

JOSH STEPHENSON/JOURNAL

**DAILY INSPECTION:** George Newman, radiological control technician, surveys some of the many barrels of waste retrieved from pits where they were buried 20 years ago.

# Lab Says Waste Is Safe

## Critics Say No One Knows What's Buried Under TA-54

BY JENNIFER MCKEE  
Journal Staff Writer

8/6/01

Heading north toward Los Alamos on Highway 4, you will see them. Enormous, white plastic tents atop a mesa of rainbow-colored hardened volcanic ash. Inside each is a dizzyingly monotonous spread of identical white 55-gallon drums, stacked palate upon palate, row upon row.

Each one full of radioactive, nuclear waste.

In lab lingo, this mesa is Technical Area 54, Area G, a nuclear waste dump, and the tents are only the most visible part of the picture. Buried beneath them are decades worth of unsorted nuclear trash.

Not surprisingly, this area — home to buried plutonium among other things — attracts both skepticism and fear.

Both the Los Alamos National Laboratory, which owns the dump, and the Department of Energy, which operates the lab, are adamant that the tents and the radioactive waste they sit upon, as well as 1,200 new drums of nuclear waste the lab stores there each year, are safe.

Critics, citing DOE documents, say no one really knows what's buried at the site or what such radioactive garbage will do to the environment.

The tents, at least, and the waste they house, are destined for removal, said Ray Hahn, head of the lab's solid waste operations, as he drives around the site in a silver government-owned Dodge Caravan.

"It's a temporary solution," he said.

But temporary, in this case, means 30 or more years. And most of the waste — everything buried beneath the

See **CRITICS** on **PAGE 6**

from PAGE 1.

tents and the low-level waste slowly piling up in new, active pits — is scheduled to stay there forever.

"I believe Los Alamos doesn't know how much waste they have buried and how much plutonium is in that waste. It's a serious environmental and security problem and they're not doing anything serious about it," said Arjun Makhijani, president of the Institute of Energy and Environmental Research in Virginia. He called the lab's plan to leave the waste buried "the paper-plate approach to nuclear-waste management — just toss it and cap it."

"They don't like to do dishes," Makhijani said.

Activists closer to home agree.

"It's a toxic, chemical landfill," said Greg Mello of the Santa Fe-based Los Alamos Study Group. It's a nuclear waste dump that now handles waste bad enough to belong at WIPP but opened with none of the public input or permanent storage facilities WIPP has.

## No laws for waste

Technical Area 54 opened in 1957, Hahn said. By then, lab officials had thought better of earlier nuclear waste disposal methods, which in addition to shallow pit burial consisted of pushing garbage off mesas or discharging waste into canyon bottoms.

TA-54 was the lab's technologically advanced, centralized solution to nuclear waste, Hahn said, and while the site's early methods would be illegal today, at the time, it was standard operating procedure for any nuclear facility.

Back then, Hahn said, there were no laws governing the disposal of nuclear waste. The site's managers treated radioactive waste much like any city landfill treats household garbage today: The waste was unsorted, dumped pell-mell, unpackaged into a series of pits, which were later covered in dirt. In the earliest days, Hahn said, the site's managers didn't keep close records on what ended up in the dump. Not until the 1960s, did TA-54's managers start keeping reliable records.

The most radioactive stuff was buried in deep shafts, some lined with metal, some not.

That practice continued until 1979, Hahn said, when new federal laws and an emerging, more responsible view of nuclear waste came over DOE.

Officials could see the day, Hahn said, when the government would open a special dump just for nuclear waste. The new laws put stricter regulations on nuclear waste and divided the garbage into three categories, each demanding a different level of protection:

- Low-level radioactive waste — anything that can safely be buried in shallow pits;

- High-level nuclear waste — spent reactor fuel or waste generated as a result of processing of spent fuel;

- And TRU or transuranic nuclear waste — anything that puts out more than 100 nanocuries per gram of radioactivity. Anything less radioactive than that is considered low-level waste. Transuranic waste must be buried in a special repository like WIPP.

TA-54 has no high-level waste, Hahn said. But the site did and continues to handle transuranic waste. Before 1979, all that waste was dumped in pits at TA-54 and will not be dug up and taken to WIPP.

