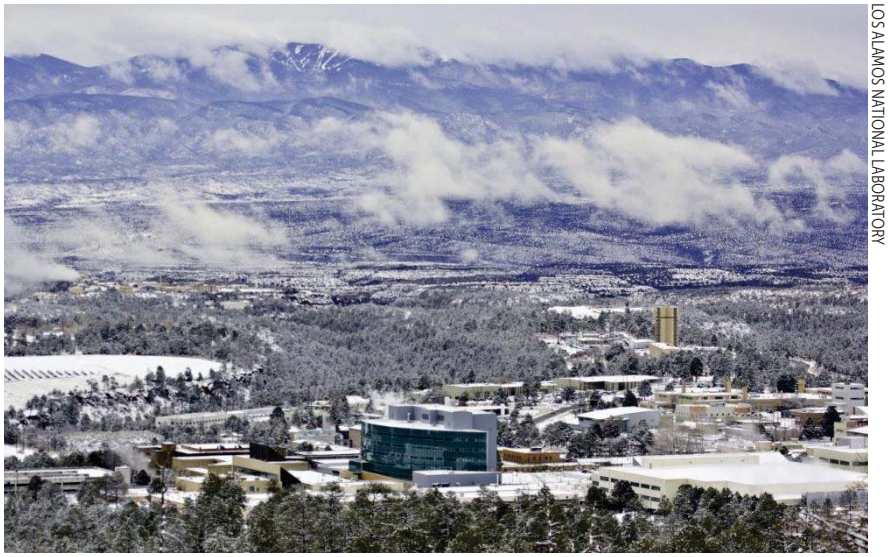
What went wrong with the Los Alamos contract?

Before the $2.2 billion annual contract to run the lab ends in 2017, DOE must decide whether a new management model is needed.



LOS ALAMOS NATIONAL LABORATORY

THE OPERATING CONTRACT for Los Alamos National Laboratory will expire in September 2017, after the existing contractor failed to earn an extension.

For only the second time in the lab's 73-year history, the contract to operate Los Alamos National Laboratory (LANL) will be put out for bid. By choosing not to extend the existing contract, the Department of Energy's National Nuclear Security Administration (NNSA) has brought to a head a longstanding controversy over the lab's 10-year-old for-profit contracting model that many observers believe is a failure.

In January LANL director Charles McMillan told lab employees that Los Alamos National Security (LANS), a limited liability corporation whose major partners are the University of California (UC) and Bechtel Corp, narrowly failed to qualify for a one-year extension of its contract. Although LANS received ratings of good, very good, or excellent in five categories, it scored only satisfactory in operations and infrastructure, McMillan said in a memo that was leaked to several publications. Numerically, LANS had to score 51 or better out of a possible 100 in all six criteria to earn an extension beyond the current October 2017 expiration. But the NNSA gave LANS a score of 49 for the operations and infrastructure category.

In particular, the contractor fell short in the subcategories of safety, management systems, and cybersecurity, McMillan told employees in the 11 January memo. A serious accident occurred last May in which nine workers were injured, one critically, at an electrical substation at the lab's Neutron Science Center.

Had it continued receiving annual extensions, the LANS contract could have run through 2026. But the $2.2 billion annual contract includes a "four strikes and you're out" provision that now precludes the possibility of an extension based on LANS's performance during the current fiscal year. Not only was 2015 the third year in a row that LANS scored too low to earn additional contract years, but the NNSA last year revoked a previous one-year extension that would have extended the contract through 2018.

The revocation penalty resulted from a February 2014 mishap involving a container that the lab shipped to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. The container of improperly packaged transuranic waste ruptured, contaminating several WIPP workers and shutting down operations. WIPP isn't scheduled to reopen until next year. In January the NNSA and LANS agreed to pay $74 million to settle claims by the New Mexico Environment Department related to the accident.

It's still possible, however, that LANS will operate the lab through FY 2018, McMillan told employees. That's simply because the NNSA may need that much time to draft a new contract and select a new contractor.

An NNSA spokeswoman said that NNSA officials would not comment on the Los Alamos contract status until the LANS performance evaluation for 2015 is made public in the coming weeks.

A faulty model?

The for-profit contract model, under which a UC–Bechtel LLC also operates Lawrence Livermore National Laboratory (LLNL), was developed in 2005 as an attempt to address what lawmakers and the NNSA regarded as repeated breakdowns in the management of LANL under UC-only operation. The idea was to bring in business-systems expertise from the private sector to balance the academic culture that produced high-quality science but was perceived as lacking in areas such as procurement and facility operations.

"I can't in all good conscience say there is nothing wrong with the LANS model, because if there was nothing wrong with the model, we wouldn't be in the place where four [extensions] are missed," says Tyler Przybylek, the former NNSA official who was the chief author of the LANS contract. "And there has to be some part of that that has to be attributable to the structure of the contractor."

Przybylek, who left the NNSA in 2008, says he had thought the LLC would operate as a single unit. "For whatever reason, the way we thought the model was to work never came to pass. We thought [that] as one of the premier constructors in the world, someone like Bechtel would have an array of systems to bring to the lab for more robust finance, procurement, human resources, et cetera," he says.

