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Even as the president pushes for new anti-terrorism powers, Washington continues to ignore warnings that its nuclear-weapons facilities-high on any terrorist target list- are frighteningly vulnerable. So Rich Levernier, who spent six years war-gaming defenses at Los Alamos and other sites, and veteran safety official Chris Steele are blowing the whistle

BYLINE: By Mark Hertsgaard

HIGHLIGHT:

The Next Ground Zero? How secure are the U.S.'s nuclear-weapons facilities? Not very An investigation by Mark Hertsgaard

BODY:

Insiders like to call it "the four most closely guarded acres on earth." Certainly the contents of Technical Area 55 deserve that level of protection. This cluster of metal, warehouse-like buildings inside the Los Alamos National Laboratory is the United States government's main facility for processing plutonium, a decisive ingredient in the approximately 70,000 nuclear weapons built in the United States since World War II. Now that the Cold War is over, many of these weapons and their plutonium are being stored back where they were produced-making the nation's nuclear-weapons facilities some of the most tempting terrorist targets in existence.

J. Robert Oppenheimer and his Manhattan Project colleagues chose Los Alamos

as their headquarters during World War II because its remote location, a barren mesa in the mountains of New Mexico, seemed ideal for deterring infiltrators. But nowadays Los Alamos, which is managed by the University of California, is about as hard to get to as the Grand Canyon. I recently found myself cruising around the 40-square-mile facility less than two hours after my arrival at the Albuquerque airport. I drove past streets named after early nuclear-weapons test sites: Trinity, Bikini, and Eniwetok. I saw the lodge where Edward Teller played piano on Saturday nights to amuse his entertainment-starved colleagues while they raced to beat Nazi Germany to the bomb.

Approaching sensitive sites such as Technical Area 55 was not so simple, however. A pre-visit security check was required, and on the day in question I had to be accompanied by Los Alamos officials. Jim Danneskiold, a press officer, and Eric Ernst, the facility manager of Technical Area 55, escorted me to the site in Danneskiold's S.U.V. When we got within a quarter-mile of T.A. 55, we were stopped at a checkpoint, where armed guards examined our identification to make sure we were approved for entry. Danneskiold had called ahead, so we were waved forward, the high mesa offering a fine view of the Rio Grande valley below.

We soon pulled to a stop in a dusty lot in front of a tall fence topped by swirls of razor wire. Ten yards beyond stood a second, identical fence. Together, they stretch in parallel around the entire T.A. 55 area.

My escorts and I got out and walked to the fence so I could have a closer look. We had been standing there barely 20 seconds when an armed guard approached and demanded to know what we were doing. Though our visit had been cleared in advance, he politely but firmly told us to leave, and stood there waiting until we did. To a layman's eyes, it was an impressive display of vigilance.

But Rich Levernier has a different perspective. Levernier spent the six years leading up to September 2001 running war games for the U.S. government. It was his job to test the preparedness of America's nuclear-weapons facilities against terrorist attacks. Once a year, his "black hats"-mock-terrorist squads made up of U.S. military commandos-would assault Los Alamos and nine other major facilities, as well as the system for transporting nuclear weapons around the country by truck. Neither side in these engagements shot real ammunition-harmless laser weapons were used-but in other respects the exercises were deadly serious. Levernier's black hats were ordered to penetrate a given weapons facility, capture its plutonium or highly enriched uranium, and escape; the facility's security forces were expected to repel the mock attackers.

The results of these tests, which Levernier reveals publicly here for the first time, are nothing short of alarming. "Some of the facilities would fail year after year," he says. "In more than 50 percent of our tests of the Los Alamos facility, we got in, captured the plutonium, got out again, and in some cases didn't fire a shot, because we didn't encounter any guards."

This, despite the fact the security forces were told months in advance exactly what day the "terrorists" were coming. Rich Levernier has never spoken to the press or to Congress about his findings. He is going public now only because he believes the Bush administration has left him no choice. Working through normal bureaucratic channels, Levernier says, he tried for years to get his superiors at the Department of Energy (D.O.E.), which manages the nation's nuclear-weapons complex, to address these shortcomings. But

the problems did not get fixed; indeed, Levernier says, most of his superiors declined to acknowledge that the problems even existed. Finally, when he refused to stop pushing for reform, Levernier was stripped of his security clearance after a relatively minor infraction and was removed from his job, effectively ending his career two years before he was due to retire with a full pension.

So Levernier has become-involuntarily, he stresses-a whistle-blower. The role does not come easily. A 22-year veteran of D.O.E., Levernier has devoted virtually his entire adult life to military and nuclear security. When he learned that he was about to be drafted in 1972, he instead enlisted in the army, where he was assigned to intelligence. In 1981 he joined D.O.E. and began working his way up the system. By his own admission, he was never the type to question authority. But now, in an attempt to salvage his career, he has filed suit against D.O.E., accusing the agency of illegally gagging him and removing him from his duties without just cause. Levernier also decided to speak out publicly in hopes of saving his country from a catastrophic, and preventable, terrorist attack.

Security problems at the nation's nuclear-weapons facilities have made news before. Beginning with the Wen Ho Lee case in 1999, Los Alamos in particular has been plagued by a steady flow of scandals. The implications of Levernier's revelations, however, dwarf all that have come before.

