Office of Inspector General
United States Department of State

AUD-CGI-20-43 | Office of Audits | September 2020

Audit of the Bureau of Overseas Buildings Operations Process To Execute Construction Closeout Procedures for Selected Capital Construction Projects

CONTRACTS, GRANTS, AND INFRASTRUCTURE DIVISION

HIGHLIGHTS
Office of Inspector General
United States Department of State

AUD-CGI-20-43

What OIG Audited

Prior to closing out a capital construction project, such as building a new U.S. embassy, many critical requirements must be followed in accordance with Federal law and Department of State (Department) policy and guidance. The Department's Bureau of Overseas Buildings Operations (OBO), Office of Construction Management, is responsible for managing major construction projects and applying closeout procedures involving major systems commissioning, the certification of substantial completion, and activities leading to the certification of final acceptance.

The Office of Inspector General (OIG) conducted this audit to determine whether OBO personnel executed construction project closeout procedures in accordance with Federal, Department, and project-specific requirements. OIG performed fieldwork for this audit in the Washington, DC, metropolitan area as well as New Embassy Compound (NEC) London, the United Kingdom; NEC The Hague, the Netherlands; and NEC N'Djamena, Chad.

What OIG Recommends

OIG made 11 recommendations to improve OBO's execution of closeout procedures for capital construction projects. In a response to a draft of this report, OBO concurred with the recommendations offered and stated that it had taken, or planned to take, action to address them. On the basis of OBO's response, OIG considers five recommendations closed and six resolved pending further action. A synopsis of OBO's response to the recommendations offered and OIG's reply follow each recommendation in the Audit Results section of this report. OBO's response to a draft of this report is reprinted in its entirety in Appendix B.

September 2020
OFFICE OF AUDITS
CONTRACTS, GRANTS, AND INFRASTRUCTURE DIVISION

Audit of the Bureau of Overseas Buildings Operations Process To Execute Construction Closeout Procedures for Selected Capital Construction Projects

What OIG Found

OBO personnel did not consistently execute construction project closeout procedures in accordance with Federal, Department, and project-specific requirements at two of the three locations selected for this audit. Specifically, at NECs London and The Hague, OBO personnel did not ensure that major systems were commissioned prior to declaring the projects substantially complete, as required. In addition, when the projects were declared substantially complete, OBO personnel did not provide the construction contractor with a consolidated list of all remaining work to be performed, completed, or corrected before final acceptance. Furthermore, final completion activities performed at NECs London and The Hague, such as obtaining complete and accurate as-built drawings (drawings of the construction as actually completed) and tracking warranty items, need improvement. In contrast, OIG found that OBO personnel overseeing the construction of NEC N'Djamena generally followed construction closeout procedures. Final acceptance of the project occurred in October 2018.

The exceptions noted at NECs London and The Hague occurred for a variety of reasons, some of which are project specific. For example, at NEC London, a financial incentive to occupy the NEC because of a costly lease-back arrangement drove OBO personnel to deviate from typical closeout procedures. However, these conditions occurred for both projects, partly, because OBO personnel did not perform adequate quality assurance to identify and address schedule delays and their effect on the commissioning process. As a result, as of April 2020, the contractor had not completed all work required for final acceptance of NEC London, and the Project Director at NEC The Hague had not recommended to the Contracting Officer final acceptance of this project. For both projects, it has been more than 2 years since substantial completion was declared.

CONTENTS

OBJECTIVE

The Office of Inspector General (OIG) conducted this audit to determine whether the Department of State (Department), Bureau of Overseas Buildings Operations (OBO), personnel executed construction project closeout procedures in accordance with Federal, Department, and project-specific requirements.

BACKGROUND

According to the OBO Construction Management Guidebook, OBO's mission is to "provide safe, secure and functional facilities that represent the U.S. Government to the host nation and support [Department] staff in the achievement of U.S. foreign policy objectives. These facilities should represent American Values and the best American architecture, design, engineering, technology, sustainability, art, culture and construction execution."[1] OBO's Office of Construction Management is responsible for managing major construction projects with the aid of onsite personnel, and provides related services to ensure that such projects are completed on time, within budget, with proper safety and security, and in accordance with the terms of the contracts.[2] As part of its responsibilities, OBO executes construction closeout procedures involving major systems commissioning, the certification of substantial completion, and activities leading to the certification of final acceptance.

Federal Acquisition Regulation and Department Guidance

The Federal Acquisition Regulation (FAR) governs the Government procurement process, including construction contracting. FAR Part 36 prescribes policies and procedures unique to contracting for construction and architect-engineer services. It includes requirements for using certain clauses and standard forms that apply also to contracts for dismantling, demolition, or removal of improvements.

The OBO Construction Management Guidebook sets forth internal guidance, and policies for construction, and outlines responsibilities of Construction Management personnel. The Bureau of Administration, Office of the Procurement Executive (OPE), Overseas Contracting and Simplified Acquisition Guidebook provides guidance on how to award and administer common contracts and simplified acquisitions. Chapter 9 of the Guidebook outlines the Department's policies for contracting for construction and architect-engineer services.

Commissioning Team and the OBO Construction Project Closeout Process

The commissioning process begins during the pre-design phase and continues through the occupancy and operations phase. Commissioning activities for the building systems and assemblies commence at the time of award of a contract. Established tests and procedures are

[1] OBO, Construction Management Guidebook, Volume 1, Section 1.1, "OBO Mission and Background" 1-1 (May 2016).
[2] OBO, Construction Management Guidebook, at 21.

initiated to achieve the commissioning activities required during the pre-design, design, construction, transition, acceptance, and turnover phases of the project. The process includes, but is not limited to, pre-functional checks, start-up and energization, and performance testing of major systems.

Prior to closing out a capital construction project, such as building a new U.S. embassy, many critical requirements must be followed in accordance with Federal law and Department of State (Department) policy and guidance. Project closeout procedures involve major systems commissioning, certification of substantial completion, final completion activities such as verifying completion of the punch list, obtaining as-built drawings and conducting warranty inspections, and final acceptance of the project.[3] Before beginning the construction closeout process, a commissioning team with representatives from OBO, the construction contractor, post, and the independent commissioning agent is assigned to oversee the commissioning activities. According to the OBO Construction Management Guidebook, the goal of the commissioning process is to provide the U.S. Government with a high level of confidence that the building systems and assemblies have been planned, designed, procured, installed, tested, and adjusted in the prescribed manner to meet the design intent and specified performance.[4]

The commissioning team verifies that the work performed is in accordance with design intent of the construction project, is operationally efficient and maintainable, meets safety and security requirements, and will result in a complete and usable facility. Additionally, the team confirms that embassy maintenance personnel have been properly trained in operation and maintenance (O&M) of the building systems, as required by the contract.

Substantial Completion

According to the OBO Construction Management Guidebook, substantial completion is the point in time when the Project Director (PD) determines that the work is sufficiently complete and satisfactory, in accordance with the requirements of the contract documentation; that it may be occupied or used for the purpose for which it is intended; and only minor items such as touch-up, adjustments, and minor replacements or installations remain to be completed.[5] The PD verifies that the work is substantially complete through inspections, tests, and receipt of project deliverables such as as-built drawings and O&M documentation.