## 'Temporary' tents

After 1979, low-level waste continued to be buried in shallow pits, which is still the legal requirement for such radioactive garbage.

Transuranic waste, the stuff the government thought would one day be stored in a special site, got different treatment. Waste managers began packing it in 55-gallon drums. The drums were then stored atop an asphalt pad, framed by boards, packed in plastic and buried under several feet of soil.

The point, Hahn said, was to store the waste in such a way workers could dig it up again and move it to a permanent dump like WIPP.

The drums stayed in their piles for almost 20 years. In the 1990s, the lab decided to dig up 16 of them to see how they were holding up.

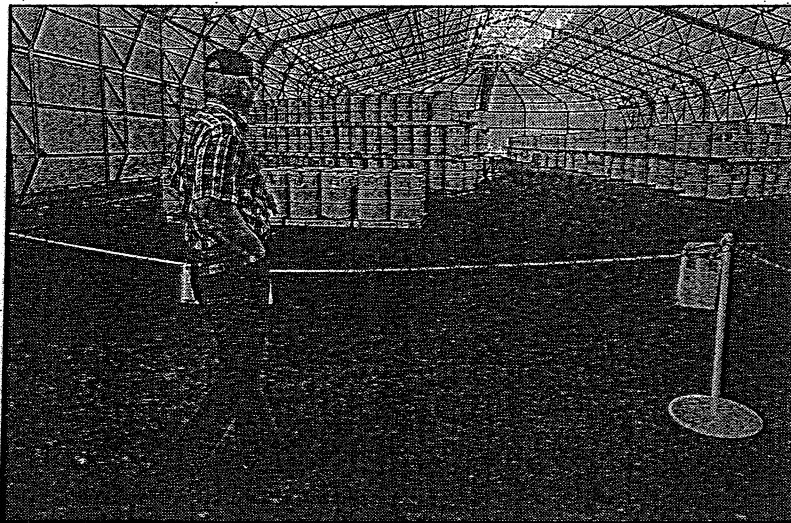
"We took them out and they seemed to be doing pretty good," Hahn said.

The New Mexico Environment Department didn't think so.

Some of the drums had holes in them. The agency fined the lab \$600,000 and demanded the lab dig up the drums, examine them and store them in a way where state inspectors could look at the drums regularly to make sure they're safe.

Hence the tents. Built as temporary storage, the tents are a sort of transuranic purgatory — a place to be before heading off to WIPP.

Originally, DOE projected all 17,000 drums would be gone by 2013. Today, the agency pegs that date closer to 2030, which means the tents must now house the waste for more than a generation, a task



JOSH STEPHENSON/JOURNAL

**TENTS MUST HOLD UP:** Ray Hahn, head of solid waste operations at Los Alamos National Laboratory, enters one of the tented storage facilities filled with barrels awaiting transfer to WIPP.

they were never designed to do.

Each tent costs about \$2 million and is treated with fire-proofing, Hahn said.

Each has a series of lightning rods mounted on top. Each is made of fire-resistant plastic, a sort of rubberized material designed to not melt through for several hours even with burning embers falling on it, according to James Nunz, who heads waste management for the DOE's Los Alamos office.

The lab cleared out all trees around the area the summer before the Cerro Grande Fire to cut down on the chance of fire and replaced all wooden pallets within the tents with metal ones to further thwart fire.

Nunz said he thought the tents were safe. His office doesn't worry about fire, they plan on it and believe the site is so fireproof it could sustain not only a forest fire, but a plane crashing into the area.

Hahn said he thought the tents were safe too, and would be safe for years to come. His workers are required by law to inspect the drums and tents every day for signs of wear and tear.

His problem is the cost and work of maintaining the tents and their radioactive contents. Hahn estimates the lab spends about \$5 million a year "baby sitting" the tents. At that rate, the lab will spend \$1.5 billion keeping tabs on the barrels before they can be sent to WIPP, and that's if the current schedule holds and is not extended.

The tents also drain attention away from the rest of Hahn's job: maintaining the lab's low-level nuclear waste dump still operating at TA-54.

Critics, however, aren't convinced.

"It could catch fire," Makhijani said. "That's the most important danger.

