 million years ago," Loux observed. "But the salt beds in Texas and Mississippi have been stable for three or four or five hundred million years."

Yucca Mountain is located on the rim of an old buried volcanic caldera, and while DOE has concluded that there is little chance of a volcanic eruption in the area, Loux's study contends that documents used to prepare the DOE study point to the possibility of a volcanic event at Yucca Mountain.

Loux says Nevada has funded all its own research on the nuclear dump issue to date. But he is hopeful a pending lawsuit will allow the state to tap into federal funds that are being used to study the technical questions at issue in the debate.

The state filed the suit after a plea from its entire Congressional delegation failed to elicit cooperation from the feds, Loux said. A letter, signed by Senators Laxalt and Hecht, as well as Congressmen Vucanovich and Reid, asserts: "the problem is that the Nevada Operation Office, acting on guidance from Washington, has informed the state that they can conduct independent field work only to monitor and evaluate the Department of Energy's activities, but no if that work involves collection of primary data."

What this means, according to Loux, is that "if you're out there with a DOE guy and he picks up a rock and analyzes it, that's O.K.' But we're not allowed to pick up that rock. We're not allowed to collect our own data. They're telling

"THE MOST EXPOSED INDIVIDUAL WILL PROBABLY BE THE MAYOR OF CALIENTE."

down," Loux asserts. He acknowledges that his comments are strong, but he argues Nevada has been "fairly aggressive" in challenging the DOE "for good reason." His office has recently released a 747 page report detailing its objections to the DOE's assessment of the impact of a proposed high level nuclear waste dump at Yucca Mountain in southern Nevada.

Among the issues the Nuclear Waste Project Office report raises is the contention that the Yucca Mountain repository will be in a major seismic risk area." Loux noted that the Nevada study included information pointing to the possibility of an earthquake in the range of between 6.9 and 7.3 on the Richter scale on the Bare Mountain fault near Yucca Mountain.

John Bell, a geologist with the Nevada Bureau of Mines and Geology

have been considered at all if DOE had taken an objective look at the site on the basis of geological stability, Loux said this week. His comments are echoed in a letter written by Governor Bryan to the U.S. Secretary of Energy.

"The information contained in the draft Environmental Assessment strongly supports the argument that the selection of the Yucca Mountain site...has been predetermined for

"IF THE FEDERAL GOVERNMENT HAD APPROACHED NASA THE SAME WAY THE DOE IS APPROACHING NUCLEAR WASTE DISPOSAL, WE'D STILL HAVE JOHN GLENN IN ORBIT WITHOUT A WAY TO BRING HIM DOWN."

some time," the report states. Loux expanded on that contention this week by pointing out that "the whole east coast is much more geologically stable than the west, but

us how in depth we can go and where we can go to get our data."

One of the issues Nevada wants to look at is the question of the rela-

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Waste

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relationship between the deep carbonate aquifer that underlies Yucca Mountain and the water table above it. "If southern Nevadans believe the deep carbonate aquifer may be a future source of water for their communities, then this question needs to be investigated," Loux asserted. Legislative hearings on the issue of the deep carbonate aquifer that underlies eastern and southern Nevada revealed that many of southern Nevada's leaders do, indeed, look to the deeply buried water as the key to future growth in that arid but booming region. But some of the points made in the Nevada study raise the concern of whether this giant body of water may at some point be contaminated by nuclear waste buried at Yucca Mountain.

The waste to be buried at Yucca Mountain will be located above the water table. In the view of DOE, this is one of the primary advantages of the site. The water table in that area is very deep and proponents of the Nevada location contend there is less chance, under these circumstances, that radionuclides will be carried away from the site by water movement. Other proposed nuclear waste sites in Texas

and Washington state call for the radioactive material to be buried below the water table.

But the issue is more complicated than it appears, Loux contends. He points to comments offered by geologist John Bell of the Nevada Bureau of Mines and Geology. Bell argues that increased precipitation in the area brought on by climactic changes could elevate the water table. Bell also speculates that future earthquake activity in the area could "produce new fracture or fault systems which would allow more rapid access to the environment."

Another concern raised by the Nevada study is that the geochemistry created by heating soluble salts in the burial area could lead to the development of brines that in turn might eat away at stainless steel canisters holding the nuclear material. The waste itself will generate heat of up to 600 degrees F, Loux noted.

Any one of these scenarios could lead to escape of radioactivity into the water table, and the DOE report acknowledges this possibility. But DOE foresees that the groundwater below Yucca Mountain will take a long time to reach the Aragon Valley and Death Valley area, even if contamination should occur



The deep carbonate aquifer lies below the ground water table, and as Loux pointed out this week, no one is sure about whether the two are connected. In some areas of the state springs seem to originate in the deep carbonate aquifer rather than in ground water replenished by seasonal precipitation. Hydrologists have observed that, in these areas, much more water seems to be coming out of the ground than can be accounted for by snow and rainfall. This, in fact, is the phenomenon that led them to suspect the presence of the deep aquifer.

