



OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

# AUDIT REPORT

DOE-OIG-23-29

August 2023

**FERMI RESEARCH ALLIANCE, LLC,  
COSTS CLAIMED UNDER  
DEPARTMENT OF ENERGY CONTRACT  
NO. DE-AC02-07CH11359 FOR  
FISCAL YEAR 2018**



**Department of Energy**  
Washington, DC 20585

August 28, 2023

**MEMORANDUM FOR THE ACTING CHIEF FINANCIAL OFFICER &  
MANAGER, FERMI SITE OFFICE**

**SUBJECT: Audit Report on Fermi Research Alliance, LLC, Costs Claimed under Department of Energy Contract No. DE-AC02-07CH11359 for Fiscal Year 2018**

The attached report discusses our review of Fermi Research Alliance, LLC's, costs claimed for fiscal year 2018. This report contains 10 recommendations that, if fully implemented, should help ensure that fiscal year 2018 claimed costs incurred by Fermi Research Alliance, LLC, are allowable, allocable, and reasonable in accordance with the terms of the contract, applicable cost principles, laws, and regulations. Management fully concurred with our recommendations.

We conducted this audit from September 2019 through June 2022 in accordance with generally accepted government audit standards. We appreciated the cooperation of your staff during the audit.

A handwritten signature in black ink, reading "Teri L. Donaldson", is positioned above the printed name.

Teri L. Donaldson  
Inspector General  
Office of Inspector General

cc: Deputy Secretary  
Chief of Staff  
Director, Office of Science



**Department of Energy**  
**Office of Inspector General**  
**Fermi Research Alliance, LLC, Costs Claimed under**  
**Department of Energy Contract**  
**No. DE-AC02-07CH11359 for Fiscal Year 2018**  
(DOE-OIG-23-29)

**WHY THE OIG  
PERFORMED THIS  
AUDIT**

In 2016, the Office of Inspector General (OIG) began evaluating the Department of Energy's management and operating contractors using a series of audits of costs claimed by those contractors. This is the fourth audit in that series. This audit examined fiscal year (FY) 2018 costs claimed by Fermi Research Alliance, LLC (FRA), the management and operating contractor that operates the Department's Fermi National Accelerator Laboratory.

Our audit's objective was to determine whether FY 2018 claimed costs were allowable, allocable, and reasonable in accordance with the terms of the contract, applicable cost principles, laws, and regulations.

**What Did OIG Find?**

We found that FRA's FY 2018 costs claimed may not have always been allowable, allocable, or reasonable in accordance with contract terms, applicable cost principles, laws, and regulations. We questioned the FY 2018 allocation of \$159,472,886 in indirect costs as unsupported. Additionally, we considered \$14,914,107 in subcontract costs as unresolved, pending audit. Finally, we questioned costs totaling \$2,545,253.47 as unsupported, unallowable, or unreasonable.

Specifically, we found that FRA was unable to support the cost bases used to determine its indirect cost rates. As a result, we are questioning the unsupported allocation of \$159,472,886 of indirect costs for FY 2018. Additionally, we found that FRA had not always identified cost-type subcontracts for audit consideration, as required by its contract, resulting in \$14,914,107 in subcontract costs as unresolved, pending audit. We also found that FRA did not obtain external vendor invoices to support \$2,427,681.64 in small dollar purchases. Finally, we questioned other FY 2018 costs in the amount of \$117,571.83 and \$25,537.35 in other FYs.

**What Is the Impact?**

These issues could result in the Department reimbursing FRA for costs that were unallowable, not allocable, or unreasonable.

**What Is the Path Forward?**

In response to the OIG's Special Project Report, *The Transition to Independent Audits of Management and Operating Contractors' Annual Statements of Costs Incurred and Claimed* (DOE-OIG-21-26, April 2021), the OIG has transitioned to an independent audit strategy that will not rely on contractor internal audits of costs claimed. This audit commenced before the transition, and we are required to communicate the matters identified. As such, we provided 10 recommendations that, if fully implemented, should help ensure that the concerns identified are corrected.

## BACKGROUND

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Since January 2007, Fermi Research Alliance, LLC (FRA), has managed and operated Fermi National Accelerator Laboratory (Fermilab) under a contract with the Department of Energy. Fermilab is a member of the national laboratory system supported by the Department through its Office of Science. Fermilab conducts unclassified research primarily involving High Energy Physics. FRA claimed costs of \$413,925,741.89 from October 1, 2017, through September 30, 2018, which is fiscal year (FY) 2018.

FRA's financial accounts are integrated with those of the Department, and the results of financial transactions are reported monthly according to a uniform set of accounts. FRA is required by its contract to account for all funds advanced by the Department annually on its Statement of Costs Incurred and Claimed, to safeguard assets in its care, and to claim only allowable costs. Allowable costs are costs claimed that are reasonable, allocable, and in accordance with the terms of the contract, as well as applicable cost principles, laws, and regulations.

As part of their contracts with the Department, contractors are required to maintain internal audit activities with the responsibility for conducting audits of the allowability of costs claimed by the contractors. Since FY 2016, the Office of Inspector General (OIG) has selected one management and operating contractor each year to perform the annual costs claimed audit in place of the internal audit group. For FY 2018, FRA was selected for our review. The criteria used in our review included Federal Acquisition Regulation (FAR) allowability requirements, Cost Accounting Standards (CAS), Federal Travel Regulation, Office of Personnel Management wage standards, Department Directives and Acquisition Letters, as well as clauses contained within FRA's contract with the Department. Within the Department, the Contracting Officer, assisted by the Cognizant Federal Agency Official, are responsible for administering the contract.