The beginning of the construction project closeout process occurs when the contractor notifies the PD in writing that construction work is substantially complete. Concurrently, the PD coordinates with OBO's Office of Fire Protection, Fire Protection Engineering Division, to perform progress

[3] OBO, Construction Management Guidebook, Volume 1, Section 3.3.9, "Commissioning" 3-48, Section 3.3.18, "Substantial Completion" 3-54, and Section 3.4 "Closeout and Final Completion" 3-67–3-69 (May 2016).
[4] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 2, "Commissioning Process and Procedures" 8 (May 2016).
[5] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 4, "Transition to Occupancy Activities," Appendix B, "Definitions" 30 (May 2016).

and acceptance inspections before issuing a Letter of Acceptance. In addition, representatives from OBO's Office of Facility Management's Elevator Management Program are responsible for certifying elevators, which includes validating equipment safety, performance, and compliance with specifications. The Bureau of Diplomatic Security inspects the project for security accreditation, which requires an OBO Fire Protection Engineering Division Letter of Acceptance. Without this accreditation, the facility cannot be occupied. Diplomatic Security issues a Certificate of Substantial Compliance once all security concerns have been resolved.

Upon completion of these inspections, the PD issues a Certificate of Substantial Completion, along with a list of the remaining minor unfinished items, referred to as a schedule of defects or "punch list," which the contractor must complete within 6 months.[6]

Final Acceptance Activities

As-Built Documents and Drawings

As-built drawings are drawings of the construction as actually completed, including all changes to the original design and details of differing site conditions. Post should keep a copy of these documents and drawings and send the original as-built drawings to OBO's Office of Operations and Maintenance, Area Management Division. The as-built documents and drawings become the permanent record documents for the facility.[7]

All as-built documents and drawings, as well as other related project documentation such as catalogs, operating manuals, maintenance procedures and instructions, warranties, guarantees, and spare parts, must be turned over to either the post General Services Officer or Facilities Manager as soon as available but no later than the time of final acceptance.[8]

Warranty Management

According to the FAR, the "warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession."[9] The PD or Senior Construction Executive and the Commissioning Agent should visit the project site 11 months after completion to determine that facility conditions are intact and functional before warranties expire at the 1-year mark.[10] The objectives of the inspection include but are not limited to:

[6] OBO, Construction Management Guidebook, Volume 1, Section 3.3.18, "Substantial Completion" 3-54 (May 2016).
[7] OPE, Overseas Contracting and Simplified Acquisition Guidebook, Chapter 9, Part III, Section N, Subsection 2, "Final Completion and Acceptance" 65 (December 2017).
[8] OBO, Construction Management Guidebook, Volume 1, Section 3.4.1, "As-builts and Related Project Documentation provided to Post" 3-67 (May 2016).
[9] FAR 52.246-21(b), "Warranty of Construction."
[10] OBO, Construction Management Guidebook, Volume 1, Section 3.4.5.2, "11-Month Visitation for Warranty" 3-68 (May 2016).

- To evaluate the effectiveness of the warranty management progress and all outstanding warranty issues.
- To evaluate current systems performance against commissioned performance using on-site tools, collected/historical performance data, and feedback from post O&M staff and facility occupants.
- To evaluate staff operational and maintenance methodologies and expertise, reinforce good operational and maintenance practices, and discourage poor practices.
- To reinforce training delivered at the end of construction and recommend staff training to enhance operational and maintenance expertise.
- To assist with technical expertise in documenting and planning for remediation/resolution of outstanding warranty and latent defect issues that remain.

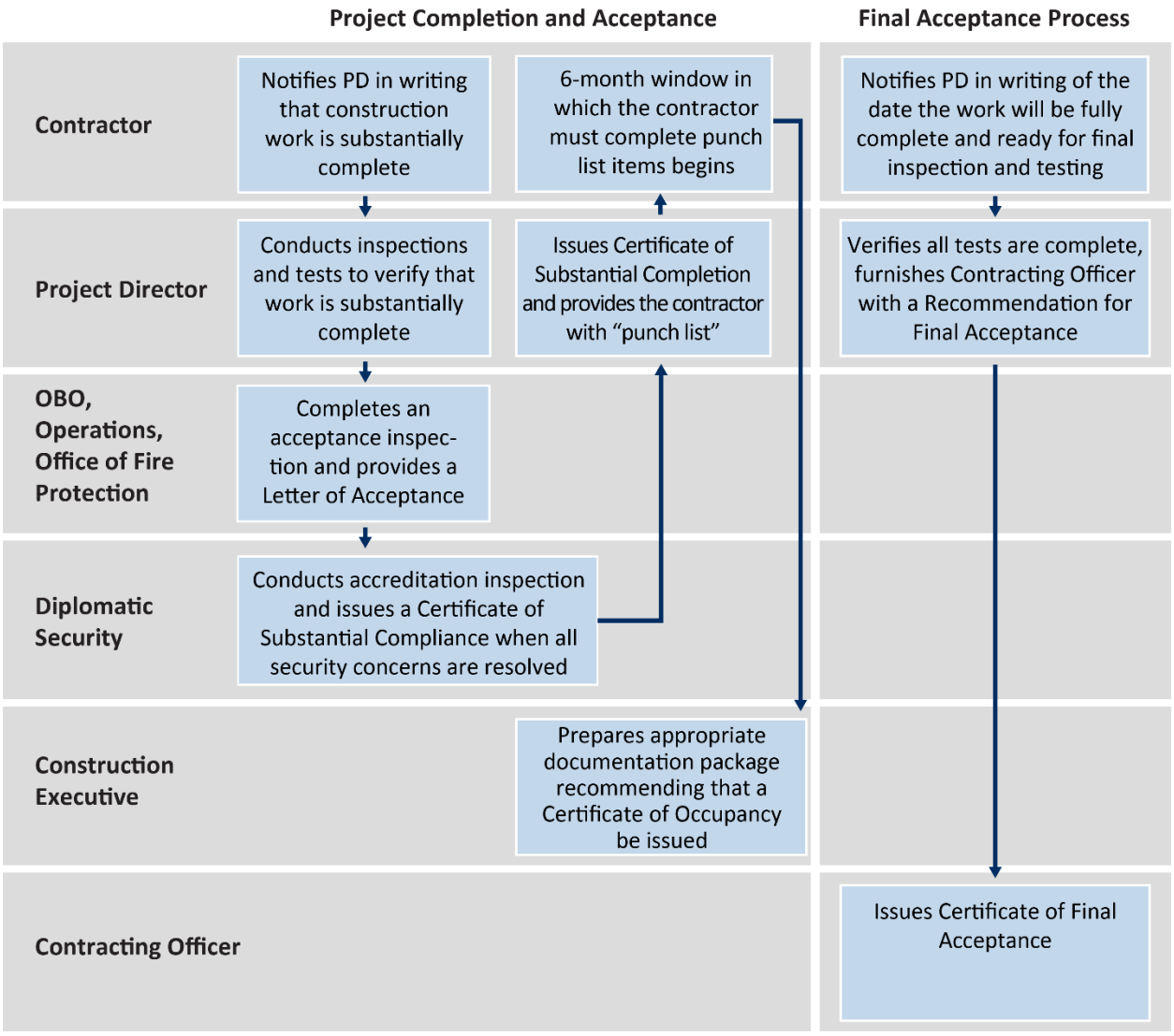
OBO's Construction, Facility, and Security Management Directorate's Office of Facility Management provides Facility Managers (FM) for all posts, as well as technical assistance and support for managing and maintaining diplomatic facilities abroad. FM responsibilities include performing maintenance and condition inspections, developing and engineering preventive maintenance programs, and providing hands-on technical support. The FM takes responsibility for operating and maintaining the facility no later than the day after the date of substantial completion. On the date of the Certificate of Occupancy, post begins to provide and pay for all O&M, security, and utility costs. The FM ensures that all scheduled maintenance is performed and fully documented in the Computerized Maintenance Management System to ensure that warranty coverage is not voided. In addition, the FM manages the warranty program and issue warranty requests that are fully documented and include as much diagnostic information directly to the contractor as required.

