

Bingaman Seeks Funds For Design of Weapons Facility

4/15/1999

BY IAN HOFFMAN
Journal Staff Writer

Sen. Jeff Bingaman is pressing for design of the nation's first new plutonium- and weapons-research facility in more than 20 years.

Bingaman, D-N.M., is seeking \$5 million in year 2000 defense funds to design a replacement for Los Alamos National Laboratory's troubled Chemistry and Metallurgical Research building.

Nuclear-disarmament advocates

are likely to mount vigorous opposition. They argue a new weapons lab for Los Alamos is just as unnecessary now in the wake of the Cold War as in 1990, when Congress killed lab plans for a \$385 million Special Nuclear Materials Laboratory.

"It's like a horror movie: It keeps coming back," said Greg Mello, head of the Santa Fe-based Los Alamos Study Group. "There's nev-

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er a stake through the heart. When will we wake from the 'Night of the Living Dead' ideas?"

So far, the lab's owners at the U.S. Department of Energy are undecided on seeking a new nuclear-weapons lab for Los Alamos and plan to study the issue for another year. Meanwhile, the DOE plans to continue spending \$125 million to keep the CMR, as the building is called, running through 2010.

Inside CMR, scientists and engineers work on nuclear-weapons parts, as well as perform tests for the lab's environmental and cleanup programs. At times, CMR has hosted high-level nuclear waste, tests on nerve gases and a variety of other defense projects.

"There are problems with that building," said Bingaman spokeswoman Kristen Ludecke. "It's not an emergency, but it's a question of whether it would be cost-effective to build a new facility."

With the \$5 million, engineers and architects could begin sketching out a rough size and design for the new lab, she said.

"This would not be a Taj Mahal but a scaled-down, streamlined facility that would meet the needs of the lab at a lower cost than they are met now," Ludecke said.

The 1950s-vintage CMR, once the largest building in New Mexico, is a massive holdover of the Cold War that has frustrated efforts to extend its working life. Besides outdated systems — electricity, fire and ventilation — CMR is more contaminated than lab managers once thought. Renovations in 1996 and 1997 ran at least \$15 million overbudget and, combined with unsafe building operations, caused lab managers to shut down work at CMR for months.

Last year, geologists found yet another problem: An earthquake fault lies under a third of the building.

Officials of the Defense Nuclear Facilities Safety Board, an oversight

agency for the nuclear-weapons complex, say the U.S. Department of Energy should find a new place for its work with weapons-grade plutonium and uranium at the CMR building.

Energy Department and Los Alamos executives say CMR's primary work — analytical chemistry on nuclear-weapons materials — is a unique function that must be replaced.

Critics such as Mello counter that CMR is mostly empty, a building in search of work to justify its existence.

"We've never seen what is going on in the CMR building that needs to be replaced. It's a collection of empty space and projects that don't need to be there," he charges.

Before building a new weapons lab, Mello said, the government should evaluate its current plutonium facilities as well as new ones proposed for Savannah River Site.

In 1990, Bingaman actually had a hand in the demise of LANL's Special

Nuclear Materials Laboratory. He wrote a bill amendment requiring the DOE first to report on its need and supply of nuclear materials labs. The DOE never submitted its report, and a House-Senate conference committee killed funds for the Los Alamos project.

"There's a lot of uncertainty because we don't know what the Energy Department's overall approach to plutonium processing is," Bingaman said at the time.

By then, the Energy Department and Los Alamos had 100 people working on the project and already had spent \$32 million. Ludecke said Bingaman isn't necessarily committed to building the new lab but wants to "begin the conversation."

"It doesn't lock us into building a new structure," she said. "It shouldn't be taboo to talk about a new building. If the current structure is continuing to deteriorate and cost a great deal to repair, we should be able to examine whether a new building makes sense."

\$5 million requested for new LANL complex

4/15/1999

By BARBARA FERRY
The New Mexican

Researchers at the complex do chemical studies on plutonium, uranium and other radioactive materials.

Sen. Jeff Bingaman is seeking federal money to replace a problem-plagued research facility at Los Alamos National Laboratory that sits atop an earthquake fault.

Bingaman, D-New Mexico, has requested \$5 million to begin designing a replacement for the Chemistry and Metallurgy Research Building, a 550,000-square-foot research complex which was built in the early 1950s.

Researchers at the complex do chemical studies on plutonium, uranium and other radioactive materials. The building, which employs 350 people, was shut down twice in 1997 because of safety problems.

Money for a new building is not included in President Clinton's budget request, an aide to Bingaman said.

"This is something Sen. Bingaman has decided to push for," said spokeswoman Jude McCartin. "The (CMR) Building is old. It doesn't have proper ventilation. We can continue to make upgrades, but eventually the long-term answer is to get a

new building."

She said there have been no estimates of how much a new building would cost, though a DOE official estimated the price would be at least \$500 million.