The objective of our audit was to determine whether FY 2018 claimed costs incurred by FRA were allowable, allocable, and reasonable in accordance with the terms of the contract, applicable cost principles, laws, and regulations. Although this audit was initially performed to evaluate the Cooperative Audit Strategy, which is no longer the Department's policy, we identified questioned costs, other findings, and recommendations to Department officials that we must communicate in our report.

## FRA INDIRECT RATES NOT COMPLIANT WITH CAS

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We found that FRA's year-end indirect rates were not compliant with CAS 418, *Allocation of Direct and Indirect Costs*, because FRA failed to demonstrate that the rates were appropriately calculated. Fermilab uses these indirect rates in its billing to other entities that included educational institutions, private companies, and other Federal agencies. Additionally, the rates are used to allocate indirect pool costs to different projects and activities within the Department to properly account for their costs. Because FRA did not comply with CAS, we cannot determine whether the indirect rates are correct, overstated, or understated. Therefore, we determined that FRA could not demonstrate that all entities paid an appropriate share of indirect costs.

Department of Energy Acquisition Regulation (DEAR) 970.3002-1, *CAS Applicability*, and FRA's contract, require compliance with CAS, which include methods of distinguishing direct costs from indirect costs and the basis used for allocating indirect pools. CAS 418–40 (c) states that “[p]ooled costs shall be allocated to cost objectives in reasonable proportion to the beneficial or causal relationship of the pooled costs to cost objectives.”

FAR 2.101 (b) states that the standard method for determining indirect rates is to divide indirect pool costs by an appropriate base for allocation, which are typically direct costs. FRA's CAS Disclosure Statement asserts that this is FRA's method for calculating the indirect rates used to allocate the indirect cost pools. However, we found that FRA did not actually determine indirect rates using the method described in its CAS Disclosure Statement. Rather, FRA established budgeted indirect rates that it considered reasonable based on previous years. It then calculated the value of base costs by dividing the indirect pool costs by the budgeted indirect rate. FRA could not tie the calculated base costs to actual costs in the general ledger. When we requested transactional support for the base cost amounts, we were told that the information could not be provided. Because FRA was unable to tie the base costs to general ledger documentation, FRA was unable to support that the indirect rates were correct. As such, FRA failed to demonstrate that the indirect pool costs had been appropriately allocated.

According to FRA Accounting officials, this issue occurred because the Fermilab accounting system could not accumulate costs in a manner where the direct costs could be separated into their respective bases for each rate. FRA officials told us that its Oracle system could not retrieve data and separate the costs into final cost objectives. In addition, we were told that they have never been asked or required to provide information in that manner. We also noted that the Department did not review or approve provisional or final indirect cost rates. According to the Fermi Site Office, the only reviews completed were a Biennial Pricing Review that looked at overall costs and a laboratory directed research and development cost review. The remaining indirect rates were not reviewed on a yearly basis and not approved by the Department. Had such reviews been performed, this condition may have been detected.

Fermilab had approximately \$27 million in inter-entity work for other Department contractors and Strategic Partnership Projects, which is work billed to other entities. As stated, Fermilab uses these indirect rates in its billing to these other entities, as well as to allocate indirect pool costs to different projects and activities within the Department to properly account for their costs. Because FRA did not comply with CAS, we cannot determine whether the indirect rates are correct, overstated, or understated. Therefore, we determined that FRA could not demonstrate that all entities paid an appropriate share of indirect costs. While we are not questioning the individual transactions that comprise the FY 2018 indirect pools, we are questioning the allocation of the entire indirect pool amount of \$159,472,886 as unsupported.

Finally, we found that the approved CAS Disclosure Statement included inappropriate expenditure accounts in the bases of three indirect rates. Specifically, the bases for several indirect rates included expenses that are typically indirect, such as hardware and software computer maintenance, rent, office machine maintenance, other professional services, telephone, training, and vehicle maintenance. Therefore, had FRA calculated its indirect rates in the



manner described in its CAS Disclosure Statement, there would still have been a noncompliance with CAS. This issue occurred because while the Department reviewed changes to the CAS Disclosure Statement prior to approval, its reviews were limited to changes from the previously approved Disclosure Statement. Further, we determine that this was an ongoing issue, as we obtained an earlier version of the CAS Disclosure Statement from 2007 and found similar issues.

## **COST-TYPE SUBCONTRACTS NOT ALWAYS IDENTIFIED FOR AUDIT CONSIDERATION**

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Our review determined that FRA had not always identified cost-type subcontracts for audit consideration. DEAR 970.5232-3 (c), *Accounts, Records, and Inspection*, which is incorporated into the FRA contract, states that the contractor must either conduct an audit, or arrange for an audit to be performed of any subcontract, where costs are a factor in determining the amount payable to the subcontractor. Department of Energy Acquisition Letter (AL) 2014-01 provides guidance for management and operating contractors' fulfillment of their contractual obligation to provide adequate audit coverage of cost-type subcontracts. AL 2014-01 allows the contractor to use a risk-based methodology to select subcontracts for audit. Such a methodology is dependent upon the identification of subcontracts containing cost-type elements to allow for these to be considered for audit. However, we found that the Fermilab Procurement subcontract database did not identify contract type, and lists of subcontracts we received from Procurement officials did not always correctly identify subcontracts that contain cost-type elements.