Final Acceptance

Although the contractor has 6 months to complete punch list items, the final steps of project completion and acceptance typically begin no later than 60 days after the Certificate of Substantial Completion is issued. The length of time depends on the contractor's ability to correct the items in the punch list. The process begins when the contractor notifies the PD in writing of the date the work will be fully complete and ready for final inspection and testing. The PD then verifies that all tests are complete; the items on the schedule of defects have been corrected; all work is complete; and the contractor has furnished all required deliverables, warranties, and releases. The PD then furnishes the Contracting Officer with a Recommendation for Final Acceptance. The Contracting Officer in turn issues the Certificate of Final Acceptance.[11] Figure 1 depicts OBO's construction project closeout process, beginning with the contractor's notification to the PD that work is substantially complete through final acceptance.

[11] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Section 4.4.3, "Final Acceptance" 3 (May 2016).

Figure 1: OBO's Construction Project Closeout Process Through Final Acceptance



Source: OIG generated from information obtained from OBO's Construction Management Guidebook regarding the construction closeout process.

OBO Capital Construction Projects Reviewed for This Audit

The OIG audit team conducted fieldwork at three New Embassy Compound (NEC) construction projects located in London, the United Kingdom; The Hague, the Netherlands; and N'Djamena, Chad.

NEC London

NEC London is situated on a 4.9-acre site in the Nine Elms Opportunity Planning area of London and includes a chancery, a consular section, support spaces, a U.S. Marine residence, access pavilions, and parking. The construction contract was awarded in April 2012 to BL Harbert International (BLHI) of Birmingham, AL. The final construction cost[12] of the project was $590.8 million. The construction project was hailed by OBO for its design, which incorporated sustainable features at the leading edge of practice, including aspirations for carbon neutrality, a self-sufficient water system, and goals for minimum certification as Leadership in Energy and Environmental Design (LEED®) "Gold."[13] Groundbreaking for the project occurred on November 13, 2013. OBO issued the Certificate of Substantial Completion on December 22, 2017. However, as of April 2020, the Department had not yet issued a Certificate of Final Acceptance.

Figure 2: Exterior of NEC London.
Source: Photograph from Embassy London Facebook.

In July 2020, OIG issued a Management Assistance Report[14] (see Appendix C) identifying design and construction deficiencies pertaining to the Combined Heat and Power System (CHP), the Wastewater Treatment Plant, the natural gas piping system, and the semi-circular pond on one side of the embassy. The identified deficiencies delayed or prevented the commissioning of major embassy systems and incurred additional costs for the Department. OIG made seven recommendations to ensure the deficiencies identified were addressed before final acceptance of the project. OBO concurred with the recommendations, and as of July 14, 2020, six of the seven recommendations had been implemented and closed, and one remained open, pending further action.

[12] Construction cost for each project is the initial contract award amount plus supplemental amounts added through contract amendments.

[13] According to the Green Building Certification Institute, LEED is the most widely used green building rating system in the world. Available for virtually all building project types, from new construction to interior fit-outs and operation and maintenance, LEED provides a framework that project teams can apply to create healthy, highly efficient, and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement.

[14] OIG, *Management Assistance Report: Execution of the New Embassy Compound London Construction Project Offers Multiple Lessons* (AUD-CGI-20-36, July 2020).

NEC The Hague

Figure 3: Exterior of NEC The Hague**.**
Source: Photograph from Caddell Construction website.

NEC The Hague is situated on a 10-acre site in the municipality of Wassenaar and includes a chancery, a U.S. Marine Corps residence, a utility building, and two access pavilions. The construction contract was awarded to Caddell Construction Company, Inc. of Montgomery, AL, on September 19, 2013. The final construction cost of the project was $134 million. Groundbreaking for the project occurred on May 28, 2014, and OBO issued the Certificate of Substantial Completion on November 24, 2017. However, as of April 2020, the Department had not issued a Certificate of Final Acceptance.

In September 2019, OIG issued a Management Assistance Report[15] (see Appendix D) that identified outstanding deliverables owed by the contractor 19 months after the project had been certified as substantially complete, including an incomplete lighting installation and the absence of a full spare parts inventory. Other deficiencies OIG identified included problems with an irrigation system, exterior walkway lights that could pose a tripping hazard to pedestrians, and the stainless-steel exterior façade exhibiting signs of corrosion on two buildings. OIG made five recommendations to correct the deficiencies identified before final acceptance of the project. OBO concurred with the recommendations, and as of March 12, 2020, two of the five recommendations had been implemented and closed, and three remained open, pending further action.

NEC N'Djamena

Figure 4: Exterior of NEC N'Djamena.
Source: Photograph from BLHI website.

NEC N'Djamena is built on a 12-acre site in the Chagoua neighborhood, southeast of downtown N'Djamena, and includes a chancery, a U.S. Marine Corps residence, a support annex/warehouse, a utility building, and facilities for the embassy community. The construction project was awarded on February 19, 2014, to BLHI. The final construction cost of the project was $166 million. Groundbreaking for the project occurred on March 19, 2015. OBO issued the Certificate of Substantial Completion on April 27, 2017, and the Certificate of Final Acceptance was issued on October 22, 2018.

[15] OIG, Management Assistance Report: Outstanding Construction Deliverables and Deficiencies Need Attention at New Embassy Compound The Hague, the Netherlands (AUD-CGI-19-38, August 2019).

AUDIT RESULTS

Finding A: OBO Personnel Did Not Ensure Major Systems Were Fully Commissioned Prior to the Issuance of the Certificate of Substantial Completion at NECs London and The Hague

OIG found that OBO personnel did not fully execute major systems commissioning[16] at two of the three locations selected for this audit. Specifically, at NECs London and The Hague, OBO personnel did not ensure that major systems were commissioned before declaring the projects substantially complete, as required. In contrast, OIG found that OBO personnel overseeing the construction of NEC N'Djamena ensured major systems were commissioned prior to declaring the project substantially complete. According to the OBO Construction Management Guidebook, the goal of the commissioning process is to provide the Department with a high level of confidence that the building systems and assemblies have been designed, installed, tested, and adjusted in the prescribed manner to meet the design intent and specified performance.[17] The exceptions noted at NECs London and The Hague occurred for a variety of reasons, some of which are project specific. For example, at NEC London, a financial incentive to occupy NEC London because of a costly lease-back arrangement with the former embassy property drove OBO personnel to deviate from typical closeout procedures. However, for both NECs London and The Hague, major systems were not fully commissioned, at least in part, because OBO personnel did not perform adequate quality assurance to identify and address potential causes for schedule delays and the impact that would have on the commissioning process. As a result, OIG found and reported in two separate Management Assistance Reports involving NECs London and The Hague (see Appendices C and D, respectively) that numerous building systems did not perform as intended when substantial completion was declared. Furthermore, although the contractor must complete the work contained on the punch list within 6 months, as of April 2020, the contractor at NEC London had not completed all required work, nor had the PD at NEC The Hague recommended that this project be referred to the Contracting Officer for final acceptance. For both projects, it has been more than 2 years since substantial completion was declared.