The mock attacks Levernier conducted targeted nuclear-weapons facilities, not nuclear power stations; the consequences of a breach at a weapons facility could be orders of magnitude worse. According to declassified D.O.E. reports released in 1994 and 1996, the nation's nuclear-weapons facilities house more than 60 metric tons of plutonium and hundreds of metric tons of highly enriched uranium. Since a mere 11 pounds of plutonium or 45 pounds of uranium is enough to make a crude nuclear device, the weapons complex as a whole contains the equivalent of tens of thousands of Hiroshima-strength weapons, all located in the heartland of the United States. Los Alamos alone holds 2.7 metric tons of plutonium and 3.2 metric tons of highly enriched uranium, according to the D.O.E. reports cited above, the last ever released on the matter.

"The most dangerous problem exposed by Levernier and his team is that terrorists could infiltrate Los Alamos and get away with substantial amounts of plutonium," says Arjun Makhijani, president of the Institute for Energy and Environmental Research in Takoma Park, Maryland, and an expert on nuclear-weapons issues. "The stolen plutonium then might show up as a nuclear-bomb explosion that would devastate an American city, possibly killing hundreds of thousands of people. A second danger is that a terrorist attack could cause deadly plutonium fires, which could result in hundreds of cancer deaths and leave hundreds of square miles uninhabitable."

"Any implication that there is a 50 percent failure rate on security tests at our nuclear-weapons sites cannot be supported by the facts and is not true," says Anson Franklin, a spokesman for the National Nuclear Security Administration (N.N.S.A.), a semi-autonomous agency set up within D.O.E. to oversee the nuclear-weapons complex. "The impression has been given that these tests are staged like football games, with winners and losers. But the whole idea of these exercises is to test for weaknesses-we want to find them before any adversaries could-and then make adjustments.... Our facilities are not vulnerable."

Levernier relates his information poker-faced, in an urgent monotone. Warm and fuzzy he is not. His lawyer, Tom Devine, says it took six months of working

together before he got Levernier to crack a smile. "Rich reminds me of Joe Friday in *Dragnet*," Devine says. "Actually, he makes Joe seem animated."

But if Levernier's story is true, history is repeating itself in a most disquieting way. The Senate and House intelligence committees' joint inquiry on September 11 showed that if the Bush administration had heeded the warnings of government truth-tellers, it might have prevented the attacks. Now the administration appears to be making the same mistake again, but with much higher stakes and much less excuse.

The most famous of the earlier whistle-blowers is Coleen Rowley, the F.B.I. agent from Minnesota who condemned the bureau's failure to pursue Zacarias Moussaoui, the so-called 20th hijacker, who is now on trial for allegedly planning to take part in the 9/11 attacks.

Bogdan Dzakovic, a former security specialist with the Federal Aviation Administration, sounded a less publicized warning. What Rich Levernier was to nuclear-weapons facilities, Dzakovic (pronounced Jah-ko-vich) was to airports. As a member of the F.A.A.'s Red Team, an elite squad of security experts who travel incognito to many American and foreign airports, Dzakovic spent the years from 1995 to 2001 testing how difficult it was to get fake bombs or weapons onto planes. His conclusion: not very. For example, in 1996 in Frankfurt, a major hub for travel to the United States, the Red Team smuggled bombs onto planes 31 times in 31 attempts, according to Dzakovic. In 1998 the Red Team breached security at New York City airports about 85 percent of the time.

"It was easy. You didn't need Mission: Impossible tactics and black clothes at three in the morning," says Dzakovic. "We would arrive at a given airport, see a plane on the runway, and say, 'Let's try to get inside that plane.' We'd walk right up to the plane, and usually we could walk right in."

To get from the terminal to the runway, the Red Team had to pass through locked doors. "But if you surveilled the door a few minutes and watched authorized personnel go through, you could see what combination they were punching in to unlock it," says Dzakovic. "We'd wait until the coast was clear, punch in the same combination, and slip through the door. As long as you acted like you belonged, you could pretty much do what you wanted."

Some of the most disturbing failures occurred at Ronald Reagan Washington National Airport, where security was breached roughly 85 percent of the time during inspections in 1998. One inspection was particularly revealing. "Instead of sneaking through a door by picking up the punch code," recalls Dzakovic, "we decided to push through an alarmed door and then wait around to get caught so we could see how the security system reacted."

At the agreed hour, the Red Team agents took their positions. Dzakovic pushed the door open, the alarm started ringing, and the agents checked their watches. Thirty seconds passed, then a full minute. No airport security arrived. The alarm kept blaring as passengers strolled past. After 15 minutes, the Red Team agents gave up in disgust. No one from airport security ever did show up.

"You'd think that with all the congressmen who fly out of Reagan National those kinds of failures would be seen as an important problem," says Dzakovic. "But we never went back there to check on whether corrective actions were taken, just as we never returned to Frankfurt or any other European airport that had failed inspection." According to Dzakovic, his superiors would not authorize the

follow-up trips.

Like Levernier, Dzakovic says that he-and other Red Team members-repeatedly warned superiors that the United States was a sitting duck for terrorist attacks. But F.A.A. officials buried the Red Team's reports, because, Dzakovic charges, the F.A.A. was concerned more about keeping airplanes flying and the airlines profitable than about ensuring real security for the flying public.

"Nothing ever improved in F.A.A. security, because this ridiculous concept of being fair to the air carriers took precedence over everything F.A.A. did," Dzakovic charges. F.A.A. regulations even instructed field agents trying to smuggle fake guns and bombs onto planes that "no attempt should be made to hide objects."

"The only thing that surprised me about September 11 was that it didn't happen sooner," says Dzakovic, who was removed from the Red Team and reassigned to a series of menial jobs after going public with his charges. "The civilian-aviation security system was and remains basically an expensive facade. It makes the flying public think it's being protected-you know, all the theater of standing in line at airports and taking off your shoes-but it doesn't do much to deter serious terrorists."

