



OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

AUDIT REPORT

DOE-OIG-20-16

December 2019

**SUBCONTRACT ADMINISTRATION AT
THE MIXED OXIDE FUEL FABRICATION
FACILITY**



Department of Energy
Washington, DC 20585

December 12, 2019

MEMORANDUM FOR THE FEDERAL PROJECT DIRECTOR, MOX PROJECT
MANAGEMENT OFFICE, SAVANNAH RIVER SITE

A handwritten signature in black ink, appearing to read "Jennifer L. Quinones", is positioned above the typed name.

FROM: Jennifer L. Quinones
Assistant Inspector General
for Audits and Inspections
Office of Inspector General

SUBJECT: INFORMATION: Audit Report on "Subcontract Administration at the
Mixed Oxide Fuel Fabrication Facility"

BACKGROUND

The MOX Services, LLC (MOX Services) contract with the National Nuclear Security Administration (NNSA) for the design, construction, operation, and deactivation of the Mixed Oxide Fuel Fabrication Facility (MOX Facility) at the Savannah River Site was established in March 1999. The MOX Facility was intended to be a major component in the United States' program to dispose of surplus weapons-grade plutonium. In fiscal year (FY) 2007, NNSA authorized the start of MOX Facility construction activities, which were estimated at a total project cost of about \$4.8 billion, with an FY 2017 projected start of operations date. In FY 2016, the Department of Energy's Office of Project Management Oversight, in partnership with the U.S. Army Corps of Engineers, estimated the total project cost for MOX Facility construction to be at about \$17.2 billion, with operations starting as late as 2048. The significant remaining lifecycle cost of the MOX Facility led, in part, to NNSA terminating the MOX Services contract in October 2018. The MOX Project Management Office located at the Savannah River Site is responsible for MOX Services contract oversight.

The MOX Services contract incorporated Federal Acquisition Regulation (FAR) requirements for contract cost principles and procedures. FAR 52.216-7, *Allowable Cost and Payment*, states that the Government will make payments to the contractor in amounts determined to be allowable by the Contracting Officer in accordance with FAR Subpart 31.2, *Contracts with Commercial Organizations*, in effect on the date of the contract and the terms of the contract. Prior to the termination of the MOX Services contract, NNSA officials informed the Office of Inspector General that its MOX Project Management Office had limited resources for monitoring MOX Facility construction costs. NNSA also informed us of a backlog of incurred cost audits and significant questioned costs identified in the FY 2010 incurred cost audit. In addition, we determined that subcontractors performed a large portion of the work on the MOX Facility.

Given NNSA's limited resources and the backlog of incurred cost audits for the MOX Facility project, we initiated this audit to determine whether MOX Services administered the subcontracts selected for review in accordance with requirements.

The scope of our audit covered about \$67.9 million of the \$370.5 million claimed by MOX Services in FY 2015. We selected a sample of 58 out of 5,561 transactions¹, covering about \$5.2 million in costs claimed in MOX Services' FY² 2015 incurred cost submission (ICS). The transactions selected for review were related to 20 subcontracts associated with 18 different subcontractors. While our audit evaluated selected transactions based on FAR requirements for contract cost principles and procedures, it was not intended to be a cost allowability audit. Due to the termination of the MOX Services contract, we limited our findings to those associated with costs claimed. As such, we coordinated our findings with the Defense Contract Audit Agency during the planning phase for its audit of MOX Services' FY 2013 through 2017 ICSs.

RESULTS OF AUDIT

We found that MOX Services did not consistently administer the subcontracts selected for review in accordance with 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. We identified 1 or more of these issues with 6 of the 18 subcontractors included in our review. Specifically, we found that MOX Services:

- Modified a firm-fixed-price supplies subcontract to incorporate additional fees based on the subcontractor's cost experience rather than changes in the scope of work;
- Instituted labor premiums for subcontractors that had not requested them, a business practice that we did not consider to be sound, arm's length, and consistent with MOX Services' responsibilities to the Government;
- Did not maintain records, in some cases, including supporting documentation, to adequately demonstrate that costs claimed had been incurred, were allocable to the contract, and complied with applicable cost principles;
- Claimed costs for straight time labor hours erroneously billed at overtime rates;
- Claimed costs for the refabrication of heating, ventilation, and air conditioning (HVAC) ducting parts lost under the MOX Services inventory system, a claim that, in our opinion, was not consistent with MOX Services' responsibilities to the Government;
- Claimed costs for profit paid to subcontractors for rework labor, an expressly unallowable cost; and

¹ A transaction is defined as a cost claimed on MOX Services' FY 2015 incurred cost submission.