Our review of a judgmental sample of 15 subcontracts, described by Fermilab Procurement as firm-fixed price, found that 6 of these subcontracts included items such as labor hours and materials. In one case, the associated Memorandum of Understanding specifically states that the purchase order is defined as a cost reimbursable account and that all invoices must reflect actual costs incurred. Because these subcontracts had been characterized as firm-fixed price by Fermilab Procurement, we concluded that they may not have been considered for audit even though they contained elements of cost. We were told that the Procurement database was in the process of being upgraded and in the future will include a field for subcontract type for future subcontracts, though the existing subcontracts in the database will not be updated to identify contract type.

The *FRA Procurement Policy and Procedures Manual* delegates the task of determining when subcontract audits should be performed to Fermilab Internal Audit. However, we noted that the policy does not describe the factors to be considered or any threshold dollar limits to be used in the determination. We found that Fermilab Internal Audit was not notified when cost-type subcontracts were awaiting closeout. Additionally, prior to close out of the subcontract, there was no documented formal decision explaining why a subcontract was not audited.

We found that Fermilab Internal Audit had conducted audits of the ongoing subcontract work on the Long-Baseline Neutrino Facility and the Sanford Underground Research Facility. These audits reviewed sample invoices from both firm-fixed price and cost-type subcontractors. However, we determined that those were the only FY 2018 cost-type subcontract costs that were

audited, and we found additional cost-type subcontracts that were not audited. The total FY 2018 costs from cost-type subcontracts reviewed during Fermilab Internal Audit's sample work for these audits was \$12,244,255.

In response to our request, Fermilab's Deputy Chief Financial Officer provided a list of cost-type subcontracts that incurred FY 2018 costs. The list identified 30 cost-type subcontracts that incurred \$27,158,362 in FY 2018 costs. Therefore, we concluded that \$14,914,107 in FY 2018 costs from cost-type subcontracts had not been considered for audit. The list we were provided included eight cost-type subcontracts with FY 2018 costs of \$739,287 that had been closed during FY 2018 without a closeout audit. However, as noted, the Fermilab Procurement database did not contain a field to describe the type of subcontract, making verification of these totals difficult. We consider the \$14,914,107 in unaudited costs as unresolved, pending a risk assessment to determine necessary audit coverage.

## **VENDOR INVOICES NOT ALWAYS AVAILABLE FOR COST VERIFICATION**

Fermilab Accounting was unable to provide vendor-generated invoices for \$2,427,681.64 in FY 2018 purchases made through eMarketplace, a program used to order off-the-shelf items below \$2,500. FAR 31.201-2 (d), *Determining Allowability*, requires contractors to maintain records, including supporting documentation, adequate to demonstrate that costs claimed have been incurred, are allocable to the contract, and comply with applicable cost principles. In addition, DEAR 970.5232-3 (a), *Accounts, Records, and Inspection*, which is incorporated into the FRA contract, states that the contractor must maintain evidence to support all allowable costs incurred. Despite these requirements, we found that FRA did not always obtain and maintain external original vendor invoices for all its materials purchases.

The eMarketplace program used negotiated Basic Ordering Agreements (BOA) maintained by the Department's Integrated Contractor Purchasing Team (ICPT).<sup>1</sup> In FY 2018, Fermilab used eMarketplace for \$2,427,681.64 in purchases. However, Fermilab elected not to receive invoices from the vendors for these purchases. Instead, the eMarketplace program generated a substitute invoice in the Fermilab Oracle system when Fermilab received the items. This internally generated invoice was used by Fermilab Accounting to pay the vendor after the items were received. The only external support maintained by Fermilab was the packing list received as part of the delivery, which did not include the vendor prices of the ordered items. Further, Fermilab did not maintain price catalogs for the vendors or other support for the costs of the items. Therefore, we were unable to verify the price of the items ordered as shown on these substitute invoices.

The Department's point of contact for the ICPT informed us that contractors were generally requiring invoices from vendors. We reviewed several of the BOAs used in our sample transactions. The BOAs generally state that payments to vendors will be made after receipt of proper invoices.

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<sup>1</sup> The ICPT includes Department contractors and Department officials. The ICPT provides access to BOAs negotiated by the ICPT or the Department for use by site and facility contractors and eligible subcontractors.

We found that this issue occurred due to an effort by Fermilab to streamline the purchasing process. The Fermilab Procurement Administrator in charge of eMarketplace stated that the internally generated invoices were more efficient and made it easier for Fermilab Accounting to pay the vendor in a timely manner. However, without external support for the costs claimed, determining allowability of the items purchased is difficult. As a result of not receiving vendor invoices or maintaining other support, Fermilab had no external support for the \$2,427,681.64 in FY 2018 purchases that were ordered through the eMarketplace system. Therefore, we found that the \$2,427,681.64 of eMarketplace purchases were unsupported.

During transaction testing, we also found that the eMarketplace system was used to purchase a video and audio-conferencing system for \$799.99. The use of eMarketplace to purchase telecommunications equipment is prohibited under the Fermilab *eMarketplace User's Guide* (User's Guide). We were told that the purchase was approved in advance. In response to our questions, Fermilab's eMarketplace administrator stated that the language in the User's Guide will need to be changed to address this type of situation where a Procurement Manager approves an exception to the prohibition. While this cost is included in the total eMarketplace costs for FY 2018, items prohibited in the User's Guide are considered unallowable. Therefore, we question the \$799.99 paid for this item as both unsupported and unallowable per the User's Guide.

## **UNREASONABLE SUBSISTENCE REIMBURSEMENTS TO VISITING SCIENTISTS AND RESEARCHERS**

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We identified \$30,890.40 in excessive subsistence payments for FY 2018 and an additional \$23,785.10 in excessive subsistence payments for other years. Subsistence payments are per diem meals and incidental expense (M&IE) reimbursements for visiting scientists and other non-employee, non-subcontractor personnel working at Fermilab. According to the cost principles in FAR, Subpart 31.2, a cost is reasonable if in its nature and amount it would be incurred by a prudent person in conduct of competitive business. We do not consider that this test was met in these cases because FRA paid visiting scientists and researchers subsistence reimbursements at rates above those allowed for laboratory employees and subcontractors in the same circumstances.