### **WIPP worthy?**

Makhijani, along with Joni Arends of Santa Fe-based Concerned Citizens for Nuclear Safety, says the radioactive waste belongs in permanent buildings, especially since it will be housed at Los Alamos for a long time.

"It just doesn't make sense," Arends said. "The lab should be building bunkers for that waste."

The critics save their harshest words, however, for the old buried waste, radioactive garbage the lab has no intentions of removing.

Hahn and Dennis McLaine, manager of the lab's waste facilities, both acknowledge that, under modern law, some of that buried waste belongs at WIPP. They also acknowledge that plutonium is scattered throughout the dump. But, they say, the lab will not dig that waste up.

"It was intended as permanent disposal," Hahn said.

In fact, TA-54, aside from the tented drums, won't be cleaned up at all. Instead, Hahn said, when the lab decides to close the dump the plan is to cover the whole place with a so-called "1,000-year cap," a covering of dirt and other materials designed to keep the radioactivity in and nature out for the next thousand years.

After that, Hahn said, any radioactivity coming out of the dump would be at background levels. Anything still radioactive would be so diluted by the volume of other material in the dump, it would pose no problems.

"That is just nonsense," Makhijani said. For one thing, plutonium, which everyone agrees is in the mix of buried nuclear waste, has a half-life of 24,000 years. Bury plutonium for 1,000 years — presuming such caps even exist — and you still have very radioactive plutonium, he said.

## Facing nature

Mello of the Los Alamos Study Group said the geology of TA-54 doesn't bode well for keeping plutonium, or any other waste, stationary for long. He points to a lab-generated report of TA-54 from the 1970s. In it, the author wrote about a maze of cracks and fissures in the mesa, cracks that suggest the pits are far from waterproof. He also criticizes the current pit covering, three feet of crushed tuff.

"It's essentially playground sand," Mello said.

That's just part of the problem, Makhijani said — once you release

nuclear waste in the environment, even if you try to contain it, nature eventually takes over.

"What does anybody know of 1,000-year caps?" he said. "The nuclear weapons complex doesn't have a very good track record in burial technology over the last 50 years. They have changed their estimations on what happens to plutonium in the ground drastically and radically."

Nunz said the lab has 44 shallow wells and one deep aquifer well around the site to check for signs of drifting contamination. So far, they have found nothing. The Energy Department also plans to drill two more deep aquifer wells around the area in the next two years.

Makhijani said he's especially concerned that no one seems to know what's buried at TA-54 — or anywhere in the DOE complex — and the agency has admitted as much.

Makhijani's group wrote a report in 1997 called "Containing the Cold War Mess," which concluded the agency has poor records of buried waste and doesn't know exactly what it buried.

Spurred by Makhijani's report, DOE commissioned a closer look at all documents outlining buried waste and released an inventory last summer that concluded while the total volume of buried waste was about what they thought, there was 10 times more radioactivity in it than previously reported.

## Tough second look

Who knows how much transuranic waste DOE would find if it went through its records more meticulously, Makhijani said.

"They haven't put in the effort to sift through the documents and find out what they dumped," he said. "It's not impossible."

Hahn said Los Alamos is an exception.

"We do have detailed data and we have provided that data to the Environment Department," he said. "We've got some real good information."

Makhijani disputes that.

"I believe the Los Alamos-buried waste is not well characterized," he said, "and DOE has agreed with our estimation."

He thinks there's probably enough plutonium buried at TA-54 to make "dozens of bombs."

The DOE's same 2000 inventory would seem to shoot holes in the argument that no radioactive waste is getting out of the TA-54. The report said DOE had no information about contaminated soils in pits and other waste burial sites and therefore couldn't say what's happening to the buried waste.

Then-Assistant Energy Secretary Carolyn Huntoon wrote a letter to Makhijani when DOE unveiled the inventory. In it, Huntoon wrote that despite the agency's uncertainties about what's buried and what the waste is doing underground, DOE had no plans to dig up anything at places like TA-54.

"The anticipated management strategy for these wastes was to monitor them, to take remedial actions as necessary, to re-evaluate their safety periodically, and to conduct technology development as needed," Huntoon's letter read. "We believe that this approach remains sound."