Przybylek said the NNSA anticipated

tension within the LLC between the university scientists and the people running the business and operations side. "When we'd have issues impacting operations or safety or business that were the result of doing things the way they had been done for 60 years by UC and by scientists, the other [industry] guys, motivated by fee and probably some reputational concern, would say, 'This has to be done the right way.' "

Robert Kuckuck, who was the last director of LANL under the previous not-for-profit contract run by UC, says the interests of the private sector and the university were not aligned in LANS. "What I saw at Los Alamos was that industry did not send its A team in to the lab. Secondly, and perhaps even more importantly, was the culture difference. None of the industry people I watched come in had any career visions in their mind with respect to the laboratory. They were coming in to fix this terrible problem; they knew how to do it and they were going to do it."

Another former LANL official, who spoke on condition of anonymity, agreed. "What [Bechtel] didn't realize is that Los Alamos is a very complex organization with a strongly entrenched culture and that it is its own worst enemy. [Bechtel] thought they could come in and do what they normally do: rotate people in and out. The folks at Los Alamos are smart; they quickly realized they could wait all these industry guys out."

Conflicting interests

Greg Mello, executive director of the watchdog Los Alamos Study Group, sees another problem with the for-profit model: The president of LANS is also the lab director. According to Mello, the first role entails a fiduciary responsibility to the LLC's board of directors to bring in more money. The second role entails a responsibility to DOE and the White House to rule each year on the safety and reliability of the nation's nuclear weapons stockpile. "Many people have pointed out this is a conflict of interest," says Mello, "and there should be a lot of interest in fixing that."

David Overskei, a consultant who has served on National Academies and DOE advisory committees concerning the weapons labs, says that LANL lacks senior managers with experience running precision manufacturing operations. In setting up the LANL contract, he says, the NNSA should have demanded expertise and experience in industrial management since the scientific competence can be provided by the technical staff at the lab. But like previous directors, McMillan's background is in weapons science.

Overskei also cites a "lack of linearity" between NNSA headquarters, managers at LANL's NNSA field office, and the lab. The field office, he says, is left to interpret DOE regulations on environment, safety, and health, which results in requirements that are inconsistent across the NNSA labs. Many of those mandates are unnecessary, add costs, and slow work, he says, and some are impossible to meet.

An overarching problem mentioned in several congressionally commissioned reports in the past several years is micromanagement of the labs by the NNSA. Where historically the agency ensured that the right processes were in place at the labs and allowed the work to proceed, the NNSA now specifies the precise steps to be followed in carrying out the

work. That relationship has led to a breakdown in trust between the agency and the labs.

Przybylek says that the LLC's profit margin—which added about 3% to the lab's budget—led to the micromanagement. "What happened over time is that [the NNSA] went from the idea of being a demanding customer to having to justify paying all that fee," he says. The fees are split between fixed and awarded, with the awarded ones being at risk depending on performance. In FY 2014, LANS received $18.2 million, or 45%, of a maximum award fee of $40 million. Its fixed fee that year was $23.4 million.

Despite a nearly identical contract and contracting team, LLNL hasn't had the same kind of high-profile environmental and safety lapses as its sister lab. The former LANL official who declined to be named attributes the smoother operations at LLNL to different lab cultures. Whereas LANL was founded by J. Robert Oppenheimer, "a physicist who did physics" and who considered basic science the criterion of value, he says, "Livermore was essentially founded by Edward Teller to build a widget, the hydrogen bomb. It's always been focused on building widgets, lasers, or this or that. It's project oriented."

How to fix it

One thing seems clear: The NNSA will alter the contract template before soliciting proposals for the next LANL contractor. Not at all clear is what the new model will be.

Unlike LANL, Sandia National Laboratories is operated by a distinct corporation that remained intact when the contract to run it last changed hands back in the 1990s. "I would think long and hard about using the Sandia model: Create an enduring entity to run the laboratory," says Przybylek.

"Sometimes I think [LANL] is too big and too complicated in terms of everything that goes on there," Przybylek says, and notes its roles in high-hazard plutonium operations, environmental cleanup, and waste management.

Kuckuck favors a return to the not-for-profit, university-led model. "I don't know any director who has been motivated by the money. Getting the money back out of there is not a major thing; I think it's getting an entity where everybody focuses on their career." In addition to UC–Bechtel, the University of Texas, in combination with Lockheed Martin, bid for the LANL contract in 2005.

But returning to a not-for-profit arrangement might be politically difficult, due to the fact that local jurisdictions in northern New Mexico would lose a revenue stream from a gross receipts tax, which they've enjoyed with LANS.

Przybylek and the former lab official both point favorably to the contract model the NNSA has used at the agency's Kansas City Plant, operated by Honeywell, where the nonnuclear components of weapons are manufactured. The same template was used at the Nevada National Security Site, operated by a consortium headed by Northrop Grumman, where underground testing was formerly conducted. In the competition for that management contract, proposals were limited to 25 pages, and 60% of the evaluation was based on past performance. But whether those contracts could be applied to the larger, more diverse LANL is unknown.

David Kramer