The Department does not have specific policies concerning subsistence payments to visiting scientists and researchers. Therefore, to assess the reasonableness of these subsistence payments, we benchmarked FRA's practice against Department guidance regarding reimbursements to contractor and subcontractor employees in similar circumstances. The Department's guidance for these reimbursements limits the amount of M&IE that contractor and subcontractor employees can receive on extended assignments. Specifically, AL 2013-01, and its successor, AL 2018-08, allow reimbursement of Federal M&IE per diem for the first and last 30 days of extended assignments for laboratory and subcontractor employees, but limit M&IE to 55 percent of the per diem rate for the intervening period. In addition, reimbursement is limited to 3 years. The ALs state that the policy is a "cost standard," indicating that it could be used as a benchmark for similar situations.



Our transaction testing found six instances where Fermilab had reimbursed more than 55 percent of the M&IE rate during intervening periods of extended assignments. Our methodology included reviewing the sampled transaction, as well as the other vouchers associated with the traveler. This scope expansion was necessary because the allowability criteria is different based on whether the costs are in the first or last 30 days of the assignment or in the intervening days. When reviewing the associated vouchers, we determined that there were five additional visitors in our sample who were reimbursed M&IE in excess of the AL limitation. The total questionable costs identified for FY 2018 were \$30,890.40. In reviewing the associated vouchers, we found an additional \$23,785.10 in questionable costs for other FYs.

Fermilab Accounting told us that it did not consider that the ALs applied to non-employees, such as visiting researchers. When told that we might use the ALs as a benchmark for reasonability of the costs, the Fermilab Accounting Manager responded that “if the AL is determined to be applicable to this population of recipients, the majority of agreements will be transitioned to straight stipend payments, resulting in a change in the tax status of the payment. Given that the majority of these individuals are students without employment, who are most likely using these payments for subsistence, the Laboratory’s preferred stance has been to reimburse them via per diem.” Given the excessive nature of these costs, we question the amounts above the benchmark used.

## **EXCESSIVE HOLIDAY PAY**

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Our review identified \$51,545 in questionable payroll costs. We found that FRA paid hourly employees triple-time pay for hours worked on a holiday. This consisted of double-time pay plus an additional “holiday pay” in the amount of the employee’s hourly rate. We noted that Fermilab policies did not explicitly permit this practice for most non-union employees and determined that this compensation was not reasonable when compared to compensation paid to Federal employees in similar circumstances. While Fermilab employees were not Federal workers, we used the Federal employee compensation limits as a benchmark to assess the reasonableness of these costs. We discussed Fermilab’s holiday pay practices with the Contracting Officer and learned that Fermi Site Office did not review and approve Fermilab’s payroll policies and was unaware of Fermilab’s holiday pay practices.

The Office of Personnel Management (OPM) Fact Sheet, *Federal Holidays – Work Schedules and Pay*, states that employees receive holiday premium pay for each hour of holiday work. Holiday premium pay is equal to an employee’s rate of basic pay. Employees who are required to work on a holiday receive their rate of basic pay, plus holiday premium pay, for each hour of holiday work. The OPM references 5 United States Code § 5546(b), *Pay for Sunday and Holiday Work*, which states that an employee who performs work on a holiday is entitled to pay at the rate of his or her basic pay, plus premium pay at a rate equal to the rate of his or her basic pay. As a result, Federal employees are paid double-time for hours worked on holidays. Federal employees do not receive extra holiday pay in addition to the double-time pay.

Our payroll transaction tests identified two instances where hourly employees working holidays received holiday pay, as well as double-time hourly pay for the hours they worked. This resulted in triple-time pay for the hours worked. We are questioning the amounts exceeding double-time

allowed for Federal employees as unreasonable. The total amount questioned from the two transactions in our sample was \$374.96. However, we expanded our payroll sample and identified 75 additional employees who received holiday pay in addition to double-time for holiday work in FY 2018.

This practice occurred, in part, because Fermilab's policies regarding holiday pay and holiday work for most non-union employees did not match its payroll practices. Fermilab's premium pay policy states that non-union employees receive two times their regular hourly rate for any authorized hours of work performed on a day recognized as a holiday by Fermilab or on a day of national observance for a holiday that Fermilab observes. This policy does not state that this is in addition to holiday pay, although that is what employees received, and discussions with Fermilab payroll officials indicated that this is their practice. Fermilab has a separate policy for non-union 12-hour shift employees that specifically provides them with holiday pay in addition to double-time for holiday hours worked. We determined this policy provision was unreasonable because it exceeded the OPM guidance that we used as a benchmark. Five employees were covered by this policy. Given that Fermilab's practice was not commensurate with OPM guidance, we are questioning holiday pay costs of \$51,545.