'Air security in the United States is significantly better now than it's ever been," counters Brian Turmail, a spokesman for the Transportation Security Administration, the federal agency created in November 2001 to replace the F.A.A. as overseer of civilian-aviation security. "On September 11, there were 33 federal air marshals; now we have thousands. Only 5 percent of checked baggage was screened for explosives; now 100 percent is.... We've worked with airports to increase perimeter security to reduce the threat of shoulder-fired rockets. We would never tell you that each of these layers works perfectly, but overlap among them makes it certain that security is much better today than on September 11."

Levernier, however, echoes Dzakovic's argument, saying of security at nuclear-weapons facilities: "It's all smoke and mirrors. On paper it looks good, but in reality, it's not. There are lots of shiny gates and guards and razor wire out front. But go around back and there are gaping holes in the system, the sensors don't work, the cameras don't work, and it just ain't as impressive as it appears."

Over the past two years, the Bush administration has talked tough about defending the United States against terrorism, pointing to the September 11 tragedy to justify much of its domestic and international political agenda, from invading Iraq to limiting civil liberties to relaxing environmental regulations. But if Levernier and other nuclear experts and official documents consulted for this story are correct, the Bush administration is in fact failing disastrously at the practical job of keeping the American homeland safe from terrorist attacks. In particular, the administration is doing worse than nothing to protect the nation's nuclear-weapons facilities. Not only is it leaving serious flaws in the nuclear-security system unrepaired, it is silencing the very public servants who are trying to fix the problem before it is too late. Chris Steele is another Los Alamos insider who is speaking out here for the first time. Like Rich Levernier, he says he is a reluctant whistle-blower; during his seven years at Los Alamos, Steele has preferred to work through official channels. But that changed last November, when his D.O.E. superiors took him off the job after he rejected what he considered to be laughably inept preparations against terrorist attack.

As D.O.E.'s senior safety official at Los Alamos, Steele was responsible for making sure that the lab's operations did not put workers, the public, or the environment at undue risk. His signature was required before any potentially dangerous procedure could go forward at Los Alamos. According to colleagues both friendly and not, he took his responsibilities very seriously.

"I don't particularly love nuclear weapons," Steele says, "and I don't think we need tens of thousands of them, but I think we need some of them. And if you admit that, it's important to maintain them safely."

In October 2002, Steele was presented with a safety-analysis report for the Radioactive Liquid Waste Treatment Facility at Los Alamos. Lab officials had analyzed various accident scenarios, including that of an airplane crashing into the waste facility. The report did not distinguish between the accidental crash of a commercial airliner and a deliberate terrorist attack, which may explain why it estimated the odds of such an incident at one million to one—rather optimistic, given that al-Qaeda had crashed three planes into targets on a single day barely one year earlier. The report projected that an airplane that crashed into the Radioactive Liquid Waste Treatment Facility would cause hundreds of thousands of gallons of nuclear waste to catch fire.

But the authors of the report saw no cause for alarm. According to them, the fire would be extinguished by the waste facility's roof-sprinkler system.

"That must be a magical sprinkler system," Steele says, "since it's apparently able to rise up from the rubble, turn itself on, and put out the flames. We should buy one of those for every nuclear plant in the country."

Steele had picked the improbable sprinkler-system claim out of a long, dense report written in opaque techno-speak. A table on page 36 of Chapter 3 listed the accident scenario as No. 13.8 and cited "Fire Suppression System" and "Actuate in the event of a fire" as the proper steps to handle the emergency. "Reading this kind of analysis," Steele recalled at the time, "you don't know whether to laugh or cry, but you have an urge to do both."

On November 22, 2002, a month after he rejected the report, Steele was summoned to his boss's office and stripped of his security clearance, effectively removing him from his post.

Anson Franklin, a spokesman for the National Nuclear Security Administration of D.O.E., confirmed in an interview at the time that Steele had become the subject of a D.O.E. security investigation. Franklin insisted, however, that the investigation was "in no way a retaliation" against Steele, and he now praises Steele for "doing his job" in the sprinkler episode. Nevertheless, although Franklin described the D.O.E. investigation as ongoing, it sounded as if a verdict had already been reached. "Mr. Steele committed a serious security violation," he said.

Chris Steele is a confessed nerd and workaholic with thinning blond hair and a bit of a weight problem. When asked what he does for fun, the 45-year-old is stumped. "I'm kind of boring, I guess," he says with a shrug. He spent his last vacation recalculating radiation releases from a hypothetical accident at Los Alamos.

Steele grew up working-class in Louisiana and New Jersey. Armed with a high I.Q. and fierce determination, he won armfuls of math and physics awards, but he

violated the geek stereotype in one respect. Taught by his mother that "the only way someone can walk over you is if you lie down," Steele was suspended from high school 12 times for fighting. "I was a skinny kid, but I wouldn't back down when kids harassed me."

He brought the same fearlessness to his career in the nuclear industry. Since arriving at Los Alamos in 1996, Steele says, he has vetoed numerous dangerous, illegal, or just plain wacky ideas. For example, there was the time in 1998 he overruled a scientist who had offered to drive a bulldozer into a reactor if it overheated during an experiment. "I told him that was maybe the bravest thing I'd ever heard," Steele says dryly, "because he'd certainly be killed by the radiation. But it wasn't much of a plan." Eventually the experiment was safely redesigned and approved.