LANL spokesman Jim Danneskiold said the laboratory has "no plans, no drawings for a new building." He referred all other questions about the budget request to the Department of Energy. Al Stotts, a spokesman for the DOE in Albuquerque said the department plans to decide this year what to do with the building.

A Santa Fe disarmament activist said the lab wants to expand its capacity to produce plutonium "pits," or triggers for

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nuclear weapons.

"The seismic and other issues surrounding the CMR building provide a public-relations opportunity but not a reason for a new facility," said Greg Mello of the Los Alamos Study Group, who asked, "Why is it that the public is continually asked to fund expansions of nuclear programs or new nuclear facilities under the guise of increasing 'safety?'"

Current DOE plans call for the lab to have the capacity to produce 50 plutonium pits a year by 2005. The CMR building is one of the facilities planned to be used for pit production.

Bruce Hall of Peace Action, a disarmament group headquartered in Washington, D.C., said

activists would fight any attempt to spend public money on a new nuclear-production facility at LANL.

"It's pure pork for the lab," Hall said. "With the Cold War over, we have to question why we need to spend more money on nuclear weapons."

In 1980s, a proposal to build a \$450 million Special Nuclear Materials Laboratory at LANL sparked community opposition. In 1990, Congress rejected the plan as too expensive.

Safety concerns — including worker accidents — including an explosion that caused \$100,000 in damage, safety violations and defects in the complex's fire alarm and ventilation systems led Los Alamos officials to halt work at the CMR building twice. Among other concerns, a federal

oversight board, along with lab critics — fear that a catastrophic accident such as a fire could release plutonium into the atmosphere.

DOE already has spent about \$62 million on safety upgrades at the building. Renovations were temporarily halted by DOE in 1997 after cost overruns for the first phase of the project reached \$15 million. A senior DOE official blamed the overruns on "weak management and poor design effort."

DOE's Stotts said the renovations have resumed and are expected to keep the building running until 2010.

But renovations were further

complicated by geologists' discovery of a seismic fault underneath last spring. The 45-year-old building is too old for seismic upgrades, lab officials said in a report.

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Weapons Projects May Move

John Fleck and Ian Hoffman Journal Staff Writers

Plan Balances Load At Los Alamos, Other Labs

The Department of Energy wants to shift key pieces of its nuclear weapons workload from Los Alamos National Laboratory to bolster a sister lab in California.

The proposal moves some work from Los Alamos to Nevada, shifts a large amount of plutonium and weapons maintenance now done at Los Alamos to Lawrence Livermore in California, and calls for a big new research complex at Sandia National Laboratories outside Albuquerque.

The moves, collectively called the "Mega Strategy," are aimed at balancing the workload at the department's major research and testing sites to ensure the right mix of skills is available in the future to maintain the nuclear stockpile, said Energy Department Deputy Assistant Secretary Gil Weigand, who is in charge of weapons research and development.

The Livermore moves are aimed at giving scientists there hands-on responsibility for nuclear weapons, rather than simply weapons-related basic research, Weigand said in an interview Thursday.

"You need a challenging workload where they are really touching the bomb," he said.

Weigand says the move is necessary to bolster the number of experienced U.S. weapons workers.

Nuclear-disarmament advocates see the changes as a worrisome retrenchment of U.S. nuclear-weapons work. The proposal seeks a dramatic increase in explosive testing with plutonium and plutonium-like metals.

"It's clearly a huge expansion of stockpile stewardship and beyond any scenario of what might be needed to keep the arsenal in a safe condition," said Jackie Cabasso, executive director of the Western States Legal Foundation in Oakland, Calif.

"For Los Alamos, this will mean more explosive tests with plutonium and more secret work at the plutonium facility," said Jay Coghlan, program director for Concerned Citizens for Nuclear Safety, a watchdog group in Santa Fe.

The critics also say other nations will read this spreading around of weapons work as the latest sign that the United States wants to keep its weapons indefinitely, rather than moving toward a smaller arsenal.

"For other countries, expanding activities at the Nevada Test Site is really offensive. It really flies in the face of what a test ban is all about," said John Burroughs, executive director of the Lawyers

Committee on Nuclear Policy in New York.

With no change from the current path, Lawrence Livermore's dwindling hands-on work on nuclear devices jeopardizes its role in the nuclear weapons complex, said Bob Peurifoy, a retired Sandia National Laboratories nuclear weapons designer.

"If you go down that road, you're going to close Lawrence Livermore as a device lab," said Peurifoy, who frequently works as an adviser to the Energy Department and who has been briefed on the proposed changes. "They've got to have something to put their hands on."

Details of the proposal have leaked out of the department in pieces over the last month. But Weigand's interview Thursday marks the first public acknowledgement by the department of the details and scope of the plan.

