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National Nuclear Security Administration Contracting: Review of the NNSA Report on the Los Alamos National Laboratory Contract Competition

The National Nuclear Security Administration (NNSA) is responsible for the management and security of the nation's nuclear weapons programs, among other missions.[1] To carry out this responsibility, NNSA relies heavily on contractors—primarily using management and operating (M&O) contracts—at its national laboratories and other nuclear-related sites.[2] One of the sites managed under an M&O contract is the Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico. According to NNSA, LANL's primary mission is national security, which includes the design, qualification, certification, and assessment of nuclear weapons. LANL is a federally funded research and development center (FFRDC)[3] and is one of three NNSA laboratories charged with annually reporting on the safety, reliability, performance, and military effectiveness of the nuclear weapons stockpile to the President of the United States. LANL also conducts multidisciplinary research in fields such as space exploration, renewable energy, medicine, nanotechnology, and supercomputing. In addition, LANL performs work for the Department of Defense, Intelligence Community, Department of Homeland Security, and National Institutes of Health, among others.

LANL was founded in 1943 as part of the Manhattan Project, a top secret effort to develop an atomic bomb during World War II. Since then, only three contractors have managed and operated LANL. From 1943 to 2005, the University of California managed LANL. From 2006 to 2018, Los Alamos National Security, LLC, managed LANL.[4] The contract could have continued until 2026, but expired in 2018 because the contractor failed to meet certain levels of performance, according to NNSA officials.[5] As a result, NNSA officials said they decided to

[1]NNSA is a separately organized agency within the U.S. Department of Energy (DOE) that is responsible for the management and security of DOE's nuclear weapons, nuclear nonproliferation, and naval reactor programs.

[2]M&O contracts are agreements under which the government contracts for the operation, maintenance, or support, on its behalf, of a government-owned or -controlled research, development, special production, or testing establishment wholly or principally devoted to one or more of the major programs of the contracting federal agency. Federal Acquisition Regulation (FAR) 48 C.F.R. § 17.601.

[3]FFRDCs are government-funded entities that have long-term relationships with one or more federal agencies to perform research and development and related tasks. FFRDCs are typically entirely federally funded, or nearly so, but they are operated by contractors or other nongovernmental organizations. FFRDCs are operated, for example, by universities, other not-for-profit or nonprofit organizations, or industrial firms as autonomous organizations or separate operating units of their parent organizations. FAR, 48 C.F.R. §§ 2.101, 35.017.

[4]Los Alamos National Security, LLC, was made up of the Regents of the University of California, Bechtel National, BWXT Government Group, Inc., and URS, an AECOM company.

[5]The contract contained an award term provision, which allowed the contractor to earn additional years of contract performance between fiscal years 2013 and 2026, based on achieving certain levels of performance. According to NNSA officials, the contract expired on September 30, 2018, because the contractor failed to meet those levels of performance over a period of several years. NNSA extended the contract until October 31, 2018, to assist with the transition to a new contractor.

compete the LANL contract and in October 2017 released a request for proposals. In May 2018, NNSA completed the evaluation of four proposals and in June 2018 awarded Triad National Security, LLC, the contract to manage LANL.[6] The contract amount is for approximately $11.3 billion over the 5-year base period with possible extensions for up to an additional 5 years based on an annual review of performance.

The National Defense Authorization Act for Fiscal Year 2013, as amended, requires NNSA to submit a cost-benefit report addressing a range of issues to the congressional defense committees within 30 days of the award of a new M&O contract or the resolution of a bid protest.[7] Among other things, the act requires that the cost-benefit report include eight reporting elements:

1. a clear and complete description of the cost savings expected to result from the competition over the life of the contract;
2. a description of any key limitations or uncertainties that could affect cost savings,
3. the costs of competing the contract;
4. a description of any disruptions or delays in mission activities or deliverables resulting from the competition;
5. a clear and complete description of the benefits to mission performance or operations expected from competing the contract;
6. a description of how the competition complied with federal regulations on whether to continue sponsorship of the laboratory as a FFRDC;
7. the factors considered and processes used to determine whether to compete or noncompetitively extend the existing M&O contract; and
8. the factors considered and processes used to determine which activities at LANL should be covered under the M&O contract rather than a different contract.

NNSA submitted its cost-benefit report on the LANL M&O contract award to Congress in April 2019.

