



OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

AUDIT REPORT

DOE-OIG-22-06

November 2021

**SUBCONTRACT ADMINISTRATION AT
LAWRENCE BERKELEY NATIONAL
LABORATORY**



Department of Energy
Washington, DC 20585

November 15, 2021

MEMORANDUM FOR THE MANAGER, BAY AREA SITE OFFICE

SUBJECT: Audit Report on Subcontract Administration at Lawrence Berkeley National Laboratory

The attached report discusses our audit of subcontract administration at Lawrence Berkeley National Laboratory. This report contains seven recommendations that, if fully implemented, should help ensure that the administration of subcontracts complies with the applicable regulations and policies. Management concurred or partially concurred with six of the report's recommendations and nonconcurred with one recommendation.

We conducted this audit from January 2020 through October 2020 in accordance with generally accepted government auditing standards. We appreciated the cooperation and assistance received during this evaluation.

A handwritten signature in black ink, appearing to read "Jennifer L. Quinones".

Jennifer L. Quinones
Deputy Inspector General
Office of Inspector General

cc: Deputy Secretary
Chief of Staff



Department of Energy Office of Inspector General

Subcontract Administration at Lawrence Berkeley National Laboratory (DOE-OIG-22-06)

WHY THE OIG PERFORMED THIS REVIEW

The Office of Inspector General has issued several audit reports identifying subcontract administration weaknesses: not auditing flexibly-priced subcontracts, inaccurately listing subcontract awards, and completing subcontract reviews that did not meet auditing standards.

From fiscal year 2015 through fiscal year 2019, Lawrence Berkeley National Laboratory (LBNL) awarded construction subcontracts totaling approximately \$222 million. Due to the number of major construction projects at LBNL, we initiated this audit to determine whether the University of California (UC) administered construction subcontracts for LBNL in accordance with applicable regulations and policies.

What Did the OIG Find?

We found that the UC did not administer construction subcontracts for LBNL in accordance with applicable regulations and policies. Specifically, we found that 16 of the largest construction subcontracts totaling over \$139 million were misclassified in the UC procurement system. In addition, we identified 46 contract modifications where the UC did not ensure that price reasonableness analyses were conducted prior to authorizing increased subcontract costs. Further, we found one subcontract that contained flexibly-priced elements that was not included for audit consideration. We also found that the UC did not accurately or independently identify three construction subcontracts that were subject to audit with reimbursable direct cost components over \$1 million. Finally, we identified six payment vouchers that did not include supporting documents for costs claimed by subcontractors. Therefore, we questioned costs totaling \$805,225 for lack of supporting documentation.

What Is the Impact?

Without adequate administration of its subcontracts, the UC could be passing unallowable subcontract costs to the Department of Energy.

What Is the Path Forward?

To address the issues identified in this report, we have made seven recommendations that, if fully implemented, should help ensure that the UC's subcontract administration complies with applicable regulations and policies.

BACKGROUND

The Regents of the University of California (UC) has managed and operated Lawrence Berkeley National Laboratory (LBNL) under contract with the Department of Energy and its predecessors since 1943. LBNL is a member of the national laboratory system supported by the Department through its Office of Science. LBNL conducts unclassified research across a broad range of scientific disciplines and is increasingly undergoing construction activities to support the continued growth of its missions and programs. Its major construction projects include facility upgrades, demolition, and a water line replacement.

The UC contract with the Department incorporated a requirement to audit the subcontractors' costs. Specifically, the contract includes Department of Energy Acquisition Regulation (DEAR) 970.5232-3(c), *Accounts, Records, and Inspection* (December 2010), which requires the UC "with respect to any subcontracts (including fixed-price or unit-price subcontracts or purchase orders) where, under the terms of the subcontract, costs incurred are a factor in determining the amount payable to the subcontractor of any tier, to either conduct an audit of the subcontractor's costs or arrange for such an audit to be performed by the cognizant government audit agency through the Contracting Officer."

The UC's Internal Audit Services (IAS) uses a risk model when conducting annual audit planning. It considers five factors within the UC Control Environment but primarily follows the UC Laboratory Procurement Standard Practices Manual (SP) 42.2, *Performance of Allowable/Incurred Cost Audits*, to determine the subcontracts that require audits. SP 42.2 states, "Allowable or incurred cost audits are required to be performed on all subcontracts where estimated reimbursable direct and indirect costs over the life of the subcontract exceed \$1 million, excluding reimbursable costs based on pre-determined indirect cost rates negotiated by a Federal agency."

The scope of our audit covers the construction subcontracts awarded from fiscal year (FY) 2015 through FY 2019 when LBNL's total awarded construction subcontracts amounted to approximately \$222 million, which is summarized below:

Award Type	Amount (Rounded)
Firm-Fixed-Price Construction (FFP)	\$194 Million
All Other Types (Time-and-Materials (T&M), Labor-Hour (LH), Fixed Non-Labor Unit, etc.)	\$28 Million
Total Construction Subcontracts	\$222 Million

Due to the increasing number of construction activities at LBNL, we initiated this audit to determine whether the UC administered construction subcontracts for LBNL in accordance with applicable regulations and policies.¹

¹ The details of the objective, scope, and methodology are contained in Appendix 1, and prior related work is contained in Appendix 2.

PRICE REASONABLENESS ANALYSES AND DOCUMENTATION ISSUES

The UC procurement specialists did not always conduct price reasonableness analyses to ensure costs were fair and reasonable. We reviewed 158 contract modifications associated with 16 subcontracts and found 46 contract modifications where the UC did not ensure that price reasonableness analyses were conducted prior to authorizing additional subcontractors' costs. Specifically, the price reasonableness analyses were not always completed or conducted when multiple change orders amounted to more than \$25,000, including instances when Independent Cost Estimates (ICE)² were not completed in a timely manner. By not conducting sufficient and timely price reasonableness analyses, the UC lacks assurance that goods and services can be obtained at a price most advantageous to the UC. As a result, the UC may be passing unallowable and excessive costs to the Department.