It did not take Steele long to conclude that "violation of nuclear-safety rules was systemic" at Los Alamos. Plans for controlling accidents were "window dressing" put forth by the University of California and rubber-stamped by U.C.'s overseers at D.O.E. so that nuclear research and production "could continue without disruption." Fearing a disaster was waiting to happen, Steele briefed senior management on the problem, using the bulldozer story as Exhibit A. John L. Browne, who directed the lab for U.C. at the time, responded by commenting, according to Steele, "We have to work on it." (Browne, who resigned in December 2002, declined to be interviewed.) The N.N.S.A.'s Franklin denies that D.O.E. rubber-stamps contractors' reports, noting, "Mr. Steele is a safety analyst, and it's clear he's not a rubber stamp."

When lab practices were not changed, Steele says, he went over his superiors' heads and requested a meeting with the Defense Nuclear Facilities Safety Board, a watchdog agency Congress established in 1988 to reform D.O.E.'s nuclear program. He also ordered a study of safety procedures at Los Alamos. The result, the so-called McClure Report, warned of "serious, systemic problems" at Los Alamos and recommended that the safety analyses for all of its major nuclear facilities be re-done, a step subsequently demanded by Congress as well. This safety overhaul gave rise to the most extraordinary of Steele's crusades: his discovery and closure of a secret nuclear-waste dump. On July 18, 2001, a seemingly routine memo reached Steele's office from managers at the T.A. 55 facility-"the four most closely guarded acres on earth." The memo's turgid bureaucratic language obscured a shocking disclosure: without the knowledge, much less the approval, of the secretary of energy, nuclear waste was being stored inside T.A. 55, in a plain steel building known as P.F. 185. Although waste had apparently been stored there since 1996, T.A. 55's safety analyst, Derek Gordon, did not know it was there. As a result, P.F. 185 had not been subjected to a proper nuclear-safety analysis.

According to Gordon, the waste dump contained the equivalent of 33 pounds of plutonium-239, mainly in the form of contaminated gloves, rags, tools, and similar items. The danger, according to Steele, was that this waste could be dispersed by fire-such as the wildfires that blackened canyons and caused evacuations at Los Alamos during two weeks in May 2000.

Steele shut down the dump as soon as he found out about it, and the waste was soon removed from P.F. 185 and stored elsewhere inside the Los Alamos complex. The very existence of a secret nuclear-waste dump was illegal, Steele says: "The amount of waste inside P.F. 185 qualified it as a Category 2 nuclear facility, and only the secretary of energy can authorize a Category 2 facility." Worse, he argues, was the threat that the unauthorized dump had been posing to

workers, the public, and the environment.

"This was more than a procedural issue," says Steele. "The lack of a valid safety analysis meant that P.F. 185 had been operated for five years without any nuclear-safety controls-none. Waste was stored in an ordinary steel building that was not designed to withstand strong winds, earthquakes, or fire. During the May 2000 wildfires, the flames were six feet tall across (the road) from P.F. 185. I know, because I drove by on my way to the Emergency Operations Center. We're lucky the fire didn't jump the road."

"The lab screwed up on handling the safety-analysis documentation (for the dump)," admits W. Scott Gibbs, the lab's deputy associate director. Like other Los Alamos officials, Gibbs portrays the failure as a paperwork error. He specifically denies any intent to mislead D.O.E. Pointing to an environmental approval that the D.O.E. regional office in Albuquerque issued for P.F. 185 in 1996, Gibbs says, "Our guys mistakenly said, 'We're good to go.'" Furthermore, says Derek Gordon, the dump never posed a meaningful threat to worker or public health.

Officials at D.O.E. headquarters in Washington took a sterner view, however, effectively endorsing Steele's rejoinder that environmental endorsement has nothing to do with safety. The N.N.S.A. ruled in December 2002 that the lab had broken the law. In a letter of rebuke, N.N.S.A. acting administrator Linton Brooks wrote that he was "personally concerned about the seriousness of ... this matter," adding that only U.C.'s nonprofit status had saved it from paying a \$ 220,000 fine.

James Ford is retired now, living in what he calls "a lovely gated community" in western Virginia. But during the late 1990s, Ford was Rich Levernier's direct supervisor at D.O.E. Although he praises Levernier as a man of "enormous talent," Ford also complains that he was not a team player. "No one could work with him.... He had a track record of dishonesty and self-promotion. If he could make himself look good at the expense of others, he'd do it.

"It's probably true that our security was not as good as it should have been," Ford adds, "but it's also true that it was better than Levernier says it was. Our nuclear facilities are safe. There have been no thefts or sabotage of our nuclear materials, and I'm confident there will be none." Ford does not dispute that the security forces at Los Alamos, Rocky Flats, and other weapons facilities posted high failure rates against Levernier's mock terrorists. But he blames these dismal results more on Levernier's strict approach to grading than on the security forces' actual performance.

"Rich was a stickler who insisted on testing the worst-case scenario, which the security forces would have no real chance of passing," Ford complains. "He's like the cop who gives you a ticket if your car is stopped at a red light one inch over the white line. Never mind if the intersection is clear and your car stopped safely-you flunk in Rich Levernier's book. That kind of cop is never going to be liked by the other police officers he works with, and he's never going to make police chief."

"Did he have a pleasing personality?" asks Ronald Timm, who helped design war games under Levernier's supervision. "I didn't have to marry the guy, so that wasn't my problem. But to say he wasn't a team player is a bum rap. What that meant was, 'Don't bring us any bad news, because we don't want to deal with the problems.' ... I found that Rich's information was always accurate, and he was an honest guy."