The National Defense Authorization Act for Fiscal Year 2013, as amended, also includes a provision for GAO to review each NNSA cost-benefit report within 180 days of NNSA's submission of that report to the congressional defense committees. This report summarizes our briefing to you on October 22, 2019, the slides for which are reproduced in the enclosure. Our work examines (1) the changes NNSA sought under the new LANL contract, and how those changes are reflected in the new contract; and (2) the extent to which NNSA's report addresses the required reporting elements.

To examine the changes NNSA sought, we compared the previous and current contracts and identified key differences. For example, we compared the fees awarded to the contractor under the previous and current contracts. We analyzed acquisition documents regarding the contract

[6]Triad National Security, LLC, is a limited liability company composed of Battelle Memorial Institute, the Regents of the University of California, and the Texas A&M University System.

[7]National Defense Authorization Act for Fiscal Year 2013, Pub. L. No. 112-239, § 3121, 126 Stat. 1632, 2175 (2013), as amended by the National Defense Authorization Act for Fiscal Year 2014, Pub. L. No. 113-66, § 3124, 127 Stat. 672, 1062 (2013) and the National Defense Authorization Act for Fiscal Year 2016, Pub. L. No. 114-92, § 3135, 129 Stat. 726, 1207 (2015).

competition, and we interviewed NNSA officials to identify the key changes they sought and how they incorporated these changes into the new contract.

To examine the extent to which NNSA's cost-benefit report on the LANL contract addressed the required reporting elements, we developed definitions for various levels of information using language included in each reporting element in the mandate. These levels were: (1) addressed with detail, (2) addressed without detail, (3) partially addressed, or (4) not addressed. We then reviewed the language of the report to identify whether or not it addressed reporting elements listed in the mandate. To conduct our assessment, two reviewers independently compared the text of the cost-benefit report against the reporting elements. To determine whether the report addressed each required reporting element with detail, the reviewers reviewed the text of the cost-benefit report to determine whether it clearly and completely contained detailed information consistent with all components of the reporting element described in the mandate. If it contained information consistent with all components of the reporting element, but did not provide detail, we categorized the reporting requirement as addressed without detail. If the report only addressed some of the components of a reporting element, we categorized that requirement as partially addressed. Finally, if the report did not contain any information related to the reporting element, we categorized the reporting requirement as not addressed. Any differences between the initial assessments were reconciled by an independent third reviewer. We also interviewed NNSA officials about cost savings and competition costs, as well as other required reporting elements.

We conducted this performance audit from June 2019 to January 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

NNSA Sought Improved Performance and Other Changes in Competing the LANL Contract, and the New Contract Generally Includes Clauses Reflecting the Changes Sought

According to NNSA officials, NNSA sought to make changes to the LANL M&O contract with the intended result of improving contractor performance, updating contract terms, and incorporating advisory panel recommendations. In general, we found that the new LANL M&O contract contained clauses reflecting these changes.

Improving contractor performance. NNSA officials said they considered improving contractor performance very important because the previous contractor did not meet performance requirements related to safety from fiscal year 2012 through fiscal year 2015, which prevented the contractor from being awarded additional years to the contract.[8] We have reported on significant operational issues related to safety at LANL that occurred during that period of time. For example, as we reported in October 2019, LANL shut down a nuclear facility and

[8]DOE introduced award-term incentives as a pilot program at Sandia National Laboratories in fiscal year 2004 and then began expanding the use of the incentives to other facilities. In the case of the prior LANL contract, the award term provision made available up to 13 additional years to the 7-year contract if the contractor achieved a certain level of performance and met other specified conditions, such as finding cost savings. We recommended in 2005 that DOE evaluate the effectiveness of the pilot award-term program at Sandia National Laboratories before applying it to other contracts. DOE began giving award-term contracts, including the one at LANL, before evaluating the effectiveness of the pilot program at Sandia National Laboratories. GAO, *Department of Energy: Additional Opportunities Exist for Reducing Laboratory Contractors' Support Costs*, GAO-05-897 (Washington, D.C.: Sept. 9, 2005).

suspended operations from June 2013 through September 2016 to correct safety and operational issues.[9] In addition, as we reported in September 2017, LANL's packaging of waste caused a serious safety incident at DOE's Waste Isolation Pilot Plant (WIPP) in New Mexico in February 2014, contributing to the closure of WIPP for nearly 3 years, costing hundreds of millions of dollars in recovery costs, and disrupting disposal of nuclear material from other DOE sites.[10] According to NNSA officials, these safety issues contributed to the M&O contractor receiving unsatisfactory performance ratings. Officials told us they sought to address these issues in the new contract by including a performance clause focused on improving the safety culture at LANL. This clause states that the contractor is to improve the organizational and safety culture by allocating resources and leadership focus to ensure mission deliverables and desired outcomes are achieved and that the laboratory is operated efficiently, safely, and securely.