We reviewed 16 fixed-price construction subcontracts over \$1 million to determine whether price reasonableness procedures were adequately conducted while incorporating change orders and modifications. The 16 subcontracts amounted to approximately \$139 million, as summarized below:

Construction Thresholds	Number of Subcontracts	Amount (Rounded)
Over \$1 Million	16	\$139 Million
Under \$1 Million	815	\$55 Million
Total Fixed-Price Construction Subcontracts		\$194 Million

As discussed above, we identified 46 contract modifications that contained issues with price reasonableness analyses. Our observations are summarized below:

Price Analyses Not Completed	29
Price Analyses Not Conducted When Multiple Change Orders Amounted to More Than \$25,000	9
ICEs Not Completed in a Timely Manner	8
Total Instances Identified	46

Specifically, we found 29 cases where procurement specialists did not conduct subcontract price analyses. Instead, the procurement specialists relied on the project manager's assessments of cost proposals. We also noted nine examples of multiple change orders being issued within a short timeframe of each other without price analyses. Although all change orders in our examples were under \$25,000, in the aggregate, they amounted to more than \$25,000, which would have triggered additional price reasonableness analyses. Currently, the UC does not specify any guidance in its SP that requires procurement specialists to monitor and track change orders issued to the same contractor within short timeframes of each other. Additionally, we found eight ICE estimates that were completed after the execution of the subcontract modifications. SP 15.6, *Cost or Price Analysis*, states that cost or price analysis techniques will be used to determine that supplies and services are obtained from responsible sources at fair and

² The primary price analysis tool used by the UC to compare the subcontractor's proposed additional costs to the independent estimate of a UC representative.

reasonable prices. SP 15.6 provides different methodologies of conducting price reasonableness for the procurement specialists to apply, including, in part, ICEs, published price list comparisons, and lower-tier subcontractor quotes.

According to SP 43.1, *Modifications and Changes*, “Change orders, when definitized through a modification to the subcontract, and modification requests must be evaluated by the procurement specialist to ensure the costs are fair and reasonable, there is a benefit to the Laboratory for the proposed changes, and to determine other areas of impact, for example to regulatory requirements when applicable monetary thresholds are met or exceeded because of a modification.” SP 43.1 also states, “The basis for price reasonableness, and negotiation of, all written or verbal modifications exceeding \$25,000 must be documented in the subcontract file, including for modifications definitizing field and other change orders.”

These conditions occurred because of a lack of oversight in the administration of subcontracts. Specifically, the procurement specialists relied on project managers’ assessments of subcontractors’ cost proposals instead of independently conducting their own price analyses. Additionally, a Group Manager’s review is only required if the price analysis determination is over \$500,000. Accordingly, the procurement specialists’ price reasonableness determinations are not always reviewed to ensure that independent assessments of subcontractors’ cost proposals are performed. In addition, there is no price analysis guidance for when multiple change orders are issued to the same subcontractor exceeding \$25,000. As a result, procurement specialists could circumvent the approval process and forgo a formal price analysis if multiple change orders are under the threshold. By not ensuring that price reasonableness analyses were conducted, the UC lacks assurance that goods and services can be obtained at advantageous prices and that the Department does not incur excessive costs.

In July 2018, LBNL underwent a Procurement Evaluation & Re-Engineering Team (PERT) review of its purchasing system. One identified weakness pertained to the acquisition of quality products and services at fair and reasonable prices. Specifically, PERT’s observations included, among other things, “[m]odifications over \$25K with no and/or inadequate price reasonableness determination.” In response to the July 2018 PERT review, LBNL conducted Price/Cost Analysis training in October 2018 for the procurement staff. Despite this additional training, we determined that previously identified weaknesses still occurred.

SUBCONTRACT TYPES NOT ALWAYS PROPERLY CLASSIFIED

We found that the UC procurement system had misclassified all 16 construction subcontracts. Specifically, we found that 15 construction subcontracts were classified as FFP in the procurement system but should have been classified as fixed-price subcontracts since the subcontract prices were adjusted. We also identified one subcontract misclassified as FFP in the procurement system when it should have been identified as flexibly-priced because it contained costs incurred that were not fixed.

Fifteen Subcontracts

We found that 15 construction subcontracts were classified as FFP in the procurement system but should have been classified as fixed-price subcontracts because the subcontract agreements contained final payments that were adjusted by modifications and change orders without any change in the scope of the work performed. Fixed-price contracts, as defined in Federal Acquisition Regulation (FAR) 16.201, *General*, provide for a firm price or, in appropriate cases, an adjustable price. Further, FFP contracts, defined in FAR 16.202–1, *Description*, provide a price that is not subject to any adjustment based on the contractor’s cost experience in performing the contract. This contract type places maximum risk and full responsibility for all costs, including the resulting profit or loss, on the contractor. Further, it provides maximum incentive for the contractor to control costs and to perform effectively, and it imposes a minimum administrative burden upon the contracting parties. Based on these FAR definitions, the 15 construction subcontracts contained adjustments and increased final payments, and therefore were not FFP.

FAR 52.230–6, *Administration of Cost Accounting Standards*, as incorporated in the contract, includes, but is not limited to, defining fixed-price subcontracts as those subcontracts where the price is not adjusted, or final payment is not based on actual costs incurred; and flexibly-priced subcontracts as those subcontracts where the prices may be adjusted based on actual costs incurred or where final payment is based on actual costs incurred.

