



OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

AUDIT REPORT

DOE-OIG-19-47

September 2019

**KESSELRING SITE ENGINE ROOM
TEAM TRAINER FACILITY
CONSTRUCTION PROJECT**



Department of Energy
Washington, DC 20585

September 6, 2019

MEMORANDUM FOR THE DEPUTY ADMINISTRATOR, OFFICE OF NAVAL
REACTORS

Michelle Anderson

FROM: Michelle Anderson
Deputy Inspector General
for Audits and Inspections
Office of Inspector General

SUBJECT: Audit Report on "Kesselring Site Engine Room Team Trainer Facility
Construction Project"

BACKGROUND

The Department of Energy's Kenneth A. Kesselring Site (Kesselring Site), located in West Milton, New York, is part of the Naval Nuclear Laboratory. The Kesselring Site's primary mission is to train nuclear officers and enlisted personnel to operate the United States Navy's nuclear-powered aircraft carriers and submarines. A new facility is being constructed to provide space for simulation equipment to support student training. The new facility, the Kesselring Site Engine Room Team Trainer Facility (Facility), has a total project cost of \$41 million and beneficial occupancy¹ is expected to be achieved by December 31, 2019. The Facility is being constructed by P. J. Dick Incorporated, the subcontractor, under a firm-fixed price subcontract managed by Fluor Marine Propulsion, LLC (FMP), the Naval Nuclear Laboratory management and operating contractor.

Department Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, provides program and project management direction for the acquisition of capital assets with the goal of delivering projects within the original performance baseline² cost and schedule and fully capable of meeting mission performance. Generally, the Order requires the Department to establish a performance baseline and controls to monitor project progress. We conducted this audit to determine whether the Department is on track to meet its construction goals for the Facility.

¹ Beneficial Occupancy: Stage of construction of a building or facility, before final completion, at which its user can occupy it for the purpose it was constructed.

² Performance Baseline: The collective key performance, scope, cost, and schedule parameters. The performance baseline includes the entire project budget and represents the Department's commitment to Congress.

RESULTS OF AUDIT

We found that the Department appeared to be on track to meet its construction goals for the Facility. As required by Department Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, the Department had established a performance baseline for the Facility as well as controls to monitor project progress. Specifically, the Facility was progressing in accordance with the current approved baseline schedule, cost, and scope requirements. We also determined that the Department had implemented several project management practices to monitor the Facility's progress. For example, the FMP Subcontractor Technical Representative (STR) closely monitored Facility construction status; FMP project management used schedule and cost tracking tools as well as performed detailed invoice reviews; and the subcontractor, FMP, and the Department were in frequent communication with each other.

Facility Status

The Department appeared to be on track to meet its construction goals for the Facility. Specifically, the Facility was progressing in accordance with the current approved baseline schedule, cost, and scope requirements.

Schedule

Overall, the Facility construction project has proceeded, as planned. According to the *Kesselring Site Engine Room Team Trainer Building Project Execution Plan*, the Department was supposed to award the design-build³ subcontract by September 6, 2017, and beneficial occupancy was planned for December 31, 2019. We noted that the design-build subcontract was awarded on time. Since that date, there have been two baseline change proposals.⁴ Neither of the baseline change proposals impacted the planned beneficial occupancy date. We also found that construction activities were generally progressing, as planned.

Cost

We determined that the Facility cost had not changed significantly since the beginning of the project. The initial total project cost for the Facility was \$38 million. The first baseline change proposal, approved in May 2018, increased the total project cost to \$41 million. The \$3 million increase was to account for the actual funding amount approved for the initial performance baseline that was inadvertently excluded from the baseline FMP used to measure costs. The second baseline change proposal had no impact on the overall total cost of the Facility. Further, we noted that actual Facility costs, as of May 2019, had not significantly deviated from FMP's projected costs.

³ Design-Build: A project delivery method whereby design and construction contracts are combined.

⁴ Baseline Change Proposal: A document that provides a proposed change to an approved performance baseline, including the resulting impacts on the project scope, schedule, design, methods, and cost baselines.

Scope

We also found that the Facility scope was in line with the current approved baseline. The initial baseline specified construction of a 39,000 square foot facility. However, as part of the best value bidding process, the Facility's fourth floor was expanded by 10,000 square feet. Although configuration of the space within the Facility was adjusted as a result of both baseline change proposals, the overall Facility footprint is still the same.