By all accounts, Levernier was indeed a demanding, hands-on kind of boss. One year, he gave up his Super Bowl Sunday to run a surprise spot check on the security force at the Rocky Flats nuclear facility, near Denver. He and a colleague discovered that "patrols that were required three times per hour were not seen for more than six hours." They went looking for the absentees and found the entire squad inside, watching the ball game.

Ford complains that one scenario Levernier "would harp on" concerned the Technical Area 18 facility at Los Alamos, which, Ford concedes, "is essentially indefensible.... There are lots of other targets at Los Alamos, but Levernier would want to attack T.A. 18 every time."

I saw what Ford meant when I drove past the T.A. 18 facility, alone, during my Los Alamos visit. Although many of the lab's sensitive facilities are located on the high mesa of Los Alamos, T.A. 18 sits at the bottom of a canyon on the edge of the complex. The canyon is surrounded on three sides by steep wooded ridges. Attackers would therefore have the advantage of cover as well as the high ground. "Our guys were licking their chops when they saw that terrain, first on a computer simulation and then in real life," says Ronald Timm.

Timm is the president of RETA Security, Inc., a consulting firm that has participated in many D.O.E. war games and designed the National Park Service's security plan for Mount Rushmore. He laughs when asked about James Ford's complaint that Rich Levernier "harped" on T.A. 18. "To say it's unfair to go after the weak link is so perverse, it's ridiculous," Timm says. "Of course the bad guys are going to go after the weakest link. That's why (D.O.E.) isn't supposed to have weak links at those facilities."

During one mock attack against T.A. 18, the black hats added insult to injury: after capturing weapons-grade nuclear material, they hauled it away in a Home Depot garden cart. Lab officials complained that the attack should not count, since the Home Depot cart was not on D.O.E.'s approved list of weapons for war games. Bill Richardson, the secretary of energy at the time, took a different view. Concluding that T.A. 18 was indeed indefensible, Richardson ordered in April 2000 that all weapons-grade materials be removed from T.A. 18 and delivered to the Nevada Test Site by 2003. But none of T.A. 18's weapons-grade material has yet been moved, and no action is expected until at least 2006.

The failure rates of D.O.E.'s security forces are all the more remarkable considering that many war games are fought under rules of engagement that, according to Levernier, overwhelmingly favor the defense. Although surprise is a terrorist's most important tactical advantage, the date of the war games is scheduled months in advance, so defenders know, within a window of eight hours, when the black hats are coming. Levernier concedes that logistical realities make completely surprise attacks impractical-panicked civilian employees could get injured during such operations-so the rules of engagement are adjusted to compensate. "We may cut the number of defenders allowed," he says, "or delay their reaction time according to what we've timed them doing on a normal day." But then weapons-facility managers complain that the black hats are cheating. The black hats even have to obey 25-mile-per-hour speed limits.

Conducting war games via computer simulations can help approximate surprise, but the results of such conflicts have been distressingly similar, according to Timm. "We beat them like a drum," he says of computerized battles his black hats fought. "In one of the (computerized) tests, we killed all their guys within 60

seconds."

Another handicap: attackers aren't allowed to use certain types of equipment readily available to terrorists, including grenades, body armor, and armed helicopters. "You can walk into a Radio Shack and for \$400 buy a device that will jam all radio transmissions in a six-block area," Levernier says. "For \$40,000, you can shut down everything within a mile. But D.O.E. wouldn't let me use that stuff, because it doesn't have a defense against it."

Despite the lopsided playing field, it is the defenders who have been caught cheating. In a 1999 exercise, an army Special Forces team was deployed to "attack" a truck convoy that was supposedly transporting nuclear materials at Fort Hood, Texas. The stakes were high: political luminaries from Washington, including the deputy secretary and undersecretary of D.O.E., had flown in to observe the exercise. The luminaries flew home thinking the defenders had won, but it turned out they had had help. After "shooting" one defender, a Special Forces black hat noticed that the defender was holding a piece of paper that looked familiar: it was the black hats' battle plan. The cheating was proved to D.O.E. managers by Peter Stockton, a special assistant to Secretary Richardson, but no disciplinary action was taken.

The N.N.S.A.'s Franklin said he couldn't comment on incidents that occurred during the Clinton administration.

The biggest artificiality in D.O.E.'s war games, says Levernier, is that they don't test for suicide attacks. To win, attackers must penetrate the facility, capture the plutonium, and then escape. In the real world, though, terrorists might choose to bring their own explosives and ignite the plutonium, and themselves, on-site.

D.O.E.'s nuclear-security planning, notes Levernier, is formulated according to a "design-basis threat" document that specifies what kinds of attacks weapons facilities must be defended against. Levernier, Timm, and other experts argue that the attacks of September 11 tragically validated their previous recommendations that the design-basis threat be upgraded to incorporate suicide attacks. But D.O.E. did not issue this upgrade until May 2003, and it is not scheduled to take full effect until 2009.

Chris Steele and Rich Levernier have never met, but they have much in common. Combined, their allegations suggest that the Los Alamos National Laboratory is even less secure than previously realized. What's more, each man emphasizes that the problems at Los Alamos are, in greater or lesser degrees, found throughout the D.O.E. nuclear system.

"Safety analysis is actually better at Los Alamos than anywhere else within the D.O.E. nuclear complex," Steele says. "We're the only facility that has a team of safety and engineering analysts who can independently check what the contractors are telling us. At the other facilities, the D.O.E. oversight guys ... just rubber-stamp the safety analyses made by the contractors ... with no independent confirming analysis." The result, Steele argues, is a regulatory regime in which D.O.E. essentially trusts contractors-corporations such as Westinghouse and Lockheed Martin-to do the right thing.