In prior reports by the Office of Inspector General at the U.S. Government Accountability Office (GAO) and the Defense Contract Audit Agency (DCAA), similar issues were identified with the misclassification of subcontracts. The GAO report explains that contracts can be categorized as FFP or flexibly-priced contracts. The FFP contracts generally are not subject to price adjustments based on actual costs the contractor incurs. The GAO report and FAR 30.001, *Definitions*, state that flexibly-priced contracts include, among others, fixed-price contracts with price adjustments and price redetermination,³ all cost-reimbursement contracts, orders issued under indefinite-delivery contracts where final payment is based on actual costs incurred, and portions of T&M and LH contracts.⁴ The GAO report further states that because the contractor’s final payments may be adjusted based on actual costs incurred, flexibly-priced contracts typically do not provide incentives to the contractor for cost control or labor efficiency. Further, the report states that due to these inherent risks, FAR emphasizes the need for appropriate oversight by the Government, including a detailed review of contractor invoices and supporting documentation during contract performance.

In a DCAA report on a Department of Energy contractor, DCAA also found that the contractor did not classify fixed-price and flexibly-priced subcontracts according to FAR requirements. The DCAA identified subcontracts with costs based on actual hours worked and travel expenses incurred that should have been classified as flexibly-priced subcontracts because there was no firm value determined. In another subcontract, quantities impacting the cost incurred were estimated (i.e., not fixed) and should have been classified as flexibly-priced. For example, DCAA specifies that subcontractor costs that are calculated by the actual quantities times the unit

³ Described in FAR 16.203–1(a)(2), 16.204, 16.205, and 16.206.

⁴ Described in FAR 16.601(c)(1), 16.602, 16.301–3(a)(4), and 52.230–6.

price result in actual costs (Actual Quantities * Unit Price = Actual Cost = Subcontractor Costs). The DCAA noted, “The price of a truly fixed-price subcontract should not be affected or changed by the actual quantities incurred.” The DCAA found that the contractor’s procurement system did not ensure accurate classification of flexibly-priced subcontracts, and its internal policies did not include the requirement for representatives to understand all applicable subcontract types included in FAR 16, *Types of Contracts*.

We noted that the UC procurement system classified 15 of its subcontracts as FFP when they were actually fixed-price subcontracts. We noted that SP 16.1, *General Types of Subcontracts*, is inconsistent with FAR 16, *Types of Contracts*, because it did not incorporate all other types of fixed-price contracts, such as subcontracts with adjustable price. SP 16.1 states that a FFP subcontract provides a price that is not subject to any adjustment based on the subcontractor’s costs incurred in performing the subcontract. We found that the final payments for all 15 subcontracts were adjusted through modifications and change orders, including increased final payments, without any change in the scope of the work performed. Therefore, these 15 subcontracts were not FFP. For example, one subcontract was for construction projects in a computational research facility at LBNL, which had a fixed-price subcontract for approximately \$2.68 million and 120 calendar days to complete the work. The subcontract went through six modifications over a 7-month span, which resulted in a final term of 248 days to complete the construction. The adjustments resulted in increased time to complete the construction by 128 days and increased the final price to approximately \$2.84 million.

One Flexibly-Priced Subcontract

Of the 16 subcontracts, we identified 1 subcontract for an excavation project that was classified as FFP in the procurement system when it should have been identified as flexibly-priced because it did not contain a known quantity for the services provided, and the overall contract price was subject to change. Specifically, the UC classified the construction subcontract as a fixed-unit price with options for soil remediation at different unit prices per ton depending on the level of contamination. At the time of the award, it was unknown how much excavation would be needed. Article 3 of this subcontract agreement included a pricing sheet which contained fixed-unit pricing but fluctuating quantities. Therefore, the final amount paid to the subcontractor was adjusted to reflect the actual weight of soil or concrete shipped. Additionally, the UC made multiple modifications to the final subcontract price due to changes in the quantities of soil removed. We determined that this subcontract type resembled a flexibly-priced contract containing a fixed-unit cost because the quantity of waste to be removed was unknown at the time of the award.

Since internal policies and procedures did not include all FAR definition subcontract types, UC officials disagreed with our assessment. UC officials explained that because the subcontract contained fixed-unit prices, it was categorized as FFP in the procurement system. As previously noted, there is a discrepancy between the UC procurement system that uses the term “firm-fixed-price” and the construction subcontract agreements that use the term “fixed-price.” Further, the SP emphasized FFP as the preferred subcontract type even though some subcontracts contained variable elements or were awarded as fixed-price subcontracts. According to SP 36.1, *Construction Subcontracting*, construction subcontracts should be priced on a lump-sum basis

for performance of an entire project or defined parts of a project. Additionally, SP 36.1 provides that a lump-sum fixed-price is the preferred pricing method for construction subcontracts, except when: (1) quantities of work (e.g., excavation, grading, and paving) cannot be estimated with enough confidence to permit a lump-sum price without a substantial contingency; (2) estimated quantities of required work may change significantly during construction; or (3) the bidder would have to expend unusual effort to develop adequate estimates.

Classifying flexibly-priced subcontracts is also constricted by a limited selection of general types of subcontracts per SP 16.1. Although FAR 30 and FAR 52.230–6 define flexibly-priced subcontracts, the UC did not include this option in its general subcontract types. Because the subcontracts' quantities are unknown and final payments are based on actual costs incurred, the subcontract should have been classified as flexibly-priced. FAR 30 and FAR 52.230–6 refer to FAR 16, and its subparts and sections, when defining fixed-price and flexibly-priced subcontracts.

According to a Procurement & Property Management official, a procurement specialist has sole autonomy to select the type of award based on judgment, which could lead to misclassification of the subcontract award type if the data field was incorrectly selected. According to FAR 31.201–2, *Determining allowability*, a contractor is responsible for accounting for costs appropriately and for maintaining records, including supporting documentation that costs claimed have been incurred, are allocable to the contract, and comply with applicable cost principles. Although we only identified one exception from our limited sample of construction subcontracts, it is important to note that other non-construction fixed-price subcontracts with adjustable cost elements may not properly be identified as flexibly-priced. Further, we noted that the final payment for this one subcontract was adjusted through modifications and change orders with increased final payments. Therefore, this subcontract was not FFP. Although we did not identify any questioned costs associated with this misclassification, the UC may be at risk for incurring questionable costs or overcharges if flexibly-priced subcontracts are misclassified. Given the flexible nature of the contract, it may not receive appropriate oversight for the risks involved.