Major Systems Were Not Always Fully Commissioned

According to OBO's Construction Management Guidebook, commissioning activities, start-up testing, and training of the Government's operating and maintenance personnel must be completed before OBO issues a Certificate of Substantial Completion. In addition, the construction contracts for each of the three projects reviewed by OIG for this audit required the description of major building systems in the contractor's commissioning execution plan. However, OIG found that for both NEC London and NEC The Hague, OBO issued the Certificate

[16] Contracts identified major building systems within the commissioning plan that needed to be commissioned, such as domestic water heater systems and irrigation systems, among others.

[17] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 2, "Commissioning Process and Procedures" 8 (May 2016).

of Substantial Completion before the commissioning of major systems even though the systems could not be used for their intended purpose.

Major Systems Not Fully Commissioned at NEC London

On September 22, 2017, the construction contractor for the NEC London project submitted a request for the Certificate of Substantial Completion, which OBO granted on December 22, 2017. Approximately 1 month later, in a letter from OBO to the contractor dated January 24, 2018, OBO stated that when the Department declared substantial completion, several important commissioning activities were incomplete and various outstanding notices of deficiencies remained open. This letter confirms that OBO personnel were aware that more than minor touch-ups or adjustments remained and that the following major systems and installations had not been fully commissioned:

- **Fire Systems –** Automatic sprinkler protection and a building fire alarm system with automatic and manual detectors, plus visual and audible notification devices deployed throughout the main chancery building and the parking garage.
- **Elevators –** 10 electric traction lifts in the 11-story chancery and 1 electric traction lift and 1 hydraulic freight lift in the Service Compound Access Control building.
- **Telecommunication Lines and Equipment –** A comprehensive IT platform that allows seamless and secure communication, data transmission, and storage.
- **Architectural Lighting and Shade Control –** A computerized digital control system that monitors occupancy, temperature, and sunlight conditions to independently control and operate lighting and motorized window shades.
- **Pond –** An architectural and security feature of the new embassy that includes pumps, filters, and a piping system used to both fill and drain the pond.
- **Stone Pavers –** Cut stones that are laid in a geometric pattern, used on interior floors, exterior walkways, and driveways.

In addition to the major systems noted above, OIG reviewed the contractor's Commissioning Execution Plan for NEC London and found that additional systems were not commissioned or properly working at the time the PD declared the project substantially complete. Those systems included:

- **Wastewater Treatment Plant –** A wastewater treatment plant provided to treat all sanitary drainage within the building and provide reclaimed water (i.e., non-potable) for other uses within the building.
- **CHP –** Two 1,600 kilowatt-electric[18] natural gas generators located within a dedicated CHP plant room, designed to feed any excess electricity and hot water to the local grid once building demand was met.
- **Kitchen Equipment –** Natural gas-fueled cooking equipment installed in the cafeteria kitchen. (Due to the United Kingdom building code non-compliance issues, however, the

[18] One kilowatt-electric is 1,000 watts of electrical power.

original natural gas-fueled equipment could not be operated and had to be replaced with electric equipment.)

- **Membrane Roofing –** An engineered system designed to protect the building and its contents from the negative effects of weather, foreign objects, and the invasion of animals and other entities.

The exceptions noted at NEC London regarding the deviation from the typical commissioning process occurred for a variety of reasons. One of the most significant involved a financial incentive to occupy NEC London punctually because of a lease-back arrangement for the former embassy property. Specifically, the Department sold its former embassy property located at Grosvenor Square to Qatari Diar, a real estate investment company, with an original lease-back agreement until February 2017, after which the Department would owe additional rent every 6 months. Because construction was not completed by February 2017, as contracted, the Department had to extend the lease-back option of the former embassy property for an additional year at a cost of $34 million. Moreover, approximately $19.8 million in rent would have been assessed for an additional 6-month period had the Department not vacated by the end of February 2018. This created an obvious financial incentive to occupy NEC London as quickly as possible, and this consideration contributed to the decision of OBO personnel to issue the Certificate of Substantial Completion for NEC London in December 2017. According to OBO's "New London Embassy Path to Full Occupancy and Final Acceptance" information memo, accepting the new embassy's substantial completion and beneficially occupying the facility was determined, at the time, to be in the best interests of the Department to avoid incurring costly lease-back payments by remaining at the former embassy property.

In addition, because of the complexity and the magnitude of the NEC London project, many design adjustments and changes were required during construction. The budgeted cost of NEC London was $1.022 billion, and OBO chose a delivery method known as Early Contractor Involvement (ECI) to execute this construction project. ECI is a form of collaboration by which the contractor works to assist the U.S. Government and the design team during the design and construction phases of the work. Early Contractor Involvement is a contracting method that provides for the early engagement of the construction contractor. ECI is intended for use on those projects which are sufficiently unique, complex, and/or time critical. The NEC London project was described as a cutting-edge project as part of OBO's Design Excellence program that contained many innovative design elements. As changes were required, the Department issued modifications to the contract, but not all modifications considered the additional time required to perform the added work related to the major building systems. Without time extensions to complete the additional work included as part of contract modifications, the contractor could not be held responsible for completing additional work within the project's original timeframe. This factor, along with the need to vacate the existing embassy before incurring additional lease costs, pressured OBO personnel to accept major building systems before they were fully commissioned. As reported in OIG's Management Assistance Report regarding NEC London[19] (see Appendix C), several major systems were not commissioned or

[19] AUD-CGI-20-36, July 2020.

operating at the time substantial completion was declared. This ultimately led to additional, unexpected costs.

Furthermore, major systems were not fully commissioned at NEC London, at least in part, because OBO personnel did not perform adequate quality assurance to identify and address potential causes for schedule delays and the effect these delays had on the commissioning of major building systems. For example, the contractor submitted a request for equitable adjustment on February 8, 2019, stating that "[o]n December 22, 2017, the [U.S. Government] declared Substantial Completion, 369 days after the planned and approved completion date. The major delaying events caused by the [U.S. Government] can generally be attributed to two species of delay: (1) Delays due to incomplete [U.S. Government]-provided design documents; and (2) Delays due to evolving security requirements and flaws in OBO's secure material procurement program." The request included an additional 259 days of performance to complete the project and a mitigation amounting to $82,708,652. The Department negotiated a settlement and issued two contract modifications. First, the Department modified the contract on May 2, 2019, to grant an additional 279 days to the schedule and payment that included 200 compensable days at a cost of $10,970,600. A second modification was made on August 1, 2019, which awarded the contractor an additional $7,159,778.

Major Systems Not Commissioned at NEC The Hague

On November 20, 2017, the contractor submitted to OBO a request for the Certificate of Substantial Completion. The PD declared the project substantially complete on November 24, 2017, even though some major systems had not been fully commissioned. Those systems included:

- **The irrigation system –** An engineered system consisting of pumps, piping, sprinklers, and controllers for watering plants and the lawn.
- **The chiller system –** A dedicated heat reclaim chiller, plus an air-cooled chiller to generate chilled water for the air handling system that cools the building.
- **The water treatment plant –** A domestic water treatment system that includes recirculation pumps, treatment pumps, booster pumps, tanks, filters, absorbers, water softeners, disinfection system, and controls.
- **The hot water heater system –** A hot water heating system to generate hot water for the facility, consisting of a condensing boiler, pumps, tanks, filters, water softeners, disinfection system, instantaneous electric heater, and controls.