² MOX Services' FY is the same as the calendar year, which differs from the Federal FY.

- Did not reconcile invoices for materials to receiving documents, in some cases, which called into question the MOX Services process for ensuring that it only paid for materials received.

These issues occurred, in part, because MOX Services did not always perform or document invoice reviews in accordance with FAR or the MOX Services internal procurement procedures. In our opinion, MOX Services management's culture regarding cost allowability also contributed to these issues. As a result, we identified \$8.5 million in questioned costs and, based on the control weaknesses that led to the questioned costs, there is an increased risk that other unallowable subcontract costs may have been incurred by MOX Services and reimbursed by NNSA. Because the Federal Government reached a settlement agreement addressing outstanding incurred costs, which includes the questioned costs cited in this report, we are not making any recommendations. However, the settlement agreement leaves open other avenues for taking action on known and unknown criminal, civil fraud, Anti-Kickback Act, or False Claims Act claims, whether currently pending or brought in the future arising out of or related to the MOX Services contract.

Subcontract Administration

We found that MOX Services did not consistently administer the subcontracts selected for review in accordance with FAR requirements for cost principles and procedures in the areas of subcontract modifications, labor premiums, supporting documentation, overtime billings, rework costs, rework profits, and material reconciliations, which resulted in \$8.5 million total questioned costs. This is significant because despite our sample size – less than 2 percent of the costs claimed in MOX Services' FY 2015 ICS – we identified systemic internal control weaknesses that substantially increased the risk that other unallowable costs may have been incurred by MOX Services and reimbursed by NNSA.

Subcontract Modifications

Four out of the 58 total transactions selected were related to a firm-fixed-price (FFP) supplies subcontract. We found that MOX Services paid costs associated with improper modifications to this FFP subcontract. Based on our review of 7 modifications that were relevant to our sample selection out of the 46 modifications issued during the life of the subcontract, we identified 3 modifications that were made to this FFP supplies subcontract for the fabrication and supply of HVAC ducting and accessories based on the subcontractor's cost experience rather than changes in the scope of work. Specifically, the modifications incorporated additional fees to cover the subcontractor's facilities overhead costs resulting from a schedule extension necessary to complete a previously agreed upon scope of work. Additionally, one of the modifications set forth that the subcontract would be revised to capture any future shared costs associated with facility use projects other than the MOX Facility, which would be another adjustment to an FFP subcontract based on cost experience. This practice is specifically prohibited by FAR 16.202, *Firm-Fixed-Price Contracts*, which states that an FFP contract provides for a price that is not subject to any adjustment on the basis of the contractor's cost experience in performing the contract. While the transactions in our sample were selected from the MOX Services FY 2015 ICS, this questionable practice and associated costs impacted multiple years. MOX Services

incurred \$2,165,000 in costs associated with these improper modifications in MOX Services' FY 2015 ICS, and the remaining \$5,411,865 balance of the modifications was incurred in MOX Services' FYs 2013, 2014, 2016, 2017, and 2018 ICSs. Thus, we are questioning a total of \$7,576,865, which accounts for the total impact of these subcontract modifications.

Labor Premiums

Thirty-eight out of the 58 total transactions selected were related to 4 time and materials construction services subcontractors. We found 14 out of the 38 transactions included unreasonable labor premiums for 3 of the 4 subcontractors. In May 2015, MOX Services offered all four of these subcontractors labor premiums effective April 20, 2015, for welders in pipefitting, electrical, ironwork, millwright, and sheet metal trades despite the fact that the subcontractors had not requested premium pay. Specifically, MOX Services was unable to provide evidence of a subcontractor request for these premiums or a subcontractor justification demonstrating a need for these premiums. According to FAR 31.201-3, *Determining Reasonableness*, the considerations and circumstances for determining reasonability include: (1) generally accepted sound business practices and arm's length bargaining; and (2) the contractor's responsibilities to the Government. In our opinion, it was not reasonable for MOX Services to institute premiums for subcontractors that had not requested them, as this is not a sound business practice and does not consider the contractor's responsibility to the Government. Additionally, MOX Services' determination of subcontract price reasonability for three out of four subcontractors receiving these premiums was based on adequate competition and the rates included annual escalation provisions. The premium for one subcontractor added costs of between \$4.03 and \$11.54 per labor hour for qualified welders, which included additional profit. This subcontractor was paid \$437,239 for craft premiums from April 20, 2015, through December 11, 2015. We did not quantify the premium costs for the other three subcontractors identified during our review; however, we provided this information to the Defense Contract Audit Agency for consideration during the planning phase for its audit of MOX Services' ICSs. Thus, we are questioning the \$437,239 paid for these craft premiums.