## **OTHER QUESTIONED COSTS**

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In addition to the questioned costs mentioned, our transaction tests found the following questioned costs:

- **Payroll and Salaries:** In addition to the excessive holiday pay described earlier in the report, our tests of payroll and salaries found \$3,653.63 in questionable costs for FY 2018 and \$69.80 for FY 2017. We found that FRA exceeded the approved total compensation for the Fermilab Director by \$2,720. The excess amount was for utilities provided to the Director's housing, which were paid using contract funds. Other questionable costs included the payment of overtime that should have been regular pay, inappropriate use of sick leave, and overpayment of shift premium pay.
- **General Disbursements:** We found one questioned cost of \$150 for the loan of artwork for an exhibit in the Fermilab Art Gallery. We were told that the cost was considered mission-related (i.e., education/public outreach). FAR 31.205-1 (e), *Public Relations and Advertising Costs*, allows public relations costs required by the contract, as well as those to keep the public informed on matters of public concern, to participate in community service, and provide open houses to the public. However, when we presented this cost to the Fermi Site Office, it agreed that this cost did not appear to qualify for those exceptions.
- **Travel:** Our sample of travel transactions found \$3,954.24 in questionable costs for FY 2018 and an additional \$1,682.45 for FY 2017. All the FY 2017 questioned costs and \$3,664.15 of the FY 2018 questioned costs were due to over-reimbursed M&IE per diem, similar to the subsistence transactions already mentioned. The remaining \$290.09 in questioned costs included: (1) four instances where travelers returned rental cars without refueling them, as required under Federal Travel Regulation 301-10.450 (d); (2) a rental

car without evidence of prior approval, as required under the Federal Travel Regulation 301-2.5 (g); and (3) two limousine driver tips that exceeded the 15 percent limitation included in Department Manual 552.1-1A, *U.S. Department of Energy Travel Manual*.

- **Procurement Card Purchases:** Our review found four transactions, totaling \$233.93, that were unsupported or prohibited under the Fermilab *Procurement Card Manual*. In three cases, support was unavailable due to the employee no longer working for FRA or not having access to the records due to COVID-19. The other questioned cost was for the purchase of compressed oxygen, a sensitive item requiring review and approval by Fermilab Environment, Safety & Health and prohibited as a procurement card purchase by the Fermilab *Procurement Card Manual*.
- **Subcontract Invoices:** Our review of subcontractor invoice transactions found questionable costs totaling \$27,144.63. This total included a subcontract cost of \$16,284 for the rental of two apartments for visiting faculty participating in a summer program at Fermilab. We determined that the two individuals lived within the 50-mile local travel area. Department Manual 552.1-1A states that per diem or actual expenses are not payable for travel within a local travel area if the travel occurs within 1 day. Although Department Manual 552.1-1A does not apply to contractors, we used it as a benchmark in considering the reasonability of these costs. Another questioned cost was a prior period expense of \$10,000 that was not allocable to FY 2018. The remaining \$860.63 in questioned costs related to charges that exceeded approved contract rates, unsupported repair costs, and unsupported postage costs.

### **Failure to Follow Policies and Errors in Processing Costs**

Most questioned costs in our transaction tests occurred because Fermilab did not follow established policies or made errors in processing the costs. We also noted that the Fermilab procurement card policy had cardholders retain supporting documentation, including invoices, although monthly card statements were reviewed by supervisors prior to payment. This resulted in its inability to provide at least two of the invoices as the cardholder no longer worked at Fermilab.

## **DEPARTMENT AT RISK OF OVERPAYING**

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Because FRA did not comply with CAS, we cannot determine whether the indirect rates are correct, overstated, or understated. Fermilab had approximately \$27 million in inter-entity work for other Department contractors and Strategic Partnership Projects. FRA uses these indirect rates in its billing to other entities as well as to different projects and activities within the Department. While we are not questioning the transactions that comprise the FY 2018 indirect pools, we are questioning the allocation of the entire indirect pool amount of \$159,472,886 as unsupported.

In addition, by not identifying cost-type subcontracts requiring audit consideration, FRA increased the risk that it is passing on unallowable costs from its subcontractors to the Department. Further, because it neither received vendor invoices nor maintained other support,

FRA had no external support for the \$2,427,681.64 in FY 2018 purchases that were ordered through the eMarketplace system. Finally, by not following the existing criteria on extended assignments, FRA paid unreasonable amounts for the M&IE per diem of individuals on extended assignments.

The total FY 2018 questioned costs of our transaction tests were \$162,018,139.47. In addition, we are questioning \$25,537.35 in costs from other FYs that we identified during our audit. Finally, we consider \$14,914,107 in unaudited subcontract costs as unresolved pending audit. (See Appendix 2 for Summary of Questioned Costs.)

## **OTHER MATTERS**

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In April 2021, the OIG 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 recommended that the OIG 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. Given the expected cessation of future reliance on audits conducted by FRA's Internal Audit, we have excluded any recommendations regarding improvements in Internal Audit's subcontract auditing processes identified in this audit.

## **RECOMMENDATIONS**

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We recommend that the Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to:

1. Review and approve the composition of FRA's final indirect rates on a periodic basis to determine accuracy of the rates and compliance with CAS;
2. Determine the allowability of costs questioned in this report, as summarized in Appendix 2, and recover any amounts deemed unallowable; and
3. Conduct a risk assessment of FY 2018 subcontracts containing cost-type components to determine the appropriate audit coverage necessary and arrange for those audits to be conducted.

We recommend that the Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to:

4. Revise and submit a Disclosure Statement that is in compliance with CAS;
5. Implement changes to the accounting system at Fermilab, as necessary, to ensure that it complies with CAS;

6. Properly select allocation bases for the indirect rates that establish a causal-beneficial relationship between the pools and bases;
7. Ensure that proper invoices are received from the eMarketplace vendors prior to payment of the costs and are maintained as support for the transactions;
8. Ensure that the FRA Procurement database is updated to reflect the appropriate FAR contract type for all subcontracts including existing subcontracts in the database;
9. Establish a policy to permit reasonable subsistence reimbursements for visiting researchers on extended assignment; and
10. Clarify payroll policies to ensure that Fermilab employees only receive reasonable compensation for time worked on holidays.