FLEXIBLY-PRICED SUBCONTRACTS NOT AUDITED

As described in the previous section, the UC did not properly identify one flexibly-priced subcontract; therefore, this contract was excluded from the universe of subcontracts subject to audit. The UC contract incorporated DEAR 970.5232–3(c), which states that for subcontracts, which include fixed-price or unit-price subcontracts or purchase orders, where costs incurred are a factor in determining the amount payable to the subcontractor, the contractor is to either conduct an audit of the subcontractor's costs or arrange for such an audit to be performed by the cognizant government audit agency through the Contracting Officer. Since the subcontract was originally classified as a fixed-price contract, IAS did not consider it in the risk assessment on subcontracts requiring audit.

Additionally, FAR 52.215–2, *Audit and Records-Negotiation (b), Examination of costs*, states, "If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price redeterminable contract, or any combination of these, the Contractor shall maintain and the

Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract."

All flexibly-priced subcontracts, as defined in FAR 30, *Cost Accounting Standards Administration*, are subject to examination and audit; however, if the contract type is misclassified as FFP in the procurement system, it is likely to be excluded from the universe of subcontracts subject to audit.

According to existing policy, it is the responsibility of the UC Procurement Department to conduct or arrange for audits of its subcontracts. Further, the UC subcontract administration policy requires that a post-award incurred cost audit be performed annually for multi-year subcontracts when the subcontract costs exceed \$1 million in any subcontract FY. The policy does not apply to fixed-price and T&M subcontracts unless the reimbursable portion exceeds \$1 million. Contrary to its own policy, by not classifying the construction subcontract as flexibly-priced, the UC did not conduct an audit on one subcontract with costs incurred totaling \$8,185,529. The construction subcontract agreements contained a requirement stating, "If requested, the Subcontractor shall also submit receipts or other vouchers showing its payments for material and labor to its subcontractors," which is intended to support the costs claimed for the work performed.

Due to the inherent risk of flexibly-priced subcontracts, FAR emphasizes the need for appropriate oversight by the Government, including a detailed review of contractor invoices and supporting documentation during contract performance. Additionally, FAR explains that the Contracting Officer, or their authorized representative, has the right to examine and audit all records to ensure that costs claimed are directly or indirectly related to the contract's performance. The misclassification of the contract type led to the exclusion of this flexibly-priced contract from the audit universe and has put the Department at risk for paying unallowable costs. As a result of the misclassification of this flexibly-priced subcontract, the risk assessment process could not accurately determine whether an audit of costs incurred was necessary. Without being subject to an incurred cost subcontract audit, the UC could be charging unallowable subcontract costs to the Department that could go undetected.

AUDIT SCREENING PROCEDURES NOT FOLLOWED

We determined that the UC did not accurately identify subcontracts with reimbursable direct cost components over \$1 million per SP 42.2, *Performance of Allowable/Incurred Cost Audits*. Specifically, we found that the Business Assurance, Systems & Programs Group did not accurately identify three subcontracts that were subject to audit. We also found that IAS did not independently perform audit screening procedures because it has historically relied on Procurement & Property Management to identify the subcontracts that were subject to audit. Currently, Procurement & Property Management is responsible for determining which subcontracts are subject for audit and if any adjustments should have been made based on findings identified. Procurement & Property Management then forwards its listing to IAS to

schedule an audit; however, IAS did not always verify that Procurement & Property Management forwarded a complete list of auditable subcontracts.

During our review, we identified subcontracts that were either T&M or LH subcontracts, which exceeded the \$1 million threshold and should have been provided to IAS for audit. Of the \$28 million non-fixed-price construction subcontracts, approximately \$12 million or 3 subcontracts, were not audited as required per LBNL’s policy. The table below summarizes the award types and amounts of construction subcontracts:

Award Type	Amount (Rounded)
FFP Construction	\$194 Million
Non-Fixed-Price Construction (T&M, LH, Fixed Non-Labor Unit, etc.)	\$28 Million
Total Construction Subcontracts	\$222 Million

- The UC classified two subcontracts as T&M. One subcontract reached the \$1 million threshold in January 2018 with a total awarded value of \$3,991,255. The other subcontract reached the \$1 million threshold during April 2019 with a total awarded value of \$6,278,984. According to IAS, Procurement did not include fixed labor and equipment rates in the audit trigger calculation.
- The UC classified one subcontract as LH. The subcontract reached the \$1 million threshold in January 2019 with a total awarded value of \$1,429,769. According to IAS, Procurement did not include fixed labor and equipment rates in the calculation that identifies subcontracts for audit.

As of May 2021, IAS completed an audit on one of the three subcontracts; however, the other two subcontracts were still not audited. These audits were not completed because the UC *Procurement Guidelines for Audit Screening of Subcontracts* do not include reimbursable costs with fixed labor rate costs in calculating the threshold dollar amount that triggers an audit. However, SP 42.2, *Performance of Allowable/Incurred Cost Audits*, states that this requirement does not apply to fixed-price or fixed unit rate subcontracts or T&M subcontracts where the direct and indirect costs reimbursable portion does not exceed \$1 million. UC management stated that fixed labor rates are not based on the “costs incurred” by the subcontractor, but on pre-determined fixed rates, and hence are not part of the “cost reimbursable” portion of a subcontract.