Weigand said the plan, being developed as part of the Department of Energy's Fiscal Year 2001 budget proposal, would ensure the labs are able to do needed refurbishment and modification of U.S. nuclear warheads after the turn of the century.

Few if any people would be moved when the work is moved, Weigand said.

The Nevada Test Site would be the new home of Atlas, a \$48.3 million machine under assembly at Los Alamos that would smash soda can-sized targets with massive jolts of electricity, yielding enormous pressures and temperatures needed to study how nuclear weapons work.

Weigand said moving Atlas to Nevada would free up Los Alamos to focus on hydrodynamic radiography, a crucial technique used by nuclear weapons designers. Scientists fire X-rays into exploding shells of high explosive and plutonium-like metals. That lets scientists check and refine the operation of "primaries," the initial A-bomb triggers for thermonuclear weapons. Weigand wants a more aggressive schedule of the tests at Los Alamos.

Part of the tests involve a top-secret project, code-named Appaloosa. They employ an exotic metal, plutonium-242, that can be imploded in bomb shapes without undergoing an explosive nuclear chain reaction. This gives scientists X-ray movies of full-scale weapons tests that never go "nuclear."

Moving plutonium work to Livermore will give Los Alamos more space at its plutonium facility for the Appaloosa work.

At the same time, Los Alamos would build one of the world's 10 most powerful proton accelerators to test out a new kind of hydrodynamic radiography. Scientists want more and higher quality pictures at more angles of exploding triggers. For a future machine, the Advanced Hydrotest Facility, they think the answer might be to surround triggers in multiple proton beams and X-rays, all delivering split-second pictures. Weapons designers can use these pictures as they do today, to verify the accuracy of weapons codes that simulate an exploding nuclear weapon.

But critics inside and outside of the weapons labs wonder about the prudence and the cost of transferring work away from those most experienced at it.

"Moving Los Alamos work to Nevada doesn't make any sense from cost or technical standpoint," said Greg Mello of the Los Alamos Study Group, a disarmament organization in Santa Fe. "It's creating a new lab in the desert."

Weigand would not say how much the moves would cost, but said the amount was "not significant." And he argues that weapons designers at Los Alamos are being stretched thin by their responsibility for maintaining weapons.

Department of Energy policy calls for the lab that designed a weapon system to be responsible for regularly taking a few out of the stockpile and tearing them apart, looking for signs of deterioration.

Los Alamos is responsible for five nuclear warhead types, while Livermore is responsible for three.

Weigand said the workload was "exhausting" the Los Alamos weapons designers. As a result, he's proposing shifting responsibility for one of the weapons, the W80 cruise missile warhead, to Livermore.

Sandia National Laboratories benefits from the proposal.

No major programs are leaving the Albuquerque lab, which is responsible for the electronic systems and other non-nuclear components in nuclear weapons.

But Sandia will get a \$300 million complex of buildings to centralize research into computer circuits and microscopic machines.

DOE proposal

The Department of Energy's proposal to shift workload among its nuclear weapons research and testing sites:

- * Gives an unknown portion of Los Alamos' job inspecting plutonium pits to its sister lab, Lawrence Livermore in Livermore, Calif. This \$7.9 million-a-year job, called pit surveillance, is a linchpin of maintaining aging U.S. nuclear weapons. Pits are hollow, egg-shaped shells of radioactive plutonium the size of a grapefruit. When crushed by high explosives, they become tiny A-bombs that touch off the hydrogen fuel in thermonuclear weapons. Scientists fear plutonium and its high-explosive shell is vulnerable to aging. DOE wants to send pit surveillance to Livermore to give that lab more "hands-on" work with plutonium components. At Los Alamos, about 30 people inspect about 15 pits a year.

- * Sends two Los Alamos research machines to Nevada. The prize is Atlas, a \$48.5 million machine that uses electrical power equivalent to 100,000 lightning bolts to crush a soda can-size "target." Los Alamos has spent \$2 million so far on Atlas, mostly refurbishing a building. Under the proposal, Atlas' 80-foot ring of capacitors would have to be disassembled at Los Alamos, reassembled and tested at the Nevada Test Site at unknown additional cost. Atlas targets typically lead, tungsten and copper are stand-ins for plutonium and uranium in weapons.

- * Makes Los Alamos the nation's center for hydrodynamic radiography. It's a technique for nuclear weapons designers to refine and check the operation of nuclear weapons by detonating mock weapons, with inert materials substituted for their explosive plutonium. X-rays of the blasts allow scientists to study the results.

- * Builds one of the world's 10 most powerful proton accelerators at Los Alamos to try out a new technique in weapons testing. The new accelerator at Los Alamos would operate at 50 Giga electron volts, about 60 times the power of the lab's current accelerator. Scientists want to try shooting the proton beam through exploding nuclear primaries from multiple angles in a future machine called the Advanced Hydrotest Facility.