Supporting Documentation

For 2 out of the 58 total transactions reviewed, associated invoices lacked supporting documentation (e.g., labor reports, timesheets, or other relevant logs) necessary to determine cost allowability. Per FAR 31.201-2, *Determining Allowability*, a contractor is responsible for maintaining records, including supporting documentation, adequate to demonstrate that costs claimed have been incurred, are allocable to the contract, and comply with applicable cost principles. However, one invoice for mechanical piping and supports installation lacked the supporting documentation necessary to determine allowability of costs totaling \$258,773. Additionally, multiple invoices for hydro demolition services for one subcontractor lacked supporting schedules for \$76,671 in delay fees claimed in the MOX Services FY 2015 ICS. Accordingly, we are questioning a total of \$335,444 due to a lack of supporting documentation.

Overtime Billings

Twenty-five out of the 58 total transactions selected were associated with one subcontractor, who had systemic overtime billing issues. Specifically, 14 out of the 25 transactions for this subcontractor included costs for improper overtime claims. MOX Services paid the subcontractor overtime billing rates for hours that should have been billed at a straight time rate. For example, we identified 474 instances (an “instance” is 1 employee workweek) of employees billing overtime for a workweek in which the employee worked less than 40 hours on the MOX Facility. We also identified 393 instances where employees worked more than 40 hours on the MOX Facility, but not all hours billed as overtime qualified as overtime hours. FAR 2.101, *Definitions*, defines “overtime” as time worked by a contractor’s employee in excess of the employee’s normal workweek. Further, FAR 22.1, *Basic Labor Policies*, defines a “normal workweek” as generally a workweek of 40 hours. Additionally, the subcontract, in part, states that “...work at the job site is to be 40 hours per week.” Therefore, we are questioning a net of \$73,781 in billings for inappropriate overtime. However, based on our review of this subcontractor, it did not appear that MOX Services reviewed invoices for this type of error, which increased the risk that inappropriate payments for overtime were claimed for other time and materials subcontracts. Therefore, we provided this information to the Defense Contract Audit Agency for consideration during the planning phase for its audit of MOX Services’ ICSs.

Rework Material Costs

One out of the 58 total transactions selected for review were related to rework material costs. MOX Services paid rework costs associated with lost HVAC ducting parts. In particular, MOX Services issued a \$47,612 subcontract modification to cover additional costs for the refabrication of HVAC parts for which MOX Services had not maintained the required traceability. Specifically, due to the designated high-quality level of these parts, they were subject to MOX Services’ quality assurance requirements, including maintaining traceability to the point of installation. However, the MOX Services inventory system lost traceability of these parts because it allowed required part identification markings to fade and did not have a system to reestablish traceability through some other means. Additionally, because the material used in the fabrication of these HVAC parts was of such a high-quality level, MOX Services estimated the material costs to be at least double that of parts fabricated with lower quality materials. According to FAR 31.201-3, *Determining Reasonableness*, determining reasonability includes the contractor’s responsibilities to the Government. In our opinion, it was not reasonable for MOX Services to claim these rework costs, as MOX Services did not fulfill its responsibilities to the Government in maintaining traceability of these high-quality level items within its inventory system. As a result, we are questioning the \$47,612 related to the refabricated HVAC parts.