We disagree with the UC’s position because the reimbursable labor costs impact the amount of cost incurred by a subcontractor. Although the three subcontracts contain fixed labor rates, the amount of time is variable and therefore the labor costs incurred by the subcontractors are a factor in determining the amount payable to a subcontractor. Labor costs are considered direct reimbursable costs that are subject to audit when the \$1 million threshold is reached. In addition, SP 42.2 states that the requirement for an audit typically applies to cost reimbursement subcontracts (e.g., cost-plus-fixed-fee and cost-reimbursement-no-fee), but it may also apply to the “materials” portion of T&M subcontracts and to any cost reimbursable items (such as travel)

under labor-hour, fixed unit rate, or other types of subcontracts. However, as stated in the UC's technical comments, fixed labor rates are not included in calculating the threshold dollar amount that triggers an audit because such rates are not based in the "costs incurred" by the subcontract and hence are not part of the cost reimbursable portion of a subcontract. By excluding the direct reimbursable costs (e.g., labor costs with fixed rates and varying hours charged), this conflicts with DEAR 970.5232-3(c), which states that any subcontracts (including fixed-price or unit-price subcontract or purchase orders) where, costs incurred are a factor in determining the amount payable to the subcontractor, the contractor is to either conduct an audit of the subcontractor's costs or arrange for such an audit to be performed by the cognizant government audit agency through the Contracting Officer. The UC treats all LH and fixed-price subcontract types as not including any reimbursable costs and only considers materials costs in its calculations to evaluate if the threshold for audit is reached which conflicts with SP 42.2.

Additionally, FAR 16.6, *Time-and-Materials, Labor-Hour, and Letter Contracts*, states that T&M and LH are not considered FFP contracts. However, UC treats subcontracts that contain fixed labor rates as FFP and excludes these subcontracts during the audit screening process. Although labor rates are fixed, the amount of time is variable; therefore, this type of contract is not a genuine FFP contract type. Accordingly, an audit is necessary to ensure that contractually agreed labor rates are consistently charged, and hours charged are reasonable and in accordance with the agreed scope of services.

When we interviewed the UC key officials, they stated that fixed labor rates are not audited because the rates are determined to be fair and reasonable prior to the award, despite the hours being variable. The UC officials further informed us that any labor hours charged with these pre-determined fixed rates are not subject to audit regardless of the number of hours charged. UC officials also said that their current practices and procedures only consider the materials portion of a T&M subcontract over \$1 million auditable instead of including direct labor. They further stated that procurement specialists review timesheets over \$100,000; however, they do not track this analysis and could not provide examples of this control.

As previously mentioned, during our audit, we determined that IAS has historically relied on Procurement & Property Management to identify subcontracts requiring audit. However, the standards set by the Institute of Internal Auditors in section 1100, *Independence and Objectivity*, state, "Objectivity requires that internal auditors do not subordinate their judgment on audit matters to others." Accordingly, IAS should independently determine which subcontracts are selected for audit and not allow Property & Procurement Management to solely perform the subcontract audit selection and screening process. If IAS independently screens auditable subcontracts, reasonable assurance can be provided to the Department that subcontractor costs are thoroughly screened and examined to ensure sufficient audit coverage.

During our review, we noted from FY 2015 through FY 2018 that IAS did not independently select which subcontracts needed to be audited. We noted that IAS conducted various queries and sorting analyses of subcontracts that may be potentially audited; however, actual determinations were not made on which subcontracts should have been selected for audit. In May 2020, the Chief Audit Executive explained that IAS no longer relied on Procurement & Property Management starting in FY 2019. The Chief Audit Executive also informed us that

audit screening delays have existed within Procurement & Property Management due to its limited staffing and resources, which adversely affected IAS' risk assessment process in the past. The Chief Audit Executive understands the importance of IAS performing its own audit screening process separate from Procurement & Property Management. While we commend IAS for taking a proactive approach in FY 2019, there is limited assurance that the audit screening procedures performed prior to FY 2019 independently and accurately reflect the subcontracts that were subject to audit.

OTHER MATTERS – WORK PERFORMED NOT SPECIFIC TO CONSTRUCTION SUBCONTRACTS

In addition to our detailed audit work on construction subcontracts, we selected a statistical sample of 60 payment vouchers to test for cost allowability from all types of subcontracts. The payment vouchers were not specific to construction subcontracts only. The subcontract costs universe of approximately \$1.64 billion separated by the award types, the stratified universe, and the sample selection details are outlined in the charts below:

Total Subcontract Costs Universe Breakdown

Award Type	Amount (Rounded)
FFP	\$954 Million
Cost No-Fee	\$311 Million
T&M and LH Only	\$179 Million
All Other Types (Cost w/Fees, Fixed w/Incentives, Cost Sharing, etc.)	\$194 Million
Total	\$1.638 Billion

Stratified Universe

Threshold Limit	Amount (Rounded)
Equal or Greater than \$100,000	\$880 Million
Under \$100,000	\$760 Million
Total	\$1.64 Billion

Statistical Sample Selection Detail

Award Type	Number of Vouchers	Amount (Rounded)
FFP	40	\$10.8 Million
Cost No-Fee	16	\$2.6 Million
Cost Plus Fixed-Fee	1	\$100,000
T&M	3	\$1 Million
Total	60	\$14.5 Million

We questioned \$805,225 of costs for lack of supporting documentation, as required per the UC contract. Specifically, the UC was unable to provide supporting documentation for costs it had incurred for five intra-university transactions and one transaction from a lower-tier subcontractor in our tested sample. We tested 60 payment vouchers that were made to subcontractors that are greater than or equal to \$100,000 which totaled approximately \$14.5 million. Of the 60 payment vouchers, we identified 6 vouchers and questioned \$805,225 that did not have supporting documentation. As noted, we found:

- Five vouchers related to intra-university transactions, totaling \$620,177, that did not have supporting documentation, such as timesheets to support hours worked, receipts for materials, salary costs, receiving report, and labor rate details; and
- One voucher involving a lower-tier subcontractor that did not have supporting documentation totaling \$185,048.