- * Builds a \$300 million microelectronics complex at Sandia to develop components for refurbishing aging U.S. nuclear weapons.

Nation should reconsider nuclear treaty, report says

1/16/02

By KRISTEN DAVENPORT
The New Mexican

A report issued Friday that urges the federal government to reconsider the Comprehensive Test Ban Treaty also says the United States needs more nuclear pits — the explosive, radioactive hearts of nuclear bombs — that would likely be manufactured at Los Alamos National Laboratory.

Retired Gen. John M. Shalikashvili, who served as head of the Joint Chiefs of Staff from 1993 to 1998, issued the results of his study, saying that for the sake of slowing down the worldwide nuclear-arms race, the United States must reconsider the treaty. The U.S. Senate voted in 1999 against the treaty 51-48, far short of the two-thirds approval needed to ratify it.

Shalikashvili's report says President-elect Bush should consider the merits of the treaty, although during the campaign, Bush opposed it. However, Bush also promised to continue the U.S. ban on nuclear testing.

But Shalikashvili's report also said the United States needs to do more to maintain its current stockpile of nuclear weapons. The country should add policies that could help make sure the treaty does its job — stopping other countries from doing nuclear testing, the report said.

The United States should increase intelligence efforts and

construct a new factory to manufacture plutonium pits. The pits, made of plutonium, tritium and other materials, trigger a nuclear explosion.

The U.S. Department of Energy and lab planning documents have indicated for several years that LANL would likely end up being the national center for production of nuclear pits. The facility would probably be built at Technical Area 55, at the core of lab property.

In November, LANL management unveiled its new beryllium processing facility. Beryllium is a toxic metal that can cause fatal lung disease — and is also used in nuclear pits. The metal is used to reflect neutrons back into the fissioning core of the nuclear bomb.

Anti-nuclear activists worry that a pit-manufacturing facility in Los Alamos would put New Mexicans at greater risk of contamination because more radioactive material would be handled at the lab.

The Los Alamos Study Group put up a billboard on Interstate 25 last month suggesting that Los Alamos might soon be home to a pit-production facility: "Nuclear-weapons production — here. It's the pits."

But Shalikashvili and others say putting more money into pit production and maintaining weapons the United States already has in reserve through the U.S. Stockpile Stewardship program might be one way to persuade the Senate to ratify the treaty.

Nuke Report Vexes Activists

Group Fears LANL Will Become Warhead Producer

BY JENNIFER MCKEE
Journal Staff Writer

1/6/00

Local activists fear Los Alamos National Laboratory could be the new home for a potential warhead plant alluded to in a State Department report released Friday.

Retired Gen. John Shalikashvili, former chairman of the Joint Chiefs of Staff, was tapped last year to review the failed Comprehensive Test Ban Treaty by President Clinton and Secretary of State Madeline Albright. He released his report Friday.

While much of his findings centered around the global spread of nuclear weapons, a small portion of the report focused on maintaining the nation's existing — and aging — supply of nuclear weapons, also known as “the stockpile.”

“The National Nuclear Security Administration (a semi-autonomous arm of the Department of Energy) should make a decision as soon as possible about the need for a large scale plutonium pit remanufacturing facility,” the general wrote.

Plutonium pits are the nuclear guts of a warhead and contain radioactive plutonium, which is known to decay over time. The United States currently has no manufacturing plant for nuclear bombs. Los Alamos National Lab has been designated as the official source of new or remanufactured pits, said lab spokesman Jim Danneskiold, although the lab hasn't built a weapons-ready pit in the four years since DOE officials christened it the nation's new pit center.

Greg Mello, of the Santa Fe-based Los Alamos Study Group, said the report all but points to Los Alamos as the site of any new larger-scale pit plant.

“That's been DOE's constant plan for the last eight years,” said Mello, chairman of the lab watchdog group.

Request to ratify

Clinton urges the Senate to address the Nuclear Test Ban Treaty AS

More upsetting in Shalikashvili's report, Coghlan said, was the general's argument for both the Comprehensive Test Ban Treaty, which would forbid nuclear testing among member nations, and the need for new or remanufactured pits, which are part of the national Stockpile Stewardship Program. Stockpile stewardship, by rebuilding and making slight changes to the weapons, violates the 30-year-old Nuclear Nonproliferation Treaty, Coghlan said.

Activists will only be making 50 new pits a year, he said, and so far they haven't made a single one fit to be implanted in the nose of a warhead.

“There have never been any plans for large-scale pit manufacturing at Los Alamos,” Danneskiold said.

Another anti-nuclear activist agreed.

Jay Coghlan of Nuclear Watch of Northern New Mexico, also based in Santa Fe, said Friday a pit plant on the mesa is the least of his fears.

means at our disposal,” Mello said. “The northern New Mexico community has fought this in the past.”