If, indeed, there is a connection between the ground water aquifer and the deep aquifer, it may cause water to flow back and forth between the two when there is a deficit, Loux said this week. He noted that some observers feel substantial pumping of the deep aquifer could create hydraulic pressure and pull water down through the crushed carbonate rock from the ground water level above. Under these circumstances, contamination of the deep aquifer could occur if there has been a radiation release into the ground water below Yucca Mountain. Such a draw down might

siting the nuclear dump in Nevada. Several legislators indicated during 1985 hearings on the issue that they believe the repository will have beneficial economic effects for southern Nevada. And Loux was also told by legislators that his efforts will be wasted, because Nevada has nothing to say about the placement of the dump.

The question of economic effects is among the issues addressed in the Nevada critique of the DOE draft assessment. Clark County submitted a number of criticisms of DOE's work, among them a scathing rebuke of the agency's appraisal of the waste dump's effect on tourism in the area. "Merely stating that

potential sites from being compared "as the law requires," Loux stressed.

A major problem with the placement of the repository on the edge of the Nevada Test Site is that it could conflict with the nuclear weapons program there, the Nevada study asserts. "The defense program has chewed up most of the eastern edge of the test site, that's used up real estate," Loux points out. He noted that tests are now conducted on the northern boundary of the test site, about 25 miles from Yucca Mountain. "They may need the western edge," as well, Loux observed.

DOE asserts that nuclear weapons tests can be confined to a

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information to date suggests that the repository is not likely to significantly affect tourism...is unacceptable," the Clark County critique states.

And Loux says that his staff discovered major flaws in DOE's assessment of the number of jobs the nuclear waste dump will bring to southern Nevada. "All of a sudden the document talks about 8500 jobs, but it doesn't explain that this is a peak maximum that includes a 40 percent contingency and numbers for secondary job spin-off," Loux said. And he contends that the figures cited for jobs at the Nevada dump site are created by "using a high multiplier than was used for other sites."

Loux charges that DOE is guilty of using "Marketing techniques" to try and sell its project in Nevada, and says this is evidence to reinforce his "primary point, which is that the criteria and contingencies are not the same from project to project." This prevents

gets through the cracks and we have to think about the day when the train stops in Caliente and the crew gets off to have lunch," Loux said. He noted that a shipment of low-level waste bound for Beatty is currently sitting in a rail yard in downtown Las Vegas. DOE doesn't even mention effects on Caliente in its assessment, Loux said.

And Loux said Nevada has joined forces with a number of other states in a lawsuit that challenges the DOE siting guidelines. "The siting guidelines are so loose you could site a dump in New York City," he charged. "The mesh is so big that everything falls through."

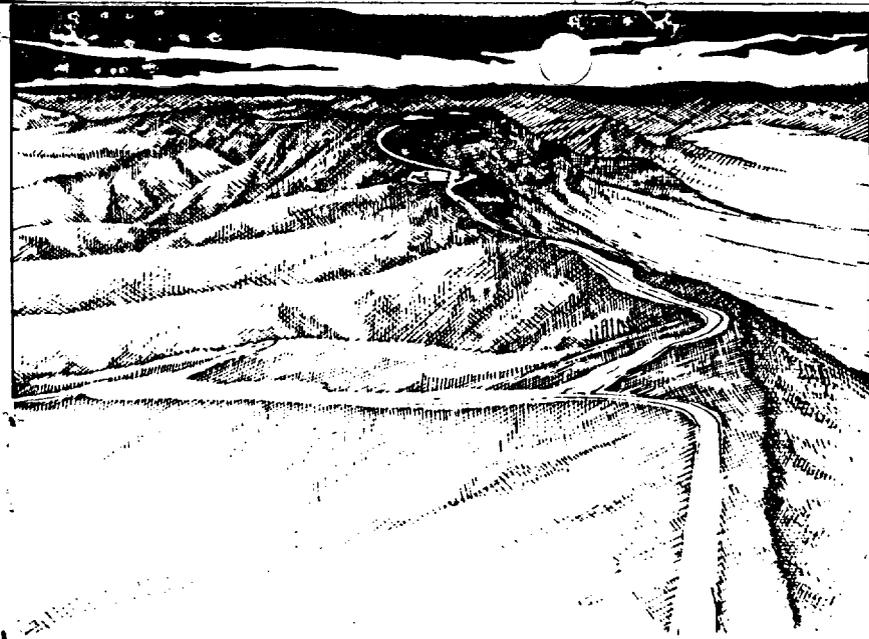
The question of whether the public can have confidence in the Department of Energy's approach to this massive problem is a major concern for Loux. He said Nevada has drawn the inference that it should not place too much confidence in the agency. "The fact that they are not willing to let the states do their own investigations and the fact that they are not willing to accept liability does not inspire trust," Loux said.

distance of 14 miles away from the waste dump, but the Nevada study challenges this assumption. "Most of the still-undisturbed land is located in the western portion of the Test Site, some of it very near Yucca Mountain," according to the Nuclear Waste Project Office staff.

"They're not going to build a Nevada Test Site anywhere else in the country," Loux observed. But there are plenty of other sites for the waste dump.

Other contentions made by Loux's staff are that mineral potential in the area of Yucca Mountain remains to be fully evaluated and that impacts on small Nevada communities are ignored by the document.

"The most exposed individual in terms of nuclear hazard "will probably be the mayor of Caliente," Loux quipped. His estimate is based on the fact that the rail transportation corridor for much of the nuclear waste goes right through downtown Caliente. "Some of that radiation



Yucca Mountain drawing by Jack Mallote