Updating contract terms. NNSA officials said they wanted to update the contract terms to ensure consistency among M&O contracts throughout NNSA's sites. Officials said that NNSA is generally moving away from long-term contracts, many of which are based on the award-term model, and toward shorter-term contracts that consist of a 5-year base term plus five 1-year option terms. LANL's new contract has a base term of 5 years and five 1-year options. In addition, NNSA officials said they implemented a change in the total fee amount offered. NNSA officials stressed that improved performance remained their key goal for competing the contract, but also said that they expected the reduced fee would save the federal government about $76 million.

Incorporating advisory panel recommendations. NNSA officials said they wanted to incorporate recommendations from various panels, such as the Secretary of Energy's Advisory Board and the Commission to Review the Effectiveness of the National Energy Laboratories. For example, the Advisory Board recommended that DOE authorize laboratories to manage benefits below a preset cost threshold, and NNSA incorporated language to this effect into the new contract.[11] The Commission recommended that, among other things, DOE adopt a broader set of incentives and consequences to motivate sound laboratory management and enforce accountability.[12] NNSA incorporated language addressing these recommendations into the new contract by, among other things, including language on leadership performance as a means of holding the contractor accountable for performance.

NNSA's Report on the Costs and Benefits of the LANL M&O Contract Competition Addressed Most of the Required Elements

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[9]GAO, *Surplus Plutonium Disposition: NNSA's Long-Term Plutonium Oxide Productions Plans Are Uncertain*, GAO-20-166 (Washington, D.C.: Oct. 23, 2019).

[10]WIPP is an underground repository for transuranic waste located near Carlsbad, New Mexico. WIPP was designed to accept defense-related transuranic waste, which generally consists of clothing, tools, rags, residues, debris, soil, and other items contaminated with radioactive elements that are heavier than uranium, such as plutonium, and that were generated as a result of work related to atomic energy defense activities. Waste disposal operations at WIPP were suspended in February 2014 because of two accidents, including one related to LANL's packaging of waste. WIPP did not reopen until January 2017. See GAO, *Plutonium Disposition: Proposed Dilute and Dispose Approach Highlights Need for More Work at the Waste Isolation Pilot Plant*, GAO-17-390 (Washington, D.C.: Sept. 5, 2017).

[11]Department of Energy, *Report of the Secretary of Energy Task Force on DOE National Laboratories* (June 17, 2015).

[12]Department of Energy, *Securing America's Future: Realizing the Potential of the Department of Energy's National Laboratories, Final Report of the Commission to Review the Effectiveness of the National Energy Laboratories* (Oct. 28, 2015).

NNSA's report to the congressional defense committees addressed most of the required reporting elements. Specifically, NNSA's report: (1) addressed with detail five reporting elements (elements 1, 3, 4, 6, and 7), which primarily addressed cost and disruption during contract transition; (2) partially addressed two reporting elements (elements 2 and 5), which addressed uncertainties and benefits; and (3) did not address one reporting element (element 8) on activities to be covered by the M&O contractor. None of the seven elements that NNSA's report addressed were addressed without detail. Table 1 provides our analysis of the extent to which NNSA's report addressed each of the reporting elements.

Table 1: GAO Assessment of Extent to Which the National Nuclear Security Administration (NNSA) Report on Contract Competition at the Los Alamos National Laboratory (LANL) Addressed Required Reporting Elements