## **MANAGEMENT RESPONSE**

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Management concurred with our recommendations and identified actions it would take to address them. However, management disagreed with our finding that FRA indirect rates were noncompliant with CAS 418, Allocation of Direct and Indirect Costs. Management stated that the Department has reviewed and validated the elements of CAS, and while minimal changes were made, they would not rise to the level of a noncompliance with CAS and would not result in FRA's entire indirect amounts being questioned.

Management Comments are included in Appendix 4.

## **AUDITOR COMMENTS**

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Management's proposed actions are responsive to our recommendations. Regarding management's statement concerning FRA's compliance with CAS, CAS 418 requires that pooled costs be allocated to cost objectives in reasonable proportion to the beneficial or causal relationship of the pooled costs to cost objectives. Our report emphasizes that FRA's Accounting was unable to provide necessary transactional support for the base costs used in determining its indirect rates, which inhibits evaluation of the allocation of the indirect cost pools to cost objectives, as required by CAS 418. Without supporting documentation for the base costs, allocations of pool costs may not be appropriate. It is critical that the Contracting Officer obtain support for these costs so that allowability of costs can be determined, and unallowable costs can be recovered. We will coordinate with the Contracting Officer regarding the questioned costs contained in this report and review any additional supporting documentation provided by the contractor to help in assessing allowability of costs.



### **OBJECTIVE**

We conducted this audit to determine whether fiscal year (FY) 2018 claimed costs incurred by Fermi Research Alliance, LLC (FRA), were allowable, allocable, and reasonable in accordance with the terms of the contract, applicable cost principles, laws, and regulations.

### **SCOPE**

The audit was performed from September 2019 through June 2022 at Fermi National Accelerator Laboratory in Batavia, Illinois. The audit scope was limited to costs incurred during FY 2018; however, in some cases, we expanded our review to related transactions that were incurred in other FYs to determine the extent of the condition. We did not evaluate the technical aspects of FRA's performance. The audit was conducted under Office of Inspector General project number A19CH052.

### **METHODOLOGY**

To accomplish our audit objective, we:

- Reviewed applicable laws, regulations, policies, and procedures.
- Reviewed relevant reports issued by the Office of Inspector General, Government Accountability Office, FRA's Internal Audit, Department of Energy, Office of Science Consolidated Service Center, and other entities.
- Conducted interviews with Federal and contractor personnel.
- Selected sample transactions for testing. We initially planned a statistical sample; however, during transaction testing, we determined that for some samples the audit universe was not homogeneous, and, in other cases, a judgmental methodology was used to review transactions which made the results judgmental in nature. Judgmental or non-statistical sample results and overall conclusions are limited to the items tested and cannot be projected to the entire population or universe of costs. The following transaction samples were selected for testing:
  - 60 of 889 hourly wage employees, and 65 of 1,334 salaried employees, were selected for our payroll sample. Our evaluation included a review of approved pay rates, timecards, and earning statements. This sample was expanded to include a review of all non-union hourly wage employees who worked on holidays.
  - 60 of 14,944 materials purchases transactions.
  - 60 of 6,657 general disbursement transactions.
  - 60 of 12,344 travel transactions.

## **Appendix 1: Objective, Scope, and Methodology**

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- 60 of 2,147 housing, relocation, and subsistence transactions. This sample included 30 housing transactions, 13 relocation transactions, and 17 subsistence transactions. The subsistence sample transactions were expanded to include related transactions with the same individuals. In some cases, these expanded transactions were in FYs other than 2018.
- 60 of 33,267 procurement card transactions.
- 60 of 17,044 subcontract invoice transactions.
- Tested transactions using the requirements contained in the Federal Acquisition Regulation, Federal Travel Regulation, Department of Energy directives, contract terms and conditions, and other applicable guidance. Transactions were tested by tracing transactions to supporting records and documentation and comparing them to criteria.
- Evaluated indirect rate policies and practices to determine whether management of indirect rates complied with Cost Accounting Standards. In addition, we reviewed FRA's approved Cost Accounting Standards Disclosure Statement in effect during FY 2018.
- Reviewed policies and procedures for identifying subcontracts that require audits and arranging such audits. We judgmentally selected 20 subcontracts to review whether the subcontract type was accurately documented.

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 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 internal controls related to costs claimed, such as accounting controls over payments. 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. Finally, we relied on computer-processed data to accomplish our audit objectives. We assessed this data by tracing it to source documents and determined the data to be sufficiently reliable to provide a basis for our conclusions.

Management officials waived an exit conference on April 28, 2023.

**Appendix 2: Summary of Questioned Costs**

	Questioned Costs		
	Fiscal Year 2018	Other Fiscal Years	Unresolved Pending Audit
<b>Indirect Costs</b>	\$159,472,886.00		
<b>eMarketplace Purchases</b>	*\$2,427,681.64		
<b>Subsistence Payments</b>	\$30,890.40	\$23,785.10	
<b>Payroll – Holiday Pay</b>	\$51,545.00		
<b>Other Payroll and Salaries</b>	\$3,653.63	\$69.80	
<b>General Disbursements</b>	\$150.00		
<b>Travel</b>	\$3,954.24	\$1,682.45	
<b>Procurement Cards</b>	\$233.93		
<b>Subcontract Invoices</b>	\$27,144.63		
<b>Cost-Type Subcontract Costs Not Audited</b>			\$14,914,107.00
<b>Totals</b>	<b>\$162,018,139.47</b>	<b>\$25,537.35</b>	<b>\$14,914,107.00</b>

\*This total includes \$799.99 that is also questioned based on the item purchased being an item prohibited in the *eMarketplace User's Guide*.