For his part, Levernier says that security preparedness at Colorado's Rocky Flats nuclear facility and within the program for transporting nuclear materials throughout the U.S. is as poor as at Los Alamos. D.O.E.'s black hats defeated the Rocky Flats security force between 80 and 100 percent of the time in the late 1990s, according to Edward McCallum, the then director of safeguards and

security for all of D.O.E. McCallum became so worried that, in a May 1997 phone call, he told another colleague that the people of Colorado faced an "extremely high risk" of "a little mushroom-shaped cloud over (Denver)." McCallum had already shared that assessment with bureaucrats in Washington but gotten no reaction. Only when his colorful turn of phrase became public knowledge during an April 1999 court case did Washington respond, and not in the way McCallum had hoped: Secretary of Energy Bill Richardson placed him on administrative leave and forbade him to speak further on the matter, explaining, "I won't tolerate .. improper disclosures of any kind." McCallum soon resigned in disgust.

Fortunately for the people of Colorado, in August 2003, D.O.E. announced that the last weapons-grade plutonium had been removed from Rocky Flats and sent to the Savannah River Site, in South Carolina. But problems persist at other facilities.

"My concerns about Los Alamos ... pale in comparison to the Y-12 (nuclear-weapons) facility at Oak Ridge, Tennessee," says Representative Christopher Shays (Republican, Connecticut), chairman of the House Subcommittee on National Security, Emerging Threats and International Relations. "That is a very vulnerable site. (It has) too many structures and not enough buffer zone (around it). By the time the defenders knew that a security threat existed, it would be too late to respond. I know that they're working on it, but it has to be fixed today, not years from now."

Not all of America's nuclear facilities are poorly defended. Three have scored relatively well against mock terrorists: the Argonne National Laboratory-West, in Idaho, the Pantex Plant, in Texas, and the Savannah River Site.

So why doesn't the Bush administration insist on similar vigilance throughout the entire nuclear complex? "(They) just don't think (a catastrophic attack) will happen," Levernier says. "And nobody wants to say we can't protect these nuclear weapons, because the political fallout would be so great that there would be no chance to keep the system running." (The White House press office declined to reply to repeated requests for comment.) Levernier and Steele have one more thing in common: each lost his security clearance, and therefore his job, after coming forward with his claim-and sticking to it in the face of hostility from higher-ups.

As the year 2000 unfolded, Levernier says, he was growing more and more frustrated by D.O.E.'s failure to address what he regarded as a catastrophe in the making. He finally decided he had to go outside normal channels to effect change. Although "99.99 percent of what I handled was classified," says Levernier, one day there came across his desk an unclassified document that hinted at some of the problems worrying him. The document was a report from D.O.E.'s inspector general that described how D.O.E. officials in the field had altered security reports on Los Alamos: although visiting inspectors had judged it "unsatisfactory," D.O.E. field managers had changed that to "marginal" before forwarding the document to Washington. Levernier faxed the inspector general's document to The Washington Post, which ran a story shortly after.

It took Levernier's superiors about two weeks to identify him as the source of the leak. "When he released that information to the media, he didn't put his own name on the fax," James Ford says. "He used the name of a co-worker. He was trying to cover his tracks.... A government clearance is granted on the basis of a person being honest, trustworthy, and dependable, and that kind of behavior

isn't honest, trustworthy, and dependable."

"It was stupid and wrong, and I regret doing it," Levernier says of using a false name. But he argues that his transgression was trivial compared with the scale of his punishment. He was not fired outright, for that would have given him due-process rights and perhaps provoked him to speak out publicly. Instead, his security clearance was revoked, even though federal law explicitly allows government employees to share such unclassified information with the public and the press. The effect of the disciplinary action was to remove Levernier from his post, which required a security clearance, and into an administrative job.

"Levernier had rubbed so many people the wrong way over the years," Ford says, "that when he gave them the opening by leaking that information they threw the book at him and didn't give him the second chance someone else might have gotten."

At age 53, Levernier's career prospects were dim. "There's not much demand in the private sector for a nuclear-security specialist without a security clearance," he notes, especially one whose professional reputation had been ruined by a whisper campaign charging that he had leaked classified information. "When I walk down the halls now," he says, "people I have known for 25 years turn and walk away. The stink they put on me is so strong that no one with any career aspirations wants to get close to me."

In Steele's case, too, it appears that what triggered D.O.E.'s alleged retaliation was a fear that his candor might encourage informed outside scrutiny of D.O.E.'s actions-not so much by the press as by Congress. The specific controversy that led to Steele's suspension centered on T.A. 18, the "indefensible" facility at Los Alamos. Steele and some colleagues were developing a safety analysis for T.A. 18 when a colleague whose calculations Steele had repeatedly rejected as inadequate sent him an e-mail containing certain technical specifications. Steele shared those specifications with others on the project. "The information wasn't marked classified when it was sent to me," says Steele. "It was only classified afterwards, when they decided to go after me."

It didn't help that Steele had all the diplomatic sensitivity of an Abrams tank. "Retarded" and "moron" were but two of the words he used for colleagues whose work did not measure up to his exacting standards. "He's technically outstanding," admits Eric Ernst, the facility manager of T.A. 55. "(But) Chris has an extremely strong personality, and that can lead sometimes to being abrasive."

After Steele was first suspected of passing classified information to colleagues, he passed a polygraph test. However, his office was closed for three months while the investigation continued. He then returned to work, but the episode would come back to haunt him.