The lack of fully commissioned major systems at NEC The Hague involved issues like those at NEC London. These included design issues as well as the fact that OBO personnel did not perform adequate quality assurance to identify and address potential causes for schedule delays and the effect of those delays on the commissioning of major building systems. For example, the irrigation system for the compound did not have adequate filtration to prevent clogging caused by debris—including dirt and algae—in the natural pond used to provide water for irrigation. Because the pumps selected and purchased did not have adequate filtration, the pump system faltered, and the irrigation system could not be used as designed and built. In

another example, OIG noted that the stainless-steel exterior façades on the Access Control facility and the new office building were rusting approximately 17 months after substantial completion of construction was declared. In addition, the water treatment plant needed additional work because of the lack of water flow through a piping system that was built to OBO standards. However, it did not provide enough flow, resulting in non-potable water at some locations within the NEC.

Major Systems Were Fully Commissioned at NEC N'Djamena

The construction contractor for NEC N'Djamena, BLHI, provided a memorandum dated April 22, 2017, to the OBO PD stating that the project had achieved substantial completion in accordance with the contract requirements. According to the project requirements, 37 minor activities remained open after the PD awarded the Certificate of Substantial Completion. According to the FM, only minor challenges were encountered during commissioning at NEC N'Djamena. For example, the carpet tiles in the health unit needed to be re-glued, the high-efficiency particulate air filters wore out much faster than anticipated, and the generators required minor work. OIG confirmed that no open deficiencies were noted on the commissioning action list that would have an effect on or prevent the building occupant from using the facility for its intended purpose, and final acceptance of the NEC N'Djamena construction project occurred in October 2018.

Conclusion

Commissioning entails the organization and control of the activities required to ensure that the transition period between completion of construction and occupancy will proceed without delay and will result in a complete and usable facility that meets all functional requirements. To achieve this, most commissioning activities should be targeted for completion by the project's substantial completion date, particularly major building systems that are vital to the functionality of the facility. Attention to quality assurance and the resources necessary to execute robust oversight is paramount, especially when construction contracts are complex, large scale, and costly. This commissioning process was not performed adequately at NECs London and The Hague, and substantial completion was declared before major building systems were fully commissioned. As a result, substantial effort and additional resources have been expended to remedy the deficiencies at NEC London. Moreover, as of April 2020, final acceptance of the construction projects at both NECs London and The Hague had not been realized more than 2 years after substantial completion was declared, a process that is intended to take 6 months or less. In an earlier report,[20] OIG identified similar deficiencies with the fact that major systems were not commissioned before the issuance of substantial completion. Because the recommendations made to address that issue had not been closed as of May 2020, OIG is making the following related recommendations:

> **Recommendation 1:** OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors assigned

[20] OIG, Audit of Bureau of Overseas Buildings Operations' Oversight of New Construction Projects at the U.S. Embassy in Kabul, Afghanistan (AUD-MERO-18-17, January 2018).

to execute a construction project to establish attainable project milestones and update those milestones when contract modifications are executed to ensure all major building systems are tested and commissioned before issuing the Certificate of Substantial Completion.

Management Response: OBO concurred with the recommendation, stating that all systems should be complete and commissioned at substantial completion. OBO noted that the current contract "Division 1" specifications are in line with OIG's recommendation. OBO further noted that modifications and changes to milestones are required to be captured in the Project Execution Schedule for each project.

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed the updated "Division 1" requirements for managing the Project Execution Schedule. If OBO personnel follow the established procedures to establish and update project milestones and OBO management monitors compliance with those procedures, major building systems would be tested and commissioned prior to substantial completion to the extent possible. No further action regarding this recommendation is required.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Director to justify and document the decision to issue the Certificate of Substantial Completion before all major building systems are tested and commissioned, including how such decisions influence project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

Management Response: OBO concurred with the recommendation, stating that an update to OBO's Policy and Procedures Directive is scheduled for completion by the end of December 2020, which will include "the authority, requirements, and procedures for beneficial occupancy, as allowed by the FAR but not previously defined in OBO policy."

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that OBO established and implemented procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the PD to justify and document the decision to issue the Certificate of Substantial Completion before all major building systems are tested and commissioned.

Finding B: OBO Personnel Did Not Promptly Provide the Contractor With a Consolidated List of Work To Be Performed, Completed, or Corrected After Substantial Completion at NECs London and The Hague

OIG found that OBO personnel at NECs London and The Hague did not provide the construction contractor with a consolidated list of remaining work to be performed or corrected after the issuance of the Certificate of Substantial Completion. In contrast, OIG found that OBO personnel overseeing the construction of NEC N'Djamena provided the contractor a complete "punch list," also known as a schedule of defects, in accordance with OBO guidance. A punch list item is typically a minor defect that needs to be corrected, adjusted, or replaced before a Certificate of Final Acceptance for the construction project can be issued. According to the OBO Construction Management Guidebook, the Certificate of Substantial Completion begins a 6-month window, during which the contractor must complete punch list items.[21] Work items that are not completed or corrected but are not included on the punch list following substantial completion are considered accepted and not the general responsibility of the construction contractor.

The exceptions noted at NECs London and The Hague occurred, in part, because OBO personnel were not attentive when inspecting the contractor's work and communicating a consolidated punch list to the contractor to specify what needed to be performed, completed, or corrected after the issuance of the Certificate of Substantial Completion. As of April 2020, final acceptance of the construction projects at both NECs London and The Hague remain pending more than 2 years after the issuance of the Certificate of Substantial Completion.

Complete and Accurate Punch List Was Not Always Provided

Before OBO declares that a construction project has achieved substantial completion, a detailed inspection must be performed on all work and a list of deficiencies developed.[22] Each contract reviewed by OIG for this audit required OBO to provide the contractor with a punch list of minor items designated as remaining to be performed, completed, or corrected before the work would be finally accepted. According to the OBO Construction Management Guidebook, the punch list or schedule of defects should be completed within 6 months of substantial completion and must be managed by the PD until the contractor completes the work.[23] OIG found that when the projects at both NEC London and NEC The Hague were declared by the PD to be substantially complete, a consolidated and comprehensive punch list had not been prepared by OBO and presented to the contractors. This occurred, in part, because OBO personnel did not consistently track outstanding items and communicate a consolidated punch list to the contractor. Without providing a complete punch list of all remaining items to be

[21] OBO, Construction Management Guidebook, Volume 1, Section 3.3.18, "Substantial Completion" 3-54 (May 2016).
[22] OPE, *Overseas Contracting and Simplified Acquisition Guidebook*, Chapter 9, Part III, Section N, Subsection 1, "Substantial Completion" 63 (December 2017).
[23] OBO, Construction Management Guidebook, Volume 1, Section 3.3.18, "Substantial Completion" 3-54 (May 2016).

performed, completed, or corrected, there is increased risk that contractually required work will go unaddressed by the construction contractor. In addition, the contractor may not honor any requests for additional work beyond what is included on the punch list at the time the PD declared substantial completion because the FAR only permits the additional inclusion of items classified as latent defects, fraud, and gross mistakes amounting to fraud subsequent to acceptance.[24]

Punch Lists Incomplete at NEC London

According to the FAR, the contractor is responsible for controlling the quality of services and tendering only those services that conform to the contract requirements.[25] Government agencies ensure that contracts include inspection and other quality requirements, including warranty clauses to protect the Government's interest.[26] The Government must conduct quality assurance before acceptance and should reject nonconforming work.