### Appendix 3: Related Reports

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- Audit Report on [\*Battelle Energy Alliance, LLC Costs Claimed under Department of Energy Contract No. DE-AC07-05ID14517 for Fiscal Year 2016\*](#) (DOE-OIG-20-02, October 2019). We identified Battelle Energy Alliance, LLC (BEA) practices that were not compliant with Cost Accounting Standards, other issues for which we were not always able to quantify the full monetary impact, and weaknesses in BEA's Internal Audit (Internal Audit) procedures. For fiscal year (FY) 2016, we questioned \$17.66 million of positive (over-recovered) funds and \$8.4 million of negative (under-recovered) funds from year-end indirect cost pool variances. We also questioned \$11,176 of Laboratory Directed Research and Development burdens. Also, for areas where Internal Audit had provided audit coverage in FY 2016, e.g., subcontract costs, we reviewed its work to determine whether we could rely on the audit work in lieu of performing our own testing. Based on our review, we determined that Internal Audit work could be relied upon in the select areas reviewed and identified minor additional questioned costs of \$8,013. These issues occurred because BEA did not properly follow contract terms and conditions, including Federal Acquisition Regulation and Cost Accounting Standards, and did not sufficiently adhere to internal policy. We identified areas that require improvement by Internal Audit. The audit procedures used by Internal Audit did not identify certain Cost Accounting Standards noncompliance issues in BEA's cost accounting and management practices. We consider these areas to be fundamental for proper accounting of costs on Government contracts. Accordingly, we recommended certain corrective actions and additional oversight to ensure that these problems do not recur.
- Audit Report on [\*Subcontracts for Consulting Services at Fermi National Accelerator Laboratory\*](#) (DOE-OIG-19-48, September 2019). Based on our analysis of 19 subcontracts awarded for consulting services valued at \$2.2 million, we determined that Fermi Research Alliance, LLC (FRA), had not fully complied with applicable requirements in administering these subcontracts, and we questioned the allowability of \$46,033.27 in costs associated with certain noncompliances. Specifically, we found that FRA, which used subcontracts to obtain consulting services, had accepted invoices from its consultants that often lacked sufficient detail to support the services rendered, had not ensured that sole source justifications were clearly documented and approved, and had inappropriately allowed consultant services to be performed prior to a valid subcontract being in place, otherwise referred to as "after-the-fact" procurement actions. Additionally, we noted that FRA had not always included the required conflict of interest provisions or certificates of insurance in the subcontracts. Finally, FRA had not ensured that it had appropriately documented the scopes of work for consulting services. These conditions occurred, in part, because of weaknesses within the procurement process and organization. Specifically, FRA had been slow to correct recurring issues in its procurement process that had been identified in past reviews and within the procurement organization, such as ensuring that its procurement organization was properly trained and staffed.
- Audit Report on [\*Lawrence Livermore National Security, LLC, Costs Claimed under Department of Energy Contract No. DE-AC52-07NA27344 for Fiscal Year 2015\*](#) (DOE-OIG-18-12, December 2017). Based on our audit, we questioned costs totaling

### **Appendix 3: Related Reports**

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\$1,262,454.77, identified weaknesses in internal controls, and identified weaknesses in Lawrence Livermore National Security, LLC's (LLNS) Internal Audit procedures. Except for the reported questioned costs and internal control weaknesses, nothing came to our attention to indicate that other costs incurred by LLNS were not allowable. Also, based on our review of Internal Audit's work, we determined that it could be relied upon in the select areas reviewed and identified minor questioned costs of \$725.68. We did, however, identify internal control weaknesses in LLNS' accounting system that had not previously been reported by Internal Audit. Those weaknesses included LLNS' management of its Strategic Partnership Project cost overruns and underruns and unallowable costs. This occurred because LLNS did not properly follow contract terms and conditions, including Federal Acquisition Regulation and Cost Accounting Standards. In addition, we identified two minor internal control weaknesses where LLNS did not maintain its own complete records of supplemental labor costs and demonstrated an incomplete understanding of supplemental labor cost documents. Further, LLNS did not always adhere to internal policy and contract requirements to properly allocate travel and associated labor costs to the same project(s). As a result, we recommended that the Contracting Officer request an improvement plan from Internal Audit to ensure that unallowable costs and internal control weaknesses identified in the report are properly audited in future costs claimed audits.



## Appendix 4: Management Comments

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### Department of Energy

Office of Science  
Fermi Site Office  
Post Office Box 2000  
Batavia, Illinois 60510

March 9, 2023

Ms. Jennifer L. Quinones  
Deputy Inspector General  
Office of Inspector General

SUBJECT: MANGEMENT RESPONSE TO DRAFT OIG AUDIT ON "FERMI RESEARCH ALLIANCE, LLC, COSTS CLAIMED UNDER DEPARTMENT OF ENERGY CONTRACT NO. DE-AC02-07CH11359 FOR FISCAL YEAR 2018" IG-2 (A19CH052)

Dear Ms. Quinones,

Thank you for providing a draft copy of the report, "Fermi Research Alliance, LLC, Costs Claimed under Department of Energy Contract No. DE-AC02-07CH11359 for Fiscal Year 2018" IG-2 (A19CH052). We have reviewed the draft report and provides the following comments below.