Rework Labor Profits

Two out of the 58 total transactions selected for review were related to rework labor costs. Specifically, we found that MOX Services paid profit on rework labor. We reviewed two transactions that were for the type of rework defined as the responsibility of the subcontractors per the MOX Services *Construction Rework Definition, Reporting and Assessment Desktop*. FAR 52.246-6(f), *Inspection – Time-and-Material and Labor-Hour*, states that the hourly rate for

labor hours incurred for rework shall be reduced to exclude that portion of the rate attributable to profit. Contrary to the FAR requirement, the labor rates billed to MOX Services for rework included a 2 percent profit under one subcontract and a 5 percent profit under the other subcontract. In evaluating the types of rework performed, we only considered rework that was clearly attributable to incorrect construction installation. As MOX Services could only provide complete supporting documentation for one of the two subcontracts identified, we quantified the profits on rework labor attributable to incorrect construction installation that the subcontractor with supporting documentation claimed in 2015 and provided this information to the Defense Contract Audit Agency for consideration during the planning phase for its audit of MOX Services' ICSs. As a result, we are questioning the \$28,079 associated with the rework profit we identified. However, it should be noted that we did not audit rework costs for completeness or MOX Services' processes for tracking and classifying rework costs; therefore, there is a risk that rework costs are misstated and that the associated unallowable profits on rework labor questioned in our report may differ from actual unallowable profits earned. For example, NNSA found issues with rework tracking in an assessment conducted in July 2016. Specifically, NNSA found that MOX Services did not track rework hours for all types of construction and did not track instances of rework where corrections were made before a quality control inspector performed an inspection and rejected the work.

Material Reconciliations

Three out of the 58 total transactions selected were related to material receipts. For two of the three transactions reviewed, the invoices for materials did not reconcile to receiving documents such as inspections/delivery logs. In one instance, we identified an error concerning 219.4 pounds of materials that was overlooked by MOX Services and resulted in an under-billing of about \$944 to MOX Services. For another transaction, it did not appear that MOX Services reconciled the invoiced amount for fuel credits to the underlying MOX Services fuel logs, which resulted in an over-billing to MOX Services of \$131. FAR 31.201-2, *Determining Allowability*, states that a contractor is responsible for accounting for costs appropriately and for maintaining records, including supporting documentation, adequate to demonstrate that costs claimed have been incurred, are allocable to the contract, and comply with applicable cost principles. While the dollar amounts identified during our review were immaterial, these reconciliation errors occurred in two out of three transactions reviewed. These errors called into question MOX Services' procedures for reconciling invoiced amounts for materials with receiving documentation to ensure that it only paid for materials received. This apparent weakness in MOX Services' internal controls warranted extra vigilance during reviews of costs involving the receipt of materials. Therefore, we provided this information to the Defense Contract Audit Agency for consideration during the planning phase for its audit of MOX Services' ICSs.

Invoice Review and Management Culture

These issues occurred because MOX Services did not always perform or document invoice reviews in accordance with FAR or the MOX Services internal procurement procedures. In our opinion, MOX Services management's culture regarding cost allowability also contributed to these issues.

Invoice Review

MOX Services did not always perform or document invoice reviews in accordance with FAR or the MOX Services internal procurement procedures. FAR 31.201-2, *Determining Allowability*, states that a contractor is responsible for maintaining records, including supporting documentation, adequate to demonstrate that costs claimed have been incurred, are allocable to the contract, and comply with applicable cost principles. According to the MOX Services *Procurement Practices Manual*, buyers and/or subcontract technical representatives are supposed to verify that calculations are correct; verify that hours, labor categories, travel, materials, etc. are necessary to the scope of work; verify that material costs are supported; and review charges for cost allowability. The *Procurement Practices Manual* also requires invoice reviews to be documented in a manner sufficient to enable third-party assessments to demonstrate allowability and allocability of approved amounts. However, as shown in the examples cited above, MOX Services did not always adequately perform or document its invoice reviews.

Management Culture

In our opinion, this situation also occurred due to the MOX Services management's culture regarding cost allowability. In particular, MOX Services' top procurement executive expressed the belief that all costs were reimbursable, unless errors or deficiencies were due to fraud, lack of good faith, or willful misconduct. Also, when we brought our questioned costs to management's attention, management emphasized MOX Services' contract clause H.14, *Responsibility of the Contractor for Errors or Deficiencies*, which states that the contractor shall use its "best efforts" in performing its work. Therefore, it appeared that MOX Services' management emphasized the "best efforts" language requirements over the FAR requirements that are incorporated by reference. The FAR contract cost principles requirements that are incorporated into the MOX Services contract under FAR 52.216-7, *Allowable Cost and Payment*, include reasonableness requirements. Specifically, the FAR sets forth that no presumption of reasonableness shall be attached to the incurrence of costs by a contractor, and that reasonability depends upon a variety of considerations and circumstances beyond whether a cost is a result of fraud, lack of good faith, or willful misconduct. In our opinion, management's prioritization of the "best efforts" language over FAR cost principles increased the risk that unallowable costs could be incurred and reimbursed by NNSA.