In keeping with these standards, each contract reviewed by OIG identified the contractor's responsibility for quality control and the Government's responsibility for quality assurance. The contracts all required the contractor to implement an appropriate inspection system that would be carried out by supervisory staff. Any shortcomings or substandard conditions were to be promptly corrected and conditions beyond contractor responsibility should have been brought to the attention of the Contracting Officer or the Contracting Officer's Representative. The Contracting Officer's Representative was required to perform inspections of the contractor's work to determine if it was being performed in a satisfactory manner. OBO assigned the PD onsite at the project to fulfill this role on behalf of the Department. In addition, according to the OBO Construction Management Guidebook, "The composition and number of technical personnel on the PD's staff will depend on the requirements of the project. The staff typically includes civil/structural, mechanical, and electrical disciplines."[27]

OIG found that, for NEC London, the Certificate of Substantial Completion was issued in December 2017 and was accompanied by 14 separate "Notices of Deficiencies" containing more than 1,400 individual items. Each Notice of Deficiencies varied in format, and the items on the notices were inconsistently tracked, which made it difficult for OIG to determine which items remained open and which had been addressed and closed.

OIG made several requests to OBO for a consolidated punch list and finally received such a list in October 2019. However, the list provided did not represent a truly consolidated list because the documentation provided included separate lists from OBO Fire and Elevator inspections. OIG also found items that were incorrectly omitted from the punch list. For example, OIG reviewed inspection reports performed by third-party contractors and noted deficiencies that were not included on the punch list and provided to the contractor when the PD provided a Certificate of Substantial Completion. This occurred, in part, because of a lack of quality

[24] FAR 52.246-12(i), "Inspection of Construction."
[25] FAR 46.105(a)(1),(2), "Contractor Responsibilities."
[26] FAR 46.102(a), "Policy."
[27] OBO, Construction Management Guidebook, Volume 1, Section 3.1.2, "Site Staff" 3-1 (May 2016).

assurance and the timely execution of inspections of the contractor's work. Specifically, once the contractor submits the request for the Certificate of Substantial Completion, a walk-through of the project is to be conducted along with all required inspections. During this walk-through, all items needing completion or correction are to be added to a consolidated punch list to be presented to the contractor with the Certificate of Substantial Completion. This did not occur at NEC London.

Lack of Quality Assurance Before Issuance of the Certificate of Substantial Completion

OIG found that a lack of quality assurance, and particularly inspections of the contractor's work, led to unidentified construction defects that should have been included on the punch list for NEC London but were not.

According to OBO officials, the NEC London project sometimes did not have the appropriate personnel onsite to conduct full inspections of the contactor's work. For example, according to post officials, the OBO electrical engineer assigned to the NEC London construction project left the site and was not replaced for 14 months. During this time, no electrical engineer was on site to maintain oversight of contractor and subcontractor electrical engineers.

OBO officials acknowledged, the NEC London project was complex and large in scope. The assigned level of oversight staff should have been commensurate with the project's size and complexity, and it would have been prudent for OBO to add additional quality assurance controls, such as workmanship inspections, to ensure proper construction and installation by the contractor. For example, the exterior façade of NEC London was a unique design that had never been used before. Specifically, the contract contained requirements for a high-performance façade using laminated glazing and an outer envelope of ethylene tetrafluoroethylene, construction techniques and materials that were designed to prevent excessive solar gain and to mitigate glare and uniformly distribute daylight throughout the building. The Statement of Work noted that elements of the project's exterior design "in some cases involve non-standard materials and materials applications which are unprecedented." Although quality control is the responsibility of the contractor, quality assurance is the responsibility of OBO. Given such cutting-edge design and construction, and the limited experience with the oversight of such evolving technologies, additional OBO staffing and oversight of the contractor's work was necessary and prudent.

OBO officials acknowledged, however, that effective quality assurance of the façade was not performed before issuing the Certificate of Substantial Completion. According to OBO officials, an inspection of the building's façade was not undertaken before substantial completion was declared because the exterior scaffolding had been removed before the inspection could occur, so they did the best they could observing from the ground. OBO officials added that their field office observed the installation of the building façade, but the PD did not recognize the value of additional inspections to commission the system, as required by the contract.

In addition, according to a London Embassy Facilities Management official, the original PD left London before construction was completed and was not immediately replaced, which created a

gap in critical staffing that made finishing the project and closing out punch list items difficult. In April 2019, the FM stated that he did not know who the current PD or COR was for the project. As a collective result, oversight of the construction process and quality assurance over contractor work was inadequate, and punch list items were not properly identified and communicated to the contractor promptly following the issuance of the Certificate of Substantial Completion at NEC London.

NEC The Hague Deviated From Prescribed Punch List Procedures

The Certificate of Substantial Completion for NEC The Hauge was issued in November 2017. According to OBO personnel and the contractor's warranty manager, a verbal agreement between the OBO PD and the contractor kept the punch list open so that items could be added after the date substantial completion was declared. Although the agreement did not have a date that items could no longer be added, according to an OBO official, it was later agreed that no additional items would be added after July 2018. The same OBO official noted that the initial punch list had more than 2,000 items.

This deviation from OBO closeout procedures came with risks to the Department. The FAR only permits the additional inclusion of items classified as latent defects, fraud, and gross mistakes amounting to fraud after acceptance.[28] On OBO projects, substantial completion typically triggers the start of the 1-year General Contractor Warranty. By deviating from OBO closeout procedures and executing a nonbinding, verbal agreement, the Department was at risk that the contractor would not accept responsibility for legitimate items identified after substantial completion was declared. For example, the contractor could claim that an item was accepted as is or that an item would be a warranty item that would not need to be completed before final acceptance unlike a punch list item that is contractually required to be complete before final acceptance. In this instance, OIG obtained no evidence identifying specific negative consequences. For example, as of June 2019, approximately 19 months after OBO issued the Certificate of Substantial Completion, only two punch list items needed to be completed: (1) removing a curb and lowering a sidewalk to smoothly transition to the main roadway in front of the compound and (2) providing lighting for bench seats along an embassy compound walkway that was improperly installed below the seating. As of April 2020, however, final acceptance of the NEC The Hague project remains pending more than 2 years after substantial completion was declared.

Punch List Items Were Addressed at NEC N'Djamena

At the time substantial completion was declared, OBO provided the contractor with a complete punch list containing approximately 600 items of minor defects in need of completion or correction before final acceptance. These minor defects included, for example, the need to install a missing electrical fixture, touch up paint at an entrance frame and door, and install required disconnect switches for the wastewater treatment system. According to the contractor's request for substantial completion, all open items had estimated completion dates between April and June 2017. No items were added to the punch list after substantial

[28] FAR 52.246-12(i), "Inspection of Construction."

completion. This project generally followed OBO closeout procedures because of adequate quality assurance and early involvement of the Post Facilities Management personnel and the commissioning agent. OIG confirmed that all items required to be furnished by the contractor were delivered prior to final acceptance.