Steele went on to shut down the secret waste dump and then reject the "magical sprinkler" plan, actions which brought him into conflict with Joseph Salgado, the lab's principal deputy director. It was now 2002, and the University of California was facing growing criticism in Washington of its management of Los Alamos; there was talk on Capitol Hill that U.C.'s contract might be revoked. For Steele to be alleging further questionable conduct was exactly what U.C. management didn't want.

After the waste dump was shut down, recalls Steele, "there was a meeting

where Salgado complained, while holding up a memo I'd written, that the memo had been c.c.'d to a cast of thousands and now we'd have to explain this stuff to the world instead of handling it quietly among ourselves." After the sprinkler veto, Steele says, Salgado accused him in a meeting of once again holding up operations at Los Alamos and airing the lab's dirty laundry and angrily complained about having to spend four hours during testimony before Congress explaining single sentences in Steele's memos. After this meeting, a lab employee warned Steele that he'd heard Steele had better watch his back. (Through a spokesman, Salgado declined to comment.)

One month later, Steele was taken off the job, on the grounds that he was considered a security risk.

"Chris was set up on the security issue because he'd gotten some of those guys reassigned," says a source with direct knowledge of the situation. "Management wanted to take him down, and they had made it clear publicly.... I was briefed (on it) by D.O.E. headquarters.... They set him up by sending him a classified memo about a black project, but Chris wasn't aware it was classified, and they used that to take him out."

Steele and Levernier might have disappeared into the maw of the D.O.E. bureaucracy, never to be heard from again, had they not found the Government Accountability Project (gap). A public-interest law firm in Washington, D.C., gap is the premier whistle-blower-protection group in America. Since its founding in 1977, gap has worked with thousands of government and corporate whistle-blowers and, in the process, has developed a sophisticated strategy for combining legal advocacy with media and political pressure. It has also helped to formulate the body of laws and administrative procedures that a whistle-blower has at his or her disposal once he or she makes the fateful decision to "commit the truth," as Pentagon whistle-blower Ernest Fitzgerald once put it.

"We expose the secrets that the government doesn't want anyone to know about," says gap's Tom Devine, "and we try to make sure that everyone who needs to know about them, from workers on-site to citizen groups-politicians and the media-is made aware. The whistle-blower is the first rock in the avalanche we try to create of public revulsion against the indefensible."

Steele's avalanche began on February 27, 2003. The Project on Government Oversight (pogo), a public-interest group in Washington whose report "U.S. Nuclear Weapons Complex: Security at Risk" is an indispensable guide to problems within the complex, had recruited gap to represent Steele. In a whistle-blower retaliation complaint, Devine charged that Steele had been taken off the job and stripped of his security clearance simply for doing his job-for having made "legally protected disclosures" of information about dangerous or illegal activities at Los Alamos. Three weeks later, Steele's case came to the attention of members of Congress when he was invited to Washington to receive an award from the Alliance for Nuclear Accountability.

In any case, D.O.E. retreated. On March 28, Tyler Przybylek, the N.N.S.A.'s general counsel, recommended that Steele's clearance be restored and that he return to work. Przybylek's official statement declared that Steele had put classified information at risk but had not done so deliberately.

"I'm glad to be back," says Steele from his office at Los Alamos. But his adventures aren't over. In his first month back on the job, he says, he discovered approximately a dozen additional unlicensed nuclear sites, and he's

girding for another fight.

Levernier has traveled a longer, rockier road. He filed a Whistleblower Protection Act lawsuit against D.O.E. on September 26, 2001. Levernier remained in bureaucratic limbo for the next 17 months while the Office of Special Counsel, the federal agency that handles whistle-blower cases, considered the suit. In February 2003, the O.S.C. ruled that there was "a substantial likelihood" that Levernier's charges were correct and ordered Secretary of Energy Spencer Abraham to investigate them. The O.S.C. also held that Levernier had been improperly gagged by D.O.E. The N.N.S.A's Franklin says, "These issues are still under litigation, so we're not in a position to comment."

The O.S.C.'s rulings bode well for Levernier's individual fate; a final decision is expected shortly. But Devine charges that D.O.E. is still doing nothing to fix the larger security problems his client identified. "D.O.E. did one 40-minute interview with Rich in March 2003, and as far as we can tell, that's been the extent of their investigation (of his substantive claims)," Devine says. "There has been no follow-up, no requests for additional names or information. It's been a completely cover-your-ass approach."

It is unclear whether Levernier's warnings reached the White House, or even the secretary of energy's office. Levernier says he informed Joseph Mahaley, then D.O.E.'s head of security, more than once about his findings, but adds that Mahaley did not share his sense of urgency. Whether Mahaley forwarded Levernier's information to the secretary of energy and the National Security Council is not known. (Mahaley declined to respond to repeated requests for comment.)

But the weapons complex's security problems were described to Secretary Abraham by Ronald Timm in a February 2001 letter. Timm outlined the security vulnerabilities at the nuclear-weapons facilities and warned Abraham not to expect to hear the truth from his own bureaucracy, whose history of obfuscation about security Timm related in detail. Abraham did not reply to Timm, instead delegating the task to Glenn Podonsky, the director of D.O.E.'s Office of Independent Oversight and Performance Assurance. "The Department's protection program may not be perfect," Podonsky wrote to Timm, "(but) we firmly believe it is effective."