While the Department of Energy (DOE) concurs with the management responses and have addressed all areas that will be completed, DOE non-concurs with the finding that "FRA indirect rates not in compliance with CAS". The following management concern is provided:

DOE Management concurs with the overall recommendations contained in the report. However, DOE non-concurs with the finding that FRA indirect rates are non-compliant with Cost Accounting Standards 418, Allocation of Direct and Indirect Costs. DOE has reviewed and validated the elements of the Cost Accounting Standards, and while minimal changes were made, they would not rise to the level of a non-compliance with CAS and would not result in FRA's entire indirect amounts being questioned. As a result of the requirement for Laboratory M&O contractors to submit an annual incurred cost submission, FRA was able to populate all required elements and the information.

If you have any questions, please contact Bryan O'Shaughnessy, of my staff, at (630) 840-3783 or by email [Bryan.OShaughnessy@science.doe.gov](mailto:Bryan.OShaughnessy@science.doe.gov).

Sincerely,

Roger E. Snyder  
Digitally signed by Roger E. Snyder  
Date: 2023.03.09 15:37:48 -06'00'

Roger E. Snyder  
Fermi Site Office Manager

## **Appendix 4: Management Comments**

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Enclosures:

Cc:

L. Merminga, FRA

T. Nightengale, FRA

S. Simpkins, FRA

W. Begner, DOE-FSO

B. O'Shaughnessy, DOE-FSO

## Appendix 4: Management Comments

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### **Recommendation 1:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to review and approve the composition of FRA's final indirect rates on a periodic basis to determine the accuracy of the rates and compliance with CAS.**

### **Management Response: Concur**

FRA's FY23 Disclosure Statement was previously approved by DOE to ensure CAS compliance. The Fermi Site Office will ensure that the Disclosure Statement and indirect rates are reviewed again with these audit findings considered. The FRA Internal Audit will integrate reviews of rate application in its annual plan. The requirements of DEAR 970.5216-7 will be followed including billing rate reviews by the Department of Energy.

**Estimated closure date:** April 30, 2023

### **Recommendation 2:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to determine the allowability of costs questioned in this report, as summarized in Appendix 2, and recover any amounts deemed unallowable.**

### **Management Response: Concur**

The Fermi Site Office will determine the allowability of the costs identified in appendix 2. An extent of condition will be completed to define the implications and extent of such costs for FY18 through FY2022, prior to a CO review and determination. FRA is reviewing their policies for completeness and compliance and will update accordingly for FY2023 and beyond.

**Estimated closure date:** December 31, 2023

### **Recommendation 3:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to conduct a risk assessment of FY 2018 subcontracts containing cost-type components to determine the appropriate audit coverage necessary and arrange for those audits to be conducted.**

### **Management Response: Concur**

The Fermi Site Office will work with FRA and FRA Internal Audit to clarify the factors that should be considered in determining which subcontract audits will be performed. This will include a risk assessment and list of actions that will be approved by the Contracting Officer, in consultation with the Cognizant Federal Agency Official. A revised FRA audit policy will be implemented for FY2023.

**Estimated closure date:** October 30, 2023

## Appendix 4: Management Comments

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### **Recommendation 4:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to revise and submit a Disclosure Statement that is in compliance with CAS.**

### **Management Response: Concur**

FRA submitted their 2023 Cost Accounting Standards Disclosure statement which was approved by DOE.

**Estimated closure date:** April 30, 2023

### **Recommendation 5:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to implement changes to the accounting system at Fermilab, as necessary, to ensure that it can comply with CAS.**

### **Management Response: Concur**

The Fermi Site Office's expectations of FRA's accounting system will continue to include compliance with CAS. FRA has undergone leadership changes and the Fermi Site Office will continue to support the improved skillset and professionalism to ensure adequate understanding of CAS and the Fermilab systems and capabilities.

**Estimated closure date:** April 30, 2023

### **Recommendation 6:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to properly select allocation bases for the indirect rates that establish a causal-beneficial relationship between the pools and bases.**

### **Management Response: Concur**

FRA's FY23 Disclosure Statement was reviewed by DOE to ensure CAS compliance including the causal-beneficial relationship between the pools and the bases.

**Estimated closure date:** April 30, 2023

## Appendix 4: Management Comments

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**Recommendation 7:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to ensure that proper invoices are received from the eMarketplace vendors prior to payment of the costs and are maintained as support for the transactions.**

**Management Response: Concur**

The Fermi Site Office will direct FRA to evaluate the means and methods for retaining records of invoice validation.

**Estimated closure date:** June 30, 2023

**Recommendation 8:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to ensure that the FRA Procurement database is updated to reflect the appropriate FAR contract type for all subcontracts including existing subcontracts in the database.**

**Management Response: Concur**

The Fermi Site Office will direct FRA to update all contracts active in FY21 and beyond with correct subcontract coding in alignment with FAR Part 16.

**Estimated closure date:** June 30, 2023

**Recommendation 9:**

**We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to require FRA to establish a policy to permit reasonable subsistence reimbursements for visiting researchers on extended assignment.**

**Management Response: Concur**

The Fermi Site Officer will direct FRA to review its policies for compliance and proper implementation and update accordingly for FY2023 and beyond with DOE approval.

**Estimated closure date:** April 30, 2023



## Appendix 4: Management Comments

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**Recommendation 10:**

We recommend that the Acting Manager, Fermi Site Office, direct the Contracting Officer, in consultation with the Cognizant Federal Agency Official, to clarify payroll policies to ensure that Fermilab employees only receive reasonable compensation for time worked on holidays.

**Management Response: Concur**

The Fermi Site Officer Contracting Officer review and approval of a revised policy was complete in January 2023.

**Estimated closure date:** Closed

## FEEDBACK

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Office of Inspector General (IG-12)  
Department of Energy  
Washington, DC 20585

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