And so far, Nunz said, no waste can be proven to have migrated away from TA-54 and the department believes the site is safe and stable.

But that doesn't mean DOE won't clean up the place if that changes, Nunz said. Although he didn't think the place would ever start leaking, Nunz said DOE will take another look at the site if anything radioactive starts trickling away from it.

"We will clean up those pits," he said.

For Makhijani's part, he believes the lab already has the science to show the area deserves a tough second look. Unfortunately, he said, no one is listening to the scientists who call for expensive waste treatments.

"The people who manage the waste go on as if we're still living in the 1950s," he said.

## Group to deliver 'waste' to governor

An anti-nuclear group plans to deliver 1,000 cans of mock nuclear waste to Gov. Gary Johnson's office today to publicize its efforts to close a waste-storage site in Los Alamos.

The Los Alamos Study Group says its "can-paign" is aimed at closing the so-called Area G, which has accumulated more than 11 million cubic feet of toxic and radioactive waste since 1957.

The cans, which contain various foods, are labeled to look like nuclear-waste drums with a letter on the labels, asking Johnson to donate the food to charity, says a news release.

Study Group Director Greg Mello says in the release that Los Alamos National Laboratory should close the site.

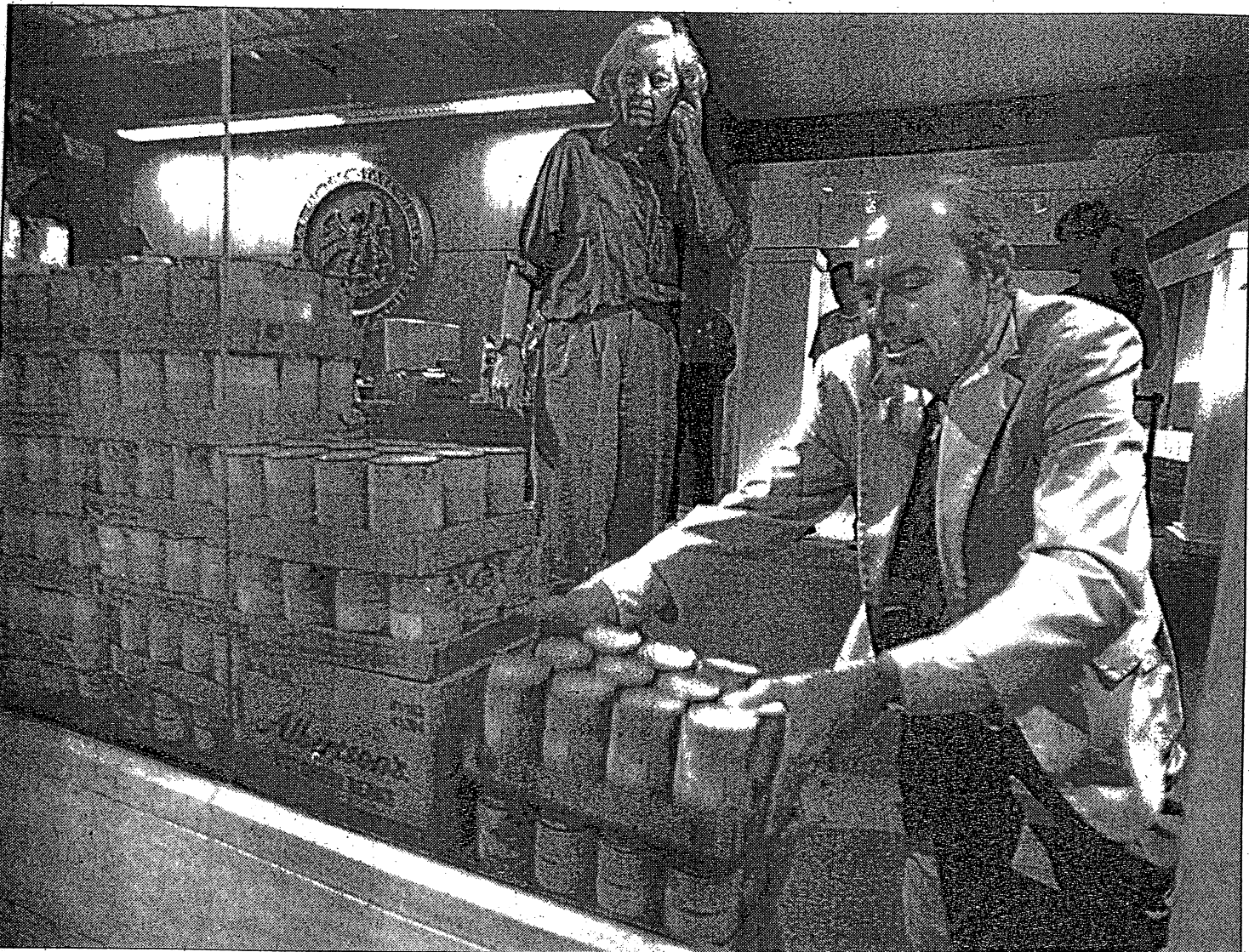
"There is no perfect answer to the question of what to do with the waste Los Alamos keeps generating," he said. "Making less of it is certainly possible. But under no circumstances should dumping the waste in shallow unlined pits above your drinking-water supplies be among the answers we ought to consider."