Project Management

We also determined that the Department had implemented several project management practices to monitor the Facility's progress. For example, the FMP STR closely monitored Facility construction status; FMP project management used schedule and cost tracking tools as well as performed detailed invoice reviews; and the subcontractor, FMP, and the Department were in frequent communication with each other.

Subcontractor Technical Representative Activities

We found that the FMP STR closely controlled and monitored the Facility construction activities through work authorization forms and daily reports. The STR used the work authorization form to document planned daily tasks, including how the tasks would be performed, special surveillance requirements, and comments regarding the tasks. We reviewed all of the work authorization forms prepared for three judgmentally selected months and verified that they contained the required information and were signed by the appropriate parties. The STR also prepared daily reports to track real-time Facility construction status. We reviewed the daily reports associated with selected work authorization forms and verified that the STR was tracking the work performed, anticipated work, and issues in the daily reports.

FMP Project Management Tools

We determined that FMP project management used schedule and cost tracking tools as well as performed detailed invoice reviews. Specifically, we observed that FMP used a project schedule to track the projected and actual start and end dates for Facility design and construction activities. In addition, FMP developed a financial data sheet to track the Facility's capital project costs against the approved performance baseline. As for invoice review, we judgmentally selected four monthly invoices for testing. We noted that each invoice was reviewed and approved by the Facility Project Analyst and Contract Administrator. The Project Analyst certified that the services and/or materials were received and acceptance requirements were met. The Contract Administrator certified that the services and/or materials were billed in accordance with the contract. For the invoices we tested, we validated that the invoiced work was consistent with the work conducted for that period by reviewing associated work authorization forms, daily reports, and weekly production meeting reports.

Facility Management Communication

Finally, we noted that the subcontractor, FMP, and the Department were in frequent communication with each other. In particular, weekly meetings were held between the subcontractor and FMP Facility project team personnel, including the Facility Project Manager, Project Analyst, Contract Administrator, and STRs. We reviewed the minutes from a select number of weekly meetings from October 2017 through October 2018 and found they contained the signatures of the FMP Facility project team and the subcontractor meeting participants and documented discussions regarding construction costs, schedule, and work quality. We also learned that monthly meetings were held between the Federal Project Manager and FMP Facility project team. Department and FMP officials stated that monthly construction reports were reviewed during these meetings. We reviewed the construction reports from October 2017 to July 2018 and found that they summarized cost and schedule performance, major accomplishments, risk areas, and changes to the performance baseline. FMP also prepared quarterly construction reports, which were sent to the Federal Project Manager. These reports contained cost and schedule performance and other accomplishments.

Path Forward

Because nothing came to our attention to indicate that the Department would not meet its construction goals for the Facility, we are not making any recommendations.

Attachment

cc: Deputy Secretary
Chief of Staff
Administrator, National Nuclear Security Administration

OBJECTIVE, SCOPE, AND METHODOLOGY

OBJECTIVE

We conducted this audit to determine whether the Department of Energy is on track to meet its construction goals for the Kesselring Site Engine Room Team Trainer Facility.

SCOPE

We conducted the audit between May 2018 and August 2019. We conducted fieldwork on Kesselring Site Engine Room Team Trainer Facility construction management activities at the Department's Naval Nuclear Laboratory near Schenectady, New York and the Kenneth A. Kesselring Site in West Milton, New York. The audit was conducted under Office of Inspector General project number A18SR031.

METHODOLOGY

To accomplish the audit objective, we:

- Interviewed Department of Energy officials from the Naval Reactors Laboratory Field Office and contractor officials from the Naval Nuclear Laboratory;
- Reviewed applicable directives and guidance regarding project management;
- Compared the original Kesselring Site Engine Room Team Trainer Facility baseline schedule, cost, scope, and approved baseline changes to actual performance;
- Analyzed project management activities performed by Department and contractor personnel; and
- Judgmentally selected and reviewed work authorization forms, daily reports, financial data sheets, invoices, weekly meeting minutes, monthly construction reports, and quarterly construction reports.

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 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. We assessed controls over the data and determined that it was sufficiently reliable for the purpose of the audit.

Management waived an exit conference on August 22, 2019.

FEEDBACK

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