Conclusion

A punch list item is typically a minor defect that needs to be performed, completed, or corrected before a Certificate of Final Acceptance for the construction project can be issued.[29] OIG found that both NEC London and NEC The Hague deviated from prescribed procedures for preparing a consolidated punch list. As a result, as of April 2020, final acceptance of these construction projects had not been realized more than 2 years after substantial completion was declared, a process that is intended to take 6 months or less. Although OIG recognizes that multiple factors have contributed to the reasons final acceptance has not occurred, OIG concludes that one contributing factor was the fact that the Department did not follow procedures to provide a consolidated punch list promptly following the issuance of the Certificate of Substantial Completion. OIG is therefore offering the following recommendations:

> **Recommendation 3:** OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures requiring Project Directors assigned to execute a construction project to ensure that a complete and accurate punch list is provided to the contractor with the issuance of the Certificate of Substantial Completion.
>
> **Management Response:** OBO concurred with the recommendation, stating that an update to the OBO Construction Management Guidebook is scheduled to be released by the end of January 2021. OBO stated that the updated Guidebook will emphasize the importance of a complete and accurate punch list.
>
> **OIG Reply:** On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that OBO established and implemented procedures requiring PDs assigned to execute a construction project to ensure that a complete and accurate punch list is provided to the contractor with the issuance of the Certificate of Substantial Completion.
>
> **Recommendation 4:** OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Directors to justify and document the decision to issue the Certificate of Substantial

[29] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 4, "Transition to Occupancy Activities," Appendix B, "Definitions" 30 (May 2016).

Completion without promptly providing a consolidated, complete, and accurate punch list to the contractor, including the impact of such decisions on the projected final acceptance date of the project and the additional costs to be incurred as a result.

Management Response: OBO concurred with the recommendation, stating that an update to the OBO Construction Management Guidebook is scheduled to be released by the end of January 2021. OBO stated that the updated Guidebook will emphasize the importance of a complete and accurate punch list, including examples and procedures to follow if deviation from the policy is required.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that OBO established and implemented procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require PDs to justify and document the decision to issue the Certificate of Substantial Completion without promptly providing a consolidated, complete, and accurate punch list to the contractor.

Recommendation 5: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement staffing plans for all capital construction projects, especially those projects that are complex, large scale, and costly (such as New Embassy Compound London) to ensure that the staff assigned are available and onsite at key junctures of the construction project to ensure quality assurance is effectively performed and project milestones are met.

Management Response: OBO concurred with the recommendation, stating that, in coordination with the Bureau of Global Talent Management, it has created standard job descriptions for OBO Construction Management field staff, which should improve the hiring process for such staff.

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. According to OBO officials, staffing plans are required for all overseas construction projects and those staffing plans are updated as changes occur; however, OBO has had difficulty in filling all positions. OIG reviewed the standard job descriptions for OBO Construction Management Field staff created by OBO in coordination with the Bureau of Global Talent Management. Applying these standard job descriptions should improve the hiring process for OBO Construction Management field staff. The actions taken meet the intent of the recommendation. No further action regarding this recommendation is required.

Recommendation 6: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from established staffing plans for capital construction projects, that require the Project Director to document the deviation from the staffing plan, including the effect of such

decisions on project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

Management Response: OBO concurred with the recommendation, stating that quality assurance and contract enforcement are impacted by staffing shortfalls, and OBO uses temporary duty assignments and third-party contractors to support projects. OBO also stated that an update to the OBO Construction Management Guidebook, scheduled to be released by the end of January 2021, will include procedures for PDs to follow if understaffing threatens project quality assurance.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that OBO established and implemented procedures, when circumstances warrant deviation from established staffing plans for capital construction projects, that require the PD to document the deviation from the staffing plan, including the effect of such decisions on project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

Finding C: Improvements Are Needed in the Performance of Activities After Substantial Completion To Achieve Final Acceptance

OIG found that the performance of final acceptance activities by OBO personnel at NECs London and The Hague need improvement. Specifically, OIG found that the as-built drawings[30] at both NEC London and NEC the Hague were incomplete and inaccurate. At The Hague, according to the FM, the as-built drawings did not represent the as-built configuration of the car wash, among other issues that were identified when performing maintenance. With respect to warranty management, OIG found that the punch list and the warranty lists at NECs London and The Hague were combined, making it difficult to reconcile contract requirement deficiencies and verify completion status. In addition, sign-off disposition with dates and comments was not consistent for tracking completion of defects. Like other findings in this audit, the deficiencies noted occurred, in large part, because of inattention to quality assurance. In addition, the warranty and punch list tracking process was not standardized for all projects. Furthermore, OBO personnel failed to verify completeness and accuracy of the as-built documents and drawings submitted by the contractor. However, OIG also determined that OBO contract requirements for preparing complete and accurate as-built documentation and drawings could be improved, including by requiring the use of electronic format for maintaining as-built documents and delivering record documents and drawings throughout the construction process.

[30] According to the Overseas Contracting and Simplified Acquisition Guidebook, Chapter 9, as-built documents and drawings are specific to the construction as actually completed, including all changes to the original design and details of differing site conditions. Post is to keep a copy of these documents and drawings and send the original as-built documents and drawings to OBO's Office of Operations and Maintenance, Area Management Division. The as-built document and drawings become the permanent record documents for the facility. Part III, Section N, Subsection 2, "Final Completion and Acceptance" 68 (December 2017).

In contrast, OIG found that OBO personnel overseeing the construction of NEC N'Djamena generally followed procedures related to final acceptance activities and implemented practices to advance the project to final acceptance. In addition, OIG noted that the early involvement of the FM at post during the construction facilitated the warranty process and progress toward final acceptance. As a result, only the NEC N'Djamena project has achieved final acceptance; in contrast, as of April 2020, the contractor had not completed all work required for final acceptance at NEC London, and the PD at NEC The Hague had not recommended final acceptance of this project, more than 2 years after both projects were declared substantially complete.

Procedures for Final Acceptance Activities at NEC London

According to OBO's Construction Management Guidebook, the final steps of project completion and acceptance typically begin no later than 60 days after the Certificate of Substantial Completion is issued.[31] The Substantial Completion letter starts a 6-month window for the contractor to complete items on the schedule of defects. Once the contractor notifies the PD that all work is complete and ready for final inspection and testing, the PD verifies that all tests are complete, the items on the schedule of defects have been corrected, all work is complete, and the contractor has furnished all required deliverables—including as-built drawings, spare parts, and system entries into the computerized maintenance management system—as well as all warranties and releases.[32] In addition, although not a requirement for the recommendation of final acceptance, warranty management begins at the time of substantial completion and continues until all warranties expire.

OIG found that at NEC London the as-built drawings were incomplete and inaccurate. In addition, the contractor did not populate the computerized maintenance management system with all systems prior to substantial completion, as required. Furthermore, OIG found that the warranty management process employed at NEC London was inadequate. Below are details related to these conditions.

As-Built Documents and Drawings

Various design adjustments and changes were required during construction. It is very important from a Facilities Management perspective to ensure that all these changes are captured and reflected in the as-built drawings to ensure that needed repairs or modifications to the installed systems can be accomplished without first having to locate missing or misidentified components. This is especially important in emergency scenarios where electrical or mechanical systems may need to be shut down in an expedient manner.

[31] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Section 4.4.3, "Final Acceptance" 3 (May 2016).

[32] OBO, Construction Management Guidebook, Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Section 4.4.3, "Final Acceptance" 3 (May 2016).

OIG found the as-built drawings for NEC London did not depict as-built conditions. In many instances, a note was simply added to the drawing that referenced a Request for Information or a contract modification. Facilities Management personnel, however, generally do not have access to these types of documents, especially years after project acceptance and turnover, when such information may be needed to access or modify the existing systems. Therefore, the practice employed at NEC London to depict as-built conditions was of limited benefit.