But according to Danneskiold, Mello needn't arm himself just yet. True, Danneskiold said, Los Alamos is the only source of new pits in the country right now. But the lab was charged only with maintaining the know-how and technology to make new nuclear weapons, not the full-scale rebuilding of the nation's nuclear weapons. Under the grandest projections, Los Alamos scientists

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He pointed to reports from the DOE's Albuquerque Operations Office that call for an additional \$500 million over the next 15 years for new buildings and facilities earmarked for expanded pit production.

He's vowed to oppose the growth tooth and nail.

“We will fight pit production at any level, other than simple maintenance of the technology, with all

Nuclear Ban Treaty Report Worries Activists

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DOE Seeks More Cash To Cover Nuke Costs

Officials Cite Aging Weapons Factories

BY JOHN FLECK
Journal Staff Writer

2/8/00

Maintaining the aging U.S. nuclear arsenal is more costly than earlier believed, Energy Department officials acknowledged Monday in asking for a significant budget increase next year.

In laying out a \$4.6 billion spending proposal for next year, they acknowledged they need to funnel more money into their aging nuclear-weapons factories to keep them open and running.

The spending plan is 6 percent above this year's budget.

Energy Secretary Bill Richardson said as recently as December, during an Albuquerque news conference, that \$4.5 billion a year would be sufficient to pay for the labs and factories responsible for maintain-

ing the U.S. arsenal.

In a news conference Monday, Richardson acknowledged that problems found in a program review last fall — aging factories, a loss of skilled workers and pressure from the Defense Department to meet an ambitious schedule for refurbishing weapons — means the budget has to go up.

The request for a \$273 million budget increase calls for more money for massive research computers at the weapons labs to simulate nuclear-weapons blasts, and an increase in spending on manufacturing plutonium weapon parts at Los Alamos National Laboratory.

Despite the increase, however, it might not be enough to do all the work required, Sen. Pete Domenici, R-N.M., said Monday.

Domenici, who usually leads Senate deliberations about the department's budget, said during a news

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DOE Seeks Funds To Cover Nuke Costs

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conference Monday he will hold hearings to find out what programs within the department were "short-changed" in the department's budget request.

Critics disagree.

The budget is twice as much as necessary to simply maintain old weapons, said Greg Mello of the Los Alamos Study Group, a Santa Fe anti-nuclear group.

The U.S. government should be thinking about reducing the budget and getting rid of nuclear weapons, not increasing spending on them, Mello said in an interview Monday.

"This kind of budget assumes that nuclear weapons have continued legitimacy," Mello said.

Officials at Sandia National Laboratories are "encouraged" by preliminary analysis suggesting the request calls for a \$53 million increase in the labs' budget next year, said spokesman Larry Perrine.

But Perrine said it's still not clear if job cuts will be needed this year at the nuclear-weapons research center because of budget problems.

Sandia officials said in December that as many as 500 jobs might have to be cut. Negotiations with DOE



THE ASSOCIATED PRESS

BUDGET REVIEW: Senate Budget Committee Chairman Pete Domenici, R-N.M., responds to President Clinton's fiscal year 2001 budget during a Capitol Hill news conference Monday.

officials over the budget situation continue.

A Los Alamos spokesman declined comment.

Referring to a review of the nuclear-weapons program completed last fall, Richardson said money is needed to upgrade the nuclear-weapons factories that refurbish and maintain aging U.S. nuclear weapons.

Speaking at a Washington, D.C., news conference, Richardson also called for additional spending to retain skilled workers in the U.S. nuclear-weapons complex.

The preliminary budget calls for the department to spend \$1.34 billion next year at Los Alamos National Laboratory, up 7 percent.

Sandia's Energy Department budget would increase by 5 percent to \$1.06 billion.

Among significant items included for the labs:

- A 54 percent increase — \$38 million — for manufacturing plutonium nuclear-weapon cores, work that's done primarily at Los Alamos.

- As much as \$5 million for Sandia for design of a new building to house researchers developing a new generation of tiny components for use in nuclear weapons.

- A 20 percent increase — \$80 million — in the department's high-performance computing program. That includes money for a new computer at Los Alamos four times faster than the current world speed record-holder.

- The end to a Los Alamos effort to use a powerful particle accelerator to make radioactive tritium for U.S. nuclear weapons.

- A 26 percent increase, to \$116 million, for the nuclear-weapons transportation group based at the department's Albuquerque Operations Office.

Taps Sound for LANL Facility

Clinton Budget Sets 10-Year Deadline

BY IAN HOFFMAN
Journal Staff Writer

Tucked into the Clinton administration budget is an early epitaph for one of the world's largest nuclear chemistry labs: A final dose of renovation funds, plus money to design its replacement — a 21st century weapons plutonium lab.

Together, those moves are likely to raise a debate on the future of the nation's work with plutonium in an era of uncertainty over the size of the nation's nuclear arsenal and tepid interest in nuclear power.