9/20/01

Staff and wire reports

New Mexican

## Johnson gets a taste of CAN-Paign effort



Katharine Kimball/The New Mexican

Los Alamos Study Group volunteer Bob Shaw, right, places a box of canned food — repackaged to resemble miniature drums of radioactive waste — inside Gov. Gary Johnson's office Thursday as fellow volunteer Cathie Sullivan watches. The group, a Santa Fe-based nonprofit, organized the canned-food drive. Each can of vegetables represents the plea of a New Mexican that the state step in and close the radioactive-waste dump at Los Alamos National Laboratory, according to a study-group news release. Letters addressing Johnson and affixed to the labels of the cans request the food be donated to the poor after the governor notes the names and addresses of the New Mexicans sending the food.

9/21/01



# Nuke Protesters Take Case to Gov.

■ *Group decorates cans of food as nuclear waste drums to push for closure of LANL dump*

BY JENNIFER MCKEE  
Journal Staff Writer

A Santa Fe disarmament group stacked 1,000 cans of sweet peas, mixed veggies and other Del Monte treats — each decorated to look like a mini-drum of nuclear waste — in Gov. Gary Johnson's office Thursday.

Johnson was in an airplane somewhere over Alamogordo at the time, said his scheduler, and was not available for comment. His spokeswoman, Diane Kinderwater, said Thursday evening the governor has not decided what to do with the 1,000 cans.

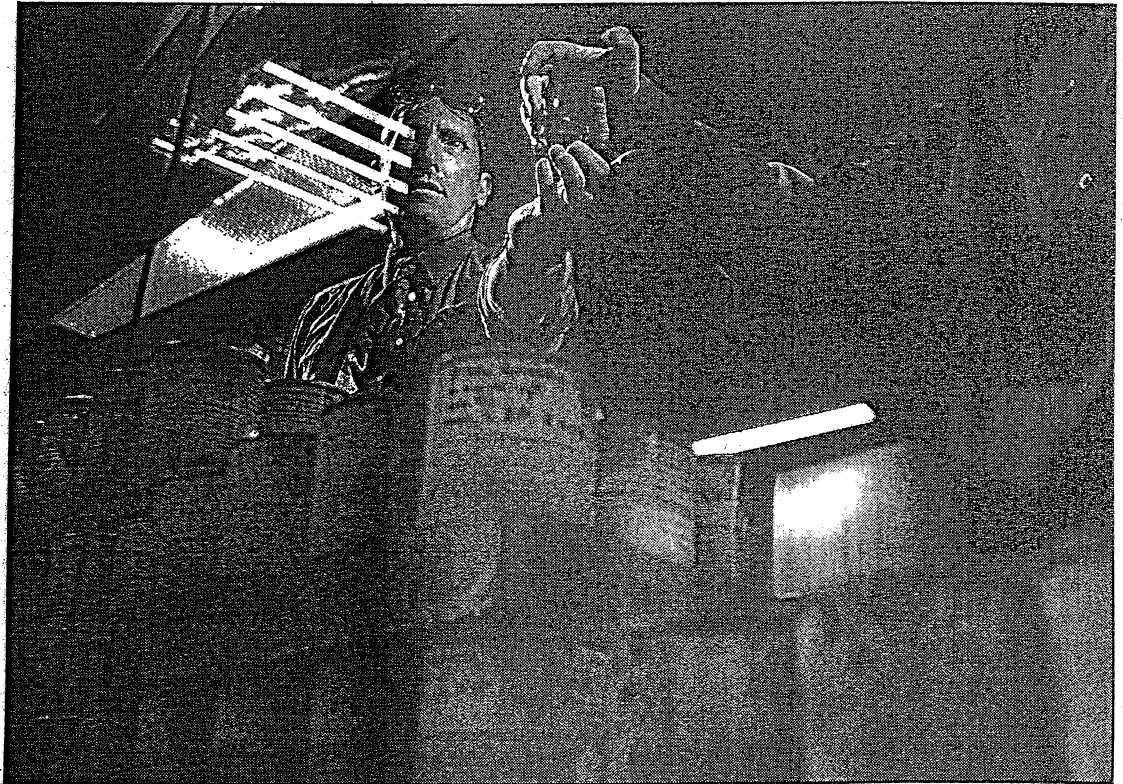
The move is part of an ongoing campaign by the Los Alamos Study Group to persuade Johnson to help close Los Alamos National Laboratory's nuclear waste dump and to persuade the nation to spend more money on food rather than bombs.