This occurred because the UC considered that supporting documentation was not needed since five of the six payment vouchers were intra-university transactions. An intra-university transaction is an agreement between LBNL and a UC campus or affiliated organization for research, shared labor, or supplies and services under the UC Prime Contract with the Department or other sponsored agreement. The work performed is billed to the UC under its management and operating contract and charged to the Department. The UC contract with the Department requires it to maintain supporting documentation for the costs of the work performed. When we requested supporting documentation for the intra-university transactions, the UC officials stated it was not required because SP 44.1, *Intra-University Transactions*, does not require documentation to support line items within the invoice, such as salaries and wages, fringe benefits, supplies and travel, etc. However, under SP 32.1, *Payments*, intra-university transactions require a Procurement Specialist's concurrence that appropriate supporting documentation has been provided. Overall, costs claimed require supporting documentation to be allowable. Specifically, intra-university transactions are subject to the requirements under FAR 31.3, *Contracts with Educational Institutions*. FAR 31.3 refers to the cost allowability provisions of Title 2 Code of Federal Regulations 200.403, *Factors affecting allowability of supporting documentation*, the UC could not verify that the intra-university transaction charges were allowable per the contract.

Further, DEAR 970.5232-3(a), *Accounts, Records, and Inspection* (December 2010), also incorporated into the UC contract, states, in part, that the Contractor shall maintain a separate and distinct set of accounts, records, documents, and other evidence showing and supporting all allowable costs incurred. We found that the UC did not maintain adequate documentation to support the costs claimed by the subcontractors in the six payment vouchers we reviewed.

IMPROVEMENTS NEEDED IN SUBCONTRACT ADMINISTRATION

Without adequate subcontract administration, the UC could be at risk for passing on unreasonable and unallowable costs and overcharges to the Department. Specifically, by not conducting sufficient price reasonableness analyses, including adequate and timely documentation for subcontract modifications, the UC lacks assurance that goods and services can be obtained at a price most advantageous to the Department. As a result, the UC may be passing unallowable and excessive costs to the Department. Additionally, there is a risk that fixed-priced subcontracts not properly identified as flexibly-priced will not receive audit coverage. Consequently, subcontracts requiring audits may not be audited resulting in questionable costs. Without auditing direct labor charged in T&M and LH subcontracts, overcharges could occur as the subcontractor may claim time for hours not worked, deliverables not provided, or absence of documentation for services rendered.

In April 2021, the Office of Inspector General issued a Special Project Report on *The Transition to Independent Audits of Management and Operating Contractors' Annual Statements of Costs Incurred and Claimed* (DOE-OIG-21-26, April 2021), highlighting its concerns with the effectiveness of the Cooperative Audit Strategy in providing adequate audit coverage of contractors' costs. The report recommends that the Office of Inspector General and the Department transition to an independent audit strategy due to identified systemic threats to auditor independence; the increased likelihood of fraud, waste, and abuse; significant lapses in the audits of subcontracts; and other major deficiencies. Significant results, similar to this audit, were included in the Special Project Report and informed its recommendations regarding the transition to an independent audit strategy. Given the expected cessation of future incurred cost audits by the UC's IAS, we have excluded any recommendations regarding necessary improvements in IAS' incurred cost auditing processes identified in this audit.

RECOMMENDATIONS

We recommend that the Manager, Bay Area Site Office, direct the Contracting Officer to:

1. Determine the allowability of costs questioned in this report and recover any amounts deemed unallowable.
2. Ensure that UC's IAS conduct a risk assessment of FY 2015 through FY 2019 T&M subcontracts and fixed-priced subcontracts containing flexibly-priced components to determine the appropriate audit coverage necessary and arrange for those audits to be conducted.

We also recommend that the Manager, Bay Area Site Office, direct the UC to:

3. Ensure ICEs and price reasonableness analyses are performed by the procurement specialists and properly documented prior to approving any subcontract modifications exceeding the \$25,000 threshold. In addition, we recommend monitoring and tracking change orders that aggregate and exceed the \$25,000 threshold, and, if necessary, conducting a price reasonableness analysis.
4. Update SP 16.1, *General Types of Subcontracts*, to provide more subcontract type options, as specified in the FAR and in its procurement system, so that procurement specialists can accurately categorize fixed-price subcontracts.
5. Provide refresher training to procurement specialists on price analysis requirements and related best practices when issuing modifications and change orders.
6. Ensure invoices contain all the required documentation supporting the costs claimed, including intra-university transactions, before payments are issued and documentation is maintained, as required per FAR 31.3, *Contracts with Educational Institutions*.

7. Revise SP 44.1, *Intra-University Transactions*, so that it clearly requires adequate supporting documentation for costs of the work performed, as required by FAR 31.3 and SP 32.1, *Payments*.

MANAGEMENT RESPONSE

Management concurred or partially concurred with six of the report's recommendations and identified corrective actions to address some of the issues in the report. Management nonconcurred with one recommendation related to audit screening procedures.

Management's comments are included in Appendix 3.

AUDITOR COMMENTS

Management concurred or partially concurred with six of the seven recommendations and identified responsive corrective actions to address the associated report issues. However, management nonconcurred with the recommendation to conduct a risk assessment for T&M subcontracts and fixed-price subcontracts with flexibly-priced components to determine if the appropriate audit coverage was received.