For now, Clinton's budget sets a

10-year deadline on weapons research at Los Alamos National Laboratory's hulking Chemistry and Metallurgy Research building, a Cold War workhorse that at 550,000 square feet was the largest construction project in early 1950s New Mexico.

Since 1992, the CMR building has undergone a dribble of renovations originally aimed at keeping it running for a quarter century more. The \$224 million project crashed in 1997, frustrated by safety mishaps, mismanagement and more contamination and outdated electrical systems than expected. A final nail in CMR's coffin came last year when geologists reported an earthquake fault under one of the building's wings.

"For a 50-year-old building, we

think we're better off upgrading it for the next decade and (to) start getting out of it," said Earl Whiteman, assistant manager for technology and site programs at the U.S. Department of Energy's Albuquerque Operations Office.

The president's latest budget request seeks \$13 million to finish a scaled-back version of the upgrades, with an end total of \$128 million. The revised renovations got a boost recently when DOE executives removed CMR from their watch list of troubled, high-profile construction projects.

Eliminated in the renovations are a refurbished vault for weapons materials, plus new structures to shore the building up against earthquakes and to give stronger guaran-

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Taps Sound for Nuke Chemistry Lab

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tees against the release of plutonium in event of an accident.

Weapons executives say the slimmed-down project should make CMR safe enough to perform its core mission — analytical chemistry on plutonium and other weapons materials — until 2010.

By then, weapons executives in New Mexico want a new lab in place. The DOE is seeking an additional \$5 million next year for a rough, first design of what they're calling a CMR replacement building.

The new lab is likely to cost hundreds of millions of dollars, Whiteman said, and would be built inside the top-security perimeter at Los Alamos' Technical Area 55, home to the nation's most comprehensive plant for work with bomb-quantities of plutonium. The plutonium facility, PF4, inherited the job of fashioning the watermelon-shaped plutonium triggers or "pits" for nuclear weapons from the defunct Rocky Flats site near Boulder, Colo.

It's unclear what the new lab at TA-55 will look like, however, or

everything it will do. Much of CMR itself appears to be unused, but nuclear-disarmament advocates who scrutinize the building admit they don't really know much of the work performed there.

"This whole project to upgrade CMR has never been transparent because the things that go on inside are unknown and have not been accurately described to the public," said Greg Mello, head of the Los Alamos Study Group in Santa Fe. "We need to have full disclosure of what's going on there and a truly independent audit of the upgrades made available to the public."

Managers of the U.S. nuclear-weapons program in New Mexico say the new lab is needed primarily to perform chemical analyses as a process check on the manufacture and aging of weapons parts, chiefly plutonium pits.

Lab officials complain, however, that they need more room for all of the plutonium work they are assigned. PF4 workers, for example, crack open old pits to study aging effects. They research ways to purify aged plutonium and to mix plutonium with uranium to make

experimental nuclear-reactor fuel. They also make plutonium-powered batteries for NASA space probes and undersea instruments. PF4 also is likely to play a role in research on using particle accelerators to "burn" nuclear waste.

DOE executives will consider moving some of those jobs to the new lab as part of its conceptual design, expected to take at least 18 months.

Of shifting work to the CMR replacement lab, the DOE's Whiteman said "maybe yes, maybe no."

"Certainly if you're going to all of the expense of constructing new plutonium floor space, adding more floor space is not all that more expensive."

Disarmament advocates suggest Los Alamos executives created their own space problems at PF4 by taking on too much plutonium work to compete with strictly weapons-related work.

"It's the ambitions of the nuclear-materials program at Los Alamos that is driving this new, bigger facility," said Mello. "We don't really need a new facility. We have the plutonium facility we need if we don't

undertake a suite of new plutonium missions that crowd one another out."

Similar arguments persuaded Congress in 1990 to end Los Alamos' six-year campaign for a new, \$350 million Special Nuclear Materials Laboratory. The push for the new lab is likely to trigger renewed debate inside the DOE and in Congress over what U.S. weapons scientists need. That, in turn, is premised on the size and types of weapons in the nation's arsenal, as well as demands for new research on nuclear power.

Whatever emerges in those debates, DOE officials know they must mount a rigorous campaign to prove the new lab's worth.

"Building a new nuclear facility is damn expensive," Whiteman said. "So in any scenario we have to have our act together. We have to convince people we know what we're doing and we can build it for whatever cost we're projecting. I think there's continuing support (in Congress) for a nuclear security mission at Los Alamos, but we're not crazy enough to think it's going to be easy."

Weapons Plan Attacked

Assembly Without Testing Revised

BY IAN HOFFMAN
Journal Staff Writer

2/24/2000

For the first time in more than a decade, the White House signaled in its budget the nation's intent eventually to manufacture wholly new first stages of thermonuclear weapons, without test-exploding them.