Impact

As a result of MOX Services' weaknesses in invoice review and management's view of cost allowability, and based on our review of 58 transactions that represented less than 2 percent of costs claimed in MOX Services' FY 2015 ICS, we identified a total of \$8.5 million in questioned costs. As mentioned previously, while our audit evaluated selected transactions based on FAR requirements for contract cost principles and procedures, it was not intended to be a cost allowability audit. However, based on our findings, there is an increased risk that other unallowable subcontract costs may have been incurred by MOX Services and reimbursed by NNSA.

Path Forward

Because the Federal Government reached a settlement agreement addressing outstanding incurred costs, which includes the questioned costs cited in this report, we are not making any recommendations. However, the settlement agreement leaves open other avenues for taking action on known and unknown criminal, civil fraud, Anti-Kickback Act, or False Claims Act claims, whether currently pending or brought in the future arising out of or related to the MOX Services contract.

Attachment

cc: Chief of Staff
Administrator, National Nuclear Security Administration

OBJECTIVE, SCOPE, AND METHODOLOGY

OBJECTIVE

We conducted this audit to determine whether MOX Services, LLC (MOX Services) administered the subcontracts selected for review in accordance with requirements.

SCOPE

The audit was performed from June 2018 through November 2019. We conducted the audit at the Savannah River Site near Aiken, South Carolina. The scope of the audit included MOX Services' administration of all direct first-tier subcontracts included in the MOX Services fiscal year 2015 incurred cost submission other than teaming partner subcontracts and subcontracts associated with ongoing legal proceedings. Specifically, our sampling frame included subcontractor cost category transactions from the MOX Services general ledger, which excluded transactions incurred by teaming partners and/or associated with ongoing legal proceedings. The audit was conducted under Office of Inspector General project number A18SR032.

METHODOLOGY

To accomplish the audit objective, we:

- Reviewed applicable regulations, contract requirements, policies, and procedures pertaining to subcontract administration activities.
- Held discussions with cognizant personnel from the MOX Project Management Office and MOX Services.
- Selected a sample of subcontractor cost category transactions from the MOX Services fiscal year 2015 incurred cost submission for purposes of testing MOX Services' subcontract administration practices. The sample frame of 5,561 subcontractor cost category transactions covered \$67,853,885.30 in costs included in the MOX Services fiscal year 2015 incurred cost submission. Our sample selection was based on the monetary unit sampling method. We used a tolerable misstatement of \$3,496,245.53 and a confidence level of 95 percent to calculate the sampling interval of \$1,165,415.17. We excluded all transactions incurred by teaming partners and/or associated with ongoing legal proceedings. This resulted in a sample size of 58 transactions covering \$5,188,604.88 in costs included in MOX Services' fiscal year 2015 incurred cost submission.
- Reviewed invoices and subcontract files for 58 out of 5,561 subcontractor cost category transactions selected from MOX Services' general ledger. Each sample unit was examined for proper allocation, compliance with relevant criteria, allowability, reasonableness, proper tracking of rework/change orders, technical review, mathematical accuracy, agreement with general ledger, and overall supporting evidence. We did not

project the amount of misstatement identified during testing to the population. Rather, specific questioned costs identified during transaction testing provided the basis for further audit steps to quantify actual questioned costs in our report.

- Reviewed the finalized settlement agreement between the Federal Government and MOX Services.

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 conclusions based on our audit objective. Accordingly, the audit included tests of controls and compliance with laws and regulations necessary to satisfy the audit objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. Finally, we relied on computer-processed data to achieve our audit objective. Specifically, we examined data and supporting documentation from the MOX Services management system. We determined the data to be sufficiently reliable for the purposes of this report.

An exit conference was held with management on November 20, 2019.

FEEDBACK

The Office of Inspector General has a continuing interest in improving the usefulness of its products. We aim to make our reports as responsive as possible and ask you to consider sharing your thoughts with us.

Please send your comments, suggestions, and feedback to OIG.Reports@hq.doe.gov and include your name, contact information, and the report number. You may also mail comments to us:

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

If you want to discuss this report or your comments with a member of the Office of Inspector General staff, please contact our office at (202) 586-1818. For media-related inquiries, please call (202) 586-7406.