In June 2003, two vials of plutonium were reported lost at Los Alamos. Shortly thereafter, Secretary Abraham announced that a new security review of the nation's nuclear-weapons facilities would be conducted posthaste. Whether this review will lead to real reform seems doubtful; in the past, similar reviews have gone nowhere. In the wake of the Wen Ho Lee scandal, for example, the Clinton administration commissioned a report from the august President's Foreign Intelligence Advisory Board. Released in 1999, "Science at Its Best, Security at Its Worst" painted "an abysmal picture" of D.O.E., calling it "a large organization saturated with cynicism, an arrogant disregard for authority, and a staggering pattern of denial." Noting that D.O.E. had "been the subject of a nearly unbroken history of dire warnings and attempted but aborted reforms," the board concluded that D.O.E. was "incapable of reforming itself."

A case in point, again from June 2003: D.O.E. was caught instructing its employees not to "spill your guts" when questioned in internal investigations. Glenn Podonsky seems to have taken this advice to heart while testifying to the subcommittee headed by Congressman Shays. Asked how often security forces at the nation's nuclear-weapons facilities are defeated in war-game exercises, Podonsky replied, according to a source who was present, "I don't know." The source says

that Shays shot back, "You do realize, Mr. Podonsky, that you are under oath?" Podonsky then allegedly amended his answer to "More often than we would like." (Podonsky referred a request for comment to D.O.E.'s press office, which declined to respond. "I wouldn't confirm anything said behind closed doors," says Representative Shays.)

"The bureaucracy is more interested in the appearance of proper oversight than the reality," explains Tom Devine, who represents Bogdan Dzakovic as well as Steele and Levernier. "Partly that's about saving face. To admit that a whistle-blower's charges are right would reflect poorly on the bureaucracy's competence. And fixing the problems that whistle-blowers identify would often mean diverting funds that bureaucrats would rather use for other purposes, like empire building. But the main reason officials have no tolerance for dissent is that taking whistle-blowers' charges seriously would require them to stand up to the regulated industry, and that's not in most bureaucrats' nature, whether the industry is the nuclear-weapons complex or the airlines."

Noting that all three whistle-blowers' troubles began under the Clinton administration and then continued under Bush, Devine argues that bureaucratic antipathy to whistle-blowers transcends partisan differences. Yet the Bush administration is particularly unsympathetic to whistle-blowers' warnings, Devine adds, because it is ideologically opposed to government regulation in general.

"I don't think President Bush or other senior officials in this administration want another September 11," says Devine, "but their anti-government ideology gets in the way of fixing the problems.... The security failures in the nuclear-weapons complex and the civil-aviation system are failures of government regulation. The Bush people don't believe in government regulation in the first place, so they're not inclined to expend the time and energy needed to take these problems seriously. And then they go around boasting that they're winning the war on terrorism. The hypocrisy is pretty outrageous." (The White House declined to comment.)

Devine calls whistle-blowers "modern-day Paul Reveres." Just as the Massachusetts silversmith rode through the night in 1775 to warn of the impending British attack, he says, today's whistle-blowers risk their lives and honor to urge action while tragedy can still be averted. Especially after 9/11, argues Elaine Kaplan, whose term as lead counsel of the O.S.C. expired in June, "if we are truly concerned about national security, we have to protect whistle-blower rights. It seems crazy to have people in a position to know about potential problems but afraid to speak out."

But Rich Levernier will have none of this noble talk. "If I had to do this over again, I wouldn't," he says. "I would have been more aggressive about keeping a record of the shortcomings I witnessed, and I'd have laid it on my bosses' doorsteps, and then if they didn't do anything, that failure would be on their backs. But that's all. Because now I recognize that the power your superiors have over you is broad and deep, and they don't hesitate to use it. When they took my security clearance, it was like a scarlet letter was painted on my forehead. It's ruined my life."

Meanwhile, George W. Bush is preparing to run for re-election in November 2004 as the September 11 candidate. That image has helped Bush politically in the two years since the attacks, but the revelations of whistle-blowers like Rich Levernier, Chris Steele, and Bogdan Dzakovic suggest that the label could cut both ways. Americans don't seem to blame Bush for the 9/11 attacks' taking

place on his watch, perhaps because few of them know how many warnings Bush-administration officials ignored beforehand from these and other federal whistle-blowers. But if Bush ignores whistle-blowers again, and their warnings are tragically validated in a second devastating attack, Americans may not be so forgiving. N

GRAPHIC: photograph by jonas karlsson ; PATRIOT ACT Whistle-blower Rich Levernier, photographed alongside a New Mexico highway where trucks routinely transport nuclear weapons. ; LEFT, BY JAKE SCHOELLKOPF ; PLAYING WITH FIRE Below, J. Robert Oppenheimer and General Leslie Groves at the Trinity atomic-test site, 1945; bottom, a canyon fire behind Los Alamos, May 2000. ; JOE MARQUETTE ; HISTORY LESSON F.B.I. agent Coleen Rowley tells the Senate Judiciary Committee about the blocked investigation of Zacarias Moussaoui. ; photograph by jonas karlsson ; PLANE TRUTH F.A.A. whistle-blower Bogdan Dzakovic, photographed outside a major national airport, says planes are still vulnerable to terrorists. ; photograph by jonas karlsson ; STOCKPILE PROTECTOR Senior safety officer turned whistle-blower Chris Steele, photographed at Los Alamos, called nuclear-safety violations there "systemic." ; JEFF GEISLER ; SMOKE AND MIRRORS? Los Alamos security officers Tim Casias, center, and Scott Rice, right, take part in a training exercise, May 30, 2003. ; photograph by jonas karlsson ; THE INSIDER In February 2003, the Office of Special Counsel, the federal agency that handles whistle-blower cases, ruled that Levernier had been improperly gagged by D.O.E. ; Pages 180, 182, and 190: From A.P. Wide World Photos.

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