Fashioning untested new designs of such a major nuclear-weapons component would carry the nation afield of current U.S. nuclear policy, as well as cut against the advice of senior advisers on weapons science.

Arms-control advocates quickly denounced the move as a perilous flirtation with a renewed arms race. It was also wrong, according to the U.S. nuclear weapons executives.

U.S. Energy Department officials backpedaled furiously last week after a reporter drew attention to their own budget request, which set as a goal the building of an automated nuclear-weapons factory to make both existing and "new-design pits, without underground testing."

"It's in error," said Robin Staffin, senior adviser to Energy Secretary Bill Richardson.

DOE officials edited the phrase "new-design" out of their budget last week, substituting the words "replacement weapons pits."

That, too, left room for speculation. As of Wednesday night, they were working on a third version calling for production of "replacement pits for stockpiled (existing) warheads."

"There is no change in policy relative to the design or fabrication of new warheads and associated plutonium pits," DOE's acting weapons chief, Brig. Gen. Thomas Gioconda, said on Wednesday.

Pits are hollow, football-shaped plutonium shells about as big around as a grapefruit. Crushed by high explosives, it becomes a tiny A-bomb that is a match to fire up the power of suns, the second thermonuclear stage that gives H-bombs their punch.

Of the roughly 4,000 parts in a modern U.S. nuclear weapon, it is the radioactive plutonium pit and related parts that many weapons scientists regard as the most sensitive component. Its design and manufacture is as much an art as a feat of physics and engineering. Get the pit wrong, the entire weapon can fizzle. Traditionally, weapons executives have said they would never send a significantly redesigned pit into the U.S. nuclear arsenal untested by a full-blown detonation, which is prohibited by presidential order.

"If you cannot test, you cannot develop new warheads," former

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Weapons Plan Draws Fire

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Assistant Defense Secretary Harold Smith said in 1996. "That is almost the 11th Commandment as given to Moses on Mount Sinai."

At Los Alamos, plutonium workers are making the first replicas of weapons pits since a 1989 FBI raid closed down the Rocky Flats site outside Golden, Colo. Lab officials declined to comment on the DOE's budget item, but lab spokesman Jim Danneskiold said, "The laboratory has no intention to introduce new-design pits into the stockpile or to introduce any new-design component without underground testing."

Lab director John C. Browne confirmed Wednesday: "Going to anything that would be considered a major new feature, I would be very uncomfortable certifying that without underground (nuclear) testing."

For DOE, correcting its budget misstatement took a delicate touch, because the Energy Department and its weapons labs since 1995 have been designing weapons that are new in several regards.

Changing nuclear weapons without testing seeds doubt that they will operate as designed, and critics of the DOE's weapons program argue this doubt could eventually lead the United States back to nuclear testing.

As part of the Submarine Warhead Protection Program, the U.S. Navy asked Sandia labs to change the fuzing of the W76 submarine-launched warhead so it will detonate near the ground, as opposed to its original airburst design. The change gives the W76 a new targeting capability, for destroying hardened military structures such as missile silos.

At the same time, Los Alamos and Livermore national labs are working on replacements for the Navy's W88 warhead, launched by submarine on the Trident D5 missile.

Livermore's design would recycle the pit from a defunct but well-test-

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BRIG. GEN. THOMAS GIOCONDA, DOE'S ACTING WEAPONS CHIEF

ed warhead. Los Alamos' W88 replacement would use a new and untested pit. It adds new safety features such as a fire-resistant shell around the plutonium and "insensitive" high explosive that resists detonation in a fire. Both features mark significant design changes that typically require full nuclear testing.

DOE executives say the new designs are intended simply to hone the skills of weapons lab physicists and keep them in practice. The Energy Department is actually under orders since 1994 not to make new warheads.

"Design skill exercises fall far short of a weapon development program," DOE's Gioconda said. "There are no requirements for new warheads, and there are no requirements to manufacture new design warheads — period — that has been, and is, our policy and program."

Yet the DOE's published policy in 1997 stated: "Nuclear weapons in the enduring stockpile will eventually be replaced. (New system development may be needed even to maintain today's military characteristics.) This work is anticipated to begin around 2010."

Changing nuclear weapons without testing can introduce doubt that they will operate as designed, and critics of the DOE's weapons program argue this doubt could eventually lead the United States back to nuclear testing.

"Once you change them, you're

departing from the nuclear testing program of the past and introducing new factors into the stockpile," said Greg Mello, head of the Los Alamos Study Group, a disarmament organization in Santa Fe. "You're decreasing confidence in the stockpile, and you're addicting to ever increasing funding" of the nuclear-weapons program.

While the Navy and the Air Force have not requested the actual manufacture of new nuclear weapons, Energy Department officials say they cannot rule out the possibility of having to make new weapons in the future.