Required reporting element	GAO assessment of how the report addressed the element	Support for GAO's assessment
(1) Cost savings	Addressed with detail	The report provided a clear and complete description of the $76.1 million cost savings the Administrator expects to result from the competition over the potential 10-year life of the contract. Further, the report mentioned how these savings were calculated and from where information was drawn.
(2) Limitations or uncertainties that could affect the cost savings	Partially addressed	The report described a few uncertainties around cost savings, including the potential duration of the contract, but did not give further details about the limitations, such as how these uncertainties were selected and what analyses were carried out that could affect cost savings. However, the report did include language about future, unquantified potential benefits that might result from the new contract, such as a streamlined management approach and increased efficiencies due to competitive pressures.
(3) Costs of competition and increased costs over the life of the contract	Addressed with detail	The report estimated the cost of competing the contract at about $14.8 million. The report included clear costs of the transition for both the contractor and the federal government and broke down those costs by labor, salary, and travel. It included costs of the transition for both the outgoing and incoming contractors. It also included the number of federal staff who worked on the competition and the number of hours they worked.
(4) Disruptions or delays to mission activities	Addressed with detail	The report stated that no disruptions or delays in mission activities or deliverables resulted from the competition, based on NNSA's annual Performance Evaluation Report in fiscal year 2018 that measured contractor performance during the competition period.
(5) Benefits expected to result from the competition	Partially addressed	The report described some, but not all, benefits expected in mission performance or operations as a result of the competition. The report described expected benefits, including workforce stability, cost savings, and increased small business participation. However, the report did not describe expected improvements to the safety culture, which officials told us was a key driver for competing the contract.
(6) Decision to continue sponsorship as a FFRDC and compliance with federal regulations	Addressed with detail	The report clearly described how the contract competition complied with the Federal Acquisition Regulation regarding federally funded research and development centers (FFRDC), and it gave supporting details, including why the Management and Operating (M&O) contract was allowed to be issued for a period longer than 5 years.

Required reporting element	GAO assessment of how the report addressed the element	Support for GAO's assessment
(7) Factors considered in competing or extending existing contract	Addressed with detail	The report described the factors considered and processes used by the Administrator to determine whether to compete or extend the previous contract.
(8) Determination of which activities should be covered under the M&O contract	Not addressed	The report stated that the Administrator decided to maintain all of LANL's work under a single M&O contract. However, the report made no mention of the factors considered and processes used to determine whether another contract could cover any activities at the facility. NNSA officials told us that they did not consider awarding some activities at LANL to another contractor.

Source: GAO analysis of the National Nuclear Security Administration's (NNSA) Cost-Benefit Analysis for Competition of Management and Operating (M&O) Contracts for the Los Alamos National Laboratory (LANL) | GAO-20-292R

Note: The National Defense Authorization Act for Fiscal Year 2013, as amended, requires NNSA to submit a cost-benefit report addressing a range of issues to the congressional defense committees within 30 days of the award of a new M&O contract or the resolution of a bid protest.

This report is one of four that we have completed on NNSA's cost-benefit reports on M&O contracts.[13] In our March 2015 report, which examined NNSA's report on the contract to manage and operate the Pantex Plant and the Y-12 National Security Complex, we recommended that NNSA enhance the clarity and completeness of its future reports. As our assessment in table 1 indicates, NNSA provided clear and complete information on most of the required reporting elements, but did not provide clear and complete information on all required reporting elements. Therefore, we continue to believe that fully implementing this recommendation by providing clear and complete information on all required reporting elements in any future cost and benefit reports NNSA must complete would enhance the usefulness of these reports to Congress.

Agency Comments

We provided a draft of this correspondence to NNSA for review and comment. NNSA told us that it had no comments on the draft correspondence.

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We are sending copies of this report to the appropriate congressional committees, the Administrator of the National Nuclear Security Administration, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions concerning this report, please contact me at (202) 512-3841 or bawdena@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were Jason Holliday (Assistant Director), Robert Sánchez (Analyst-in-Charge), Grzegorz Borecki, Antoinette Capaccio, Alisa Carrigan, Pamela Davidson, Ellen Fried, Robert Gudea,

[13]See GAO, *National Nuclear Security Administration: Reports on the Benefits and Costs of Competing Management and Operating Contracts Need to Be Clearer and More Complete*, GAO-15-331 (Washington, D.C.: March 2015); *National Nuclear Security Administration Contracting: Review of the NNSA Report on the Sandia Contract Competition*, GAO-18-490R. (Washington, D.C.: Aug. 14, 2018); and *National Nuclear Security Administration Contracting: Review of the NNSA Report on the Nevada National Security Site Contract Competition*, GAO-19-349R. (Washington, D.C.: Apr. 17, 2019).

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Enclosure 1
(103619)

List of Committees

The Honorable James M. Inhofe
Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Lamar Alexander
Chairman
The Honorable Dianne Feinstein
Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
United States Senate

The Honorable Adam Smith
Chairman
The Honorable Mac Thornberry
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Jim Cooper
Chairman
The Honorable Michael R. Turner
Ranking Member
Subcommittee on Strategic Forces
Committee on Armed Services
House of Representatives

The Honorable Marcy Kaptur
Chairwoman
The Honorable Mike Simpson
Ranking Member
Subcommittee on Energy and Water Development, and Related Agencies
Committee on Appropriations
House of Representatives

Enclosure 1: Briefing Slides