The lab repeatedly has said the dump, known as Area G, is safe.

"Our investment in nuclear weapons is starving our society," said Greg Mello, head of the study group, at a brief news conference in Johnson's outer office. "In this case, chili with beans is a better investment."

Mello intends to deliver 45,000 such cans to Johnson before the campaign is through, although he said the group has only sold 1,300 of the cans since the can drive began in June. He is asking Johnson to donate the cans, which people bought from the study group for \$3 each, to a local charity. The waste drum decoration peels off to reveal the original Del Monte label.

Johnson's scheduler said she didn't know what Johnson would do with the cans of food. No



JOSH STEPHENSON/JOURNAL

**CALLING FOR ATTENTION:** Greg Mello of the Los Alamos Study Group hangs a sign over cans of food decorated to look like drums of nuclear waste that Mello and other nuclear disarmament supporters brought to the governor's office Thursday.

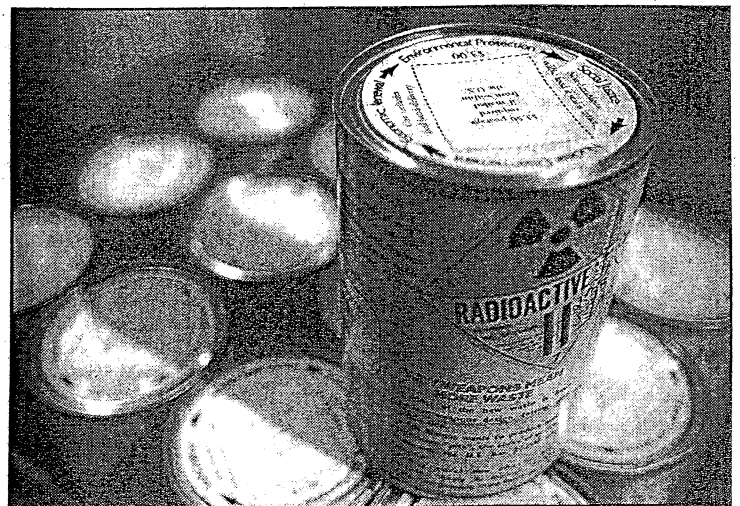
response was available later Thursday from the governor's office.

Although the event was not scheduled to be a question-and-answer with any state officials, Environment Department Secretary Pete Maggiore came to the event.

Maggiore said later that his department is looking into whether the state has legal authority to take any action to close the federal lab's dump.

"It's not clear from a legal perspective," he said.

Maggiore also said his staff is examining whether closing the dump is the best option — if the state were able to require such a move.



**NOT REALLY WASTE:** Cans of cut green beans, whole kernel corn and other vegetables masquerading as nuclear waste were delivered to Gov. Gary Johnson by the Los Alamos Study Group on Thursday.