"We didn't say we're never going to do that," said a senior DOE weapons executive. "I can't tell what's going to happen 10 years from now. And if there were (a need to make a new weapon), we would want to be able to respond to it in a timely manner ... It is a hypothetical situation that could become a reality down the road."

Arms-control advocates say they suspect the DOE's original budget statement flirted too close to honesty and are likely to alarm other nations.

"These hairsplitters in the Pentagon and the DOE think they've made a fine point," said Chris Paine, a senior weapons analyst for the Natural Resources Defense Council in Washington, D.C. "But for the Chinese and the Russians, who are planning 10 years out, when you read something like that you don't find it very reassuring."

U.S. Nuclear Stockpile Plans Draw Scrutiny

Ours was the "pull quote" in this article.

By Walter Pincus
Washington Post Staff Writer
Monday, April 24, 2000; A02

While U.S. and Russian negotiators work on a new treaty to sharply reduce strategic nuclear weapons, the Navy is upgrading a 20-year-old submarine-launched warhead to enable it to destroy any remaining super-hardened Russian missile silos, according to government officials and private analysts.

More than 2,000 of the aging W-76 warheads will soon be going through the Energy Department's service-life extension program to be put back in submarines beginning in 2005.

Each warhead now has a destructive power more than three times greater than that of the bomb dropped on Hiroshima in 1945. After they are refurbished with new arming, fusing and firing systems, the W-76 warheads will have a greater destructive effect on their buried, reinforced targets than when they first went to sea in 1977.

As the number of strategic land- and sub-based intercontinental ballistic missiles is reduced, "the U.S. must maintain the number of hard-target killers we have on alert," a senior Pentagon officer with responsibility for nuclear weapons said recently. Upgrading the W-76 warheads is in line with that need, he said.

At a conference on the 1968 Nuclear Non-Proliferation Treaty in New York this week, officials expect delegates from the signatory countries to raise questions about the upgrading of the U.S. stockpile. The delegates will review the records of Russia and the United States in moving toward elimination of nuclear weapons, as envisioned by the 1968 treaty.

Although the United States and Russia have both ratified START II (strategic arms reduction treaty) and are working on START III, both nations are expected to draw criticism from other signatory countries for not disarming fast enough and for keeping stockpiles of thousands of warheads.

The Russian decision to store rather than destroy 20,000 tactical nuclear weapons it has withdrawn from deployment will be a subject of concern at the New York conference. Nations in Asia and Europe, where such weapons could be used, are particularly critical of Russia's refusal to destroy the battlefield nuclear weapons. Then-President Mikhail Gorbachev took the weapons out of deployment in Eastern Europe in response to the unilateral withdrawal of U.S. tactical weapons from Europe and Asia.

Delegates to the conference are also expected to complain about U.S. plans to refurbish and upgrade its 6,000 deployed strategic warheads, such as the W-76, and Washington's intention to maintain in an "inactive reserve" weapons withdrawn from deployment when START II's limit of 3,500 warheads goes into effect.

Questions will also be raised about Washington's "war reserve" of 4,000 plutonium triggers, taken from dismantled weapons, which could be converted into nuclear warheads within a year. Triggers from U.S. tactical weapons withdrawn from Europe in 1991 are in that reserve.

Secretary of State Madeleine K. Albright is to speak to the New York conference and release a report defending the U.S. approach to disarmament. State Department spokesman James P. Rubin told reporters Thursday that "the United States has led the way amongst the nuclear powers in trying to reverse the nuclear arms race."

The START III negotiations, which got underway in Geneva last week, are based on an agreement reached in Helsinki in 1997 between President Clinton and Boris Yeltsin, then Russian president. The two leaders not only agreed to reduce deployed warheads to between 2,000 and 2,500, but also to take steps to destroy "strategic nuclear warheads."

Russia plans to make an issue of U.S. stockpile practices based on the Helsinki agreement, according to government sources. The Russians believe one flaw in START II was that it allowed the United States to store excess warheads rather than destroy them, according to Alexander Pikayev, an arms expert at the Carnegie Endowment for International Peace.

U.S. stockpile practices have drawn little attention on Capitol Hill or from the public at large.

"Despite its potential adverse effects on . . . arms control and disarmament efforts, there has been no public or congressional debate over upgrading warheads or the gratuitous modification and novel design of nuclear explosives," said Greg Mello, director of the Los Alamos Study Group, in a recent article about the W-76 upgrade in the Bulletin of the Atomic Scientists.

Congressional testimony on the fiscal 2001 budget infrequently touched on the nation's strategic nuclear weapons program, which costs roughly \$30 billion a year, according to the Congressional Budget Office.

Buried in testimony of Brig. Gen. Thomas F. Gioconda, the acting director of the Energy Department's National Nuclear Security Administration, is the one mention of the W-76--in a list of three deployed warheads that will be refurbished. The main thrust of Gioconda's testimony was to assure members of Congress that U.S. weapons would still work, not that they would be more effective.