Management nonconcurred with Recommendation 2 and stated that SP 16.1 and audit screening procedures were aligned with management and operating contract requirements, DEAR 970.5232–3(c); however, the UC does not include all types of fixed-price contracts, such as flexibly-priced subcontracts and subcontracts with reimbursable direct labor costs in its audit screening procedures. By excluding the direct reimbursable costs (e.g., the “time” portion of T&M and LH subcontracts) in the audit screening process, the UC is not in compliance with the requirements of DEAR 970.5232–3(c) because the labor hours charged can vary with each invoice, impacting the amount paid or cost incurred by the subcontractor, which would then initiate those subcontracts to be considered for audit coverage. However, Recommendation 2 will be closed based on our Special Project Report on *The Transition to Independent Audits of Management and Operating Contractors' Annual Statements of Costs Incurred and Claimed* (DOE-OIG-21-26, April 2021), as these subcontract costs will now be considered in future OIG incurred cost audits.

Management partially concurred with Recommendation 4, as management stated that SP 16.1 is consistent with FAR 16 since it already incorporates the contract types defined in FAR 16. However, management agreed the SP will be updated to provide more clarity of subcontract type selection. Although not addressed in our recommendation, we would expect UC's procurement system would reflect any updates made to the SP on the different contract types.

Appendix 1: Objective, Scope, and Methodology

OBJECTIVE

We conducted this audit to determine whether the University of California (UC) administered construction subcontracts for Lawrence Berkeley National Laboratory (LBNL) in accordance with the applicable regulations and policies.

SCOPE

The audit was performed from January 2020 through October 2020 at LBNL in Emeryville, California.⁵ The scope of our audit covers the construction subcontracts awarded from fiscal year (FY) 2015 through FY 2019. The audit was conducted under Office of Inspector General project number A20LL014.

METHODOLOGY

To accomplish our audit objective, we:

- Reviewed LBNL contract clauses, applicable laws, regulations, directives, policies, procedures, and practices from FY 2015 through FY 2019.
- Assessed the implementation and design of the internal audit function as it relates to the administration of subcontracts.
- Selected and examined from a universe of subcontracts to determine if the UC's internal audit function complied with applicable auditing standards.
- Determined how subcontractor costs are tracked and monitored to ensure proper payments are made.
- Reviewed a sample of subcontractors' costs and determined if they complied with Federal regulations, policies and procedures, and contract provisions.
- Interviewed Department of Energy employees, LBNL employees, and subcontractor employees as needed to understand subcontract administration and practices.
- Selected all construction subcontracts over \$1 million. We selected 100 percent of this category type and monetary threshold resulting in 16 firm-fixed-price subcontracts chosen for our audit.
- Selected a statistical sample of 60 of 2,442 payment vouchers made to subcontractors equal to or greater than \$100,000 from FY 2015 through FY 2019 to determine if the UC adequately evaluated allowable costs, contract provisions, and applicable UC policy. A confidence level of 95, an upper error limit of 5 percent, and an expected

⁵ LBNL's Office of the Chief Financial Officer is located in Emeryville, California. The Office of the Chief Financial Officer provides financial and procurement stewardship to LBNL's operations under the Department's contract.

Appendix 1: Objective, Scope, and Methodology

error rate of 0 percent was used to determine the sample size. During our review, we examined the subcontract files for each unit in the sample for allowability requirements, such as appropriate labor billing rates, unallowable costs, and supporting documentation. Because the risks were not the same across the sampling universe, the results and overall conclusions were not projected to the entire population.

We conducted this performance audit 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. We assessed internal controls and compliance with laws and regulations necessary to satisfy the audit objective. In particular, we assessed the internal control components and underlying principles significant to the audit objective. Specifically, we assessed the control environment component and underlying principles regarding the UC's establishment of structure, responsibility, and authority. We assessed the risk assessment component and the underlying principles of assessing fraud risk. We also assessed control activities and the underlying principles of implementing policies and procedures. Finally, we assessed the information and communication component regarding using quality information. However, because our review was limited to these internal control components and underlying principles, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

We assessed the reliability of procurement data by: (1) performing electronic testing; (2) reviewing existing information about the data and the system that produced them; and (3) interviewing agency officials knowledgeable about the data. We determined that the data was sufficiently reliable for the purposes of this report.

An exit conference with management officials was held on October 25, 2021.

Appendix 2: Prior Reports

- Audit Report on [*Bechtel National, Inc.'s Subcontract Audit Program*](#) (DOE-OIG-20-06, November 2019). The audit found that Bechtel National, Inc. (Bechtel), the contractor responsible for construction of the \$16.8 billion Waste Treatment and Immobilization Plant at the Department of Energy's Hanford Site, had not fulfilled its contractual requirement to audit flexibly-priced subcontracts. For example, since the start of its contract in December 2000, Bechtel had only ensured that audits had been conducted on 23 out of 110 flexibly-priced subcontracts that had received over \$1 million in funds. Additionally, the Office of Inspector General (OIG) found that many of the completed audits had not been effective or reliable. Bechtel's long-standing noncompliance with subcontract auditing requirements persisted, in part, because the Department had not always provided timely and proactive oversight of Bechtel's subcontract audit program. For example, the OIG was unable to determine if the Department had taken active efforts prior to 2013 to monitor Bechtel's subcontract audit program from the time the contract was issued in December 2000. By not fulfilling the requirement to audit its flexibly-priced subcontracts, Bechtel increased the risk that it was passing on unallowable costs from its subcontractors to the Department.
- Audit Report on [*Subcontract Administration at the Mixed Oxide Fuel Fabrication Facility*](#) (DOE-OIG-20-16, December 2019). The audit found that the National Nuclear Security Administration had limited resources for monitoring facility construction costs. There was also a backlog for incurred cost audits and significant questioned costs identified in fiscal year 2010. The audit was performed to ensure that MOX Services, LLC administered the subcontracts selected for review in accordance with requirements. The subcontracts the OIG selected for review were not administered in accordance with Federal Acquisition Regulation (FAR) requirements for contract cost principles and procedures in the areas of subcontract modifications, labor premiums, supporting documentation, overtime billings, rework material costs, rework labor profits, and material reconciliations. Specifically, some of the issues identified included a lack of invoice reviews, and a lack of supporting documentation for reviews of invoiced costs. FAR 31.201-2, *Determining Allowability*, says the contractor is responsible for providing such supporting documentation. Also, the OIG found a firm-fixed-price subcontract that had several adjustments made to it through improper modifications, which were prohibited by FAR 16.202, *Firm-Fixed-Price Contracts*.

Appendix 3: Management Comments



Department of Energy Office of Science Bay Area Site Office

Lawrence Berkeley National Laboratory
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Berkeley, CA 94720

SLAC National Accelerator Laboratory
2575 Sand Hill Road, MS-8A
Menlo Park, CA 94025

September 30, 2021

MEMORANDUM FOR JENNIFER L. QUINONES
DEPUTY INSPECTOR GENERAL
OFFICE OF INSPECTOR GENERAL

FROM: PAUL M. GOLAN **PAUL GOLAN** Digitally signed by PAUL GOLAN
SITE OFFICE MANAGER Date: 2021.09.30 10:10:20 -0700'

SUBJECT: Management Response to the Office of Inspector General Draft
Audit Report on *Subcontract Administration at Lawrence Berkeley
National Laboratory (A20LL014)*

Thank you for the opportunity to review and comment on the subject draft report. The Bay Area Site Office (BASO) appreciates the auditors' work in highlighting opportunities for improvement in the areas of subcontract administration, resolving questioned costs, auditing of subcontracts, and completing subcontract reviews to meet auditing standards. While we concur with and will be taking action to address the related recommendations in the report, BASO would like to provide clarification in one area.

We believe that the report may not accurately interpret the Department of Energy Acquisition Regulation (DEAR) 970.5232-3(c) as it relates to flexibly-priced subcontracts. Specifically, we believe that the noted DEAR clause is not applicable to the subcontract examples provided in the report, and the related finding and recommendations should be reconsidered. We non-concur with the related recommendations pending resolution of this issue. The laboratory has also provided technical comments under separate cover for the auditors' consideration. If you have any questions regarding this response, please contact Mercedes Downing at (510) 486-4346.

Recommendations:

We recommend that the Manager, Bay Area Site Office, direct the Contracting Officer to:

1. Determine the allowability of costs questioned in this report and recover any amounts deemed unallowable.

Management Response: Concur. The Contracting Officer will review the questioned costs and make an allowability determination by 12/20/2021.

2. Conduct a risk assessment of FY 2015 through FY 2019 T&M subcontracts and fixed-priced subcontracts containing flexibly-priced components to determine the appropriate audit coverage necessary and arrange for those audits to be conducted.

Management Response: Non-Concur. Both the SP 16.1, *General Types of Subcontracts* and audit screening procedures are in alignment with the M&O Contract requirements, DEAR 970.5231-3, Accounts Records, and Inspections (c), *Audit of Subcontractor's Records*.

We also recommend that the Manager, Bay Area Site Office, direct the UC to:

3. Ensure ICEs and price reasonableness analyses are performed by the procurement specialists and properly documented prior to approving any subcontract modifications exceeding the \$25,000 threshold. In addition, we recommend monitoring and tracking change orders that aggregate and exceed the \$25,000 threshold, and, if necessary, conducting a price reasonableness analysis.

Management Response: Concur. The following planned corrective actions will be completed by 06/30/22:

- a. Revise SP 15.6, *Cost or Price Analysis* and SP 36.1, *Construction Subcontracting* to provide further clarity on timing of ICE and price reasonableness analysis and documentation in accordance with the current Contract 31 thresholds.
 - b. Revise SP 43.1, *Modifications and Changes*, to document, monitor and track change orders that aggregate and exceed the \$25,000 threshold, and define when price reasonableness analysis is required.
 - c. LBNL to provide refresher training to its personnel on price reasonableness analysis.
4. Update SP 16.1, *General Types of Subcontracts*, to provide more subcontract type options, as specified in the FAR and in its procurement system, so that procurement specialists can accurately categorize fixed-price subcontracts.

Management Response: Partially-Concur. SP 16.1, *General Types of Subcontracts* is consistent with FAR Part 16, *Types of Contracts*, and already incorporates the contract types defined in that Part. However, the SP will be updated to provide more clarity of subcontract type selection. Action to be completed by 03/31/22.

5. Provide a refresher training to procurement specialists on price analysis requirements and related best practices when issuing modifications and change orders.

Management Response: Concur. UC will provide refresher training on price analysis requirements and related best practices when issuing modification and change orders. Action to be completed by 06/30/22.

6. Ensure invoices contain all the required documentation supporting the costs claimed, including intra-university transactions, before payments are issued and documentation is maintained as required per FAR 31.3, *Contracts with Educational Institutions*.

Management Response: Concur. SP 44.1 *Intra-University Transactions* will be reviewed and updated as necessary to ensure alignment with FAR 31.3, Clause I.159 - DEAR 970.5244-1 Contractor Purchasing System (AUG 2016) (PF 2013-64, PF 2015-17) [SC Alternate SEP 2018] (Prev. I.114) paragraphs (e)(4) and (i), and SP 32.1 *Payments*. Action to be completed by 03/31/22.

7. Revise SP 44.1, *Intra-University Transactions*, so that it clearly requires adequate supporting documentation for costs of the work performed as required by FAR 31.3 and SP 32.1, *Payments*.

Management Response: Concur. SP 44.1 *Intra-University Transactions* will be reviewed and updated as necessary to ensure alignment with FAR 31.3, Clause I.159 - DEAR 970.5244-1 Contractor Purchasing System (AUG 2016) (PF 2013-64, PF 2015-17) [SC Alternate SEP 2018] (Prev. I.114) paragraphs (e)(4) and (i), and SP 32.1, *Payments*. Action to be completed by 03/31/22.

FEEDBACK

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