In addition, OIG identified areas of the embassy's roof where items were not installed in accordance with the contract requirements. The as-built drawings submitted by the contractor, however, did not always reflect the actual as-built conditions of some of the installed items. For example, the as-built drawings, Figure 5, of a communications antenna on the roof and a photo of the actual antenna as-installed, Figure 6, show a significant difference. The Figure 5 drawing shows a metal flashing that was to be installed between the concrete pad and the base of the antenna mounting baseplate. That flashing completely covers the concrete pad, and the four bolts attaching the baseplate to the concrete pad pass through the flashing. The penetrations are then closed with sealant. However, according to a construction engineer working with the audit team, the contractor did not install the flashing. Instead, as shown in Figure 6, the contractor installed the roofing material over the baseplate and the concrete pad and then tried to make the roofing material conform to the shape of the baseplate and mast. Such installation procedures were not consistent with what is depicted in the as-built drawing.

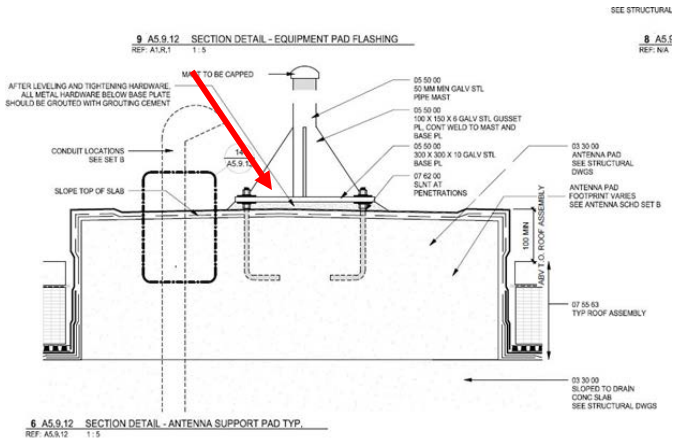


Figure 5: Equipment Pad Flashing NEC London.
Source: Provided by OBO.

Figure 6: Antenna on roof of NEC London.
Source: OIG photograph taken April 2019.

Global Maintenance Management System[33]

Post begins to provide and pay for all O&M on the date of occupancy, and the FM must ensure that all scheduled maintenance is performed and fully documented in the Computerized

[33] GMMS is an application that replaced the legacy WebPASS Work Order for Windows as the standard automated system supporting the Department's requirements for planning, managing, and accomplishing facility management activities overseas. OBO, Facility Management Guidebook, "Global Maintenance Management System (GMMS)," 105 (August 23, 2017).

Maintenance Management System to ensure that warranty coverage is not voided.[34] Accordingly, it is imperative that all system information and maintenance requirements are complete at the time of substantial completion. In addition, according to the construction contract, the contractor must load the Computerized Maintenance plan into the post's work order application 60 days before substantial completion. This plan includes information such as what maintenance needs to be completed at what times and intervals for the various systems installed in the embassy. However, according to London post officials, the contractor did not load complete and final system requirements into the Global Maintenance Management System (GMMS) prior to the issuance of substantial completion. Instead, Facilities Management personnel manually entered the data using the system operation and system. OBO issued a Notice of Deficiency regarding the GMMS to the contractor in September 2017, which was pending closure in October 2019, 22 months after substantial completion was declared. As a result, during the 11-month London warranty inspection, the warranty team noted the lack of a complete and operational GMMS prior to occupancy that created difficulty in transitioning to regular maintenance operations. Without complete information in GMMS,[35] maintenance cannot be properly scheduled, which jeopardizes installed systems and places applicable manufacturer warranties at risk.

Warranty Management

The principal purposes of a warranty in a Government contract are to delineate the rights and obligations of the contractor and the Government for defective items and services and to foster quality performance.[36] Unlike the deficiencies identified on the punch list provided at substantial completion, the completion of warranty items is not necessary for the recommendation for final acceptance by the PD.

Before conducting the 11-month warranty inspection at NEC London in November 2018, the Department commissioned two third-party contractors to conduct inspections on the building's rain cladding and tensioned sails. The contractor inspecting the rain cladding identified more than 700 defects, including missing restraint lugs and improperly installed, missing, or damaged weatherproofing gaskets. The contractor inspecting the tensioned sails listed in its inspection report 30 types of construction phase defects and more than 1,200 individual deficiencies, including wrinkles, splits, and tears in the sails and several loose wind cables. Additionally, the inspectors found missing, improperly installed, or incorrectly sized nuts, bolts, and clamps used to secure the sail panels, which caused broken or missing fittings. Although some items identified in these two inspections could be considered warranty items, some of the items could be considered construction defects that should have been identified and added to the punch list at substantial completion. However, the issues noted above were not identified and addressed before declaring NEC London substantially complete because OBO did not conduct

[34] OBO, Construction Management Guidebook, Volume 1, Section 2.5.5.7, "Warranty Management," 2-52 (May 2016).
[35] GMMS contains systems and equipment information, maintenance schedules, warranty data and spare parts lists.
[36] FAR 46.702(a)(1).(2), "General." FAR 46.7, "Warranties," provides guidance on warranty use in contracts and solicitations.

an effective quality assurance inspection of the façade before issuing the Certificate of Substantial Completion.[37] Had the construction deficiencies been identified prior to substantial completion, OBO should have put the deficiencies on the punch list to be corrected. This would have obligated the contractor to remedy all the construction defects as a contracted requirement before final acceptance rather than a warranty item that could possibly be denied.

In addition, OIG found that some of the items on the punch list (as noted before, there was not one consolidated punch list but 14 separate lists) related to warranty items. Likewise, some of the items listed on the warranty list should have been identified as punch list items. Eventually, OBO and the contractor agreed to combine the punch list and the warranty list[38] because, according to OBO officials, this would make it easier to track both. However, because OIG identified items that appeared to have been marked as defects and claimed as warranty items and vice versa, it was difficult to identify the punch list contractual requirements. In fact, combining the issues in this way was inconsistent with OBO Construction Alert A-2010-06, which states that the contractor shall not be allowed to view the Schedule of Defects as "warranty issues."[39] In addition to failing to follow its own policy, this practice makes it difficult for OBO to hold the construction contractor accountable for contractual obligations to address all punch list items before final acceptance.

Furthermore, spare materials and parts are required for operating, maintaining, and repairing building systems and installed equipment. OIG found that, at NEC London, the contractor failed to provide the required materials and spare parts. For example, in OBO's response to the contractor's request for substantial completion declaration for NEC London, OBO stated that the contractor had not turned over to the Government spare materials, as required by the contract. Without a complete set of spare parts, the Department could not promptly perform the scheduled maintenance of NEC London systems, which also puts the warranty terms of these systems in jeopardy.

Final Acceptance Activities at NEC The Hague

OIG found that at NEC The Hague the as-built drawings were incomplete and inaccurate. In addition, the contractor did not populate the computerized maintenance management system with all systems prior to substantial completion, as required. The warranty management process employed was inadequate. Moreover, OIG found that the contractor did not provide

[37] FAR 46.102(c), "Policy," requires quality assurance Government acceptance.
[38] FAR 46.702(b)(2), "General," states that a warranty should provide a "stated period of time or use, or the occurrence of a specified event, after acceptance by the Government to assert a contractual right for the correction of defects." That is, in contrast to a punch list, which are items that are identified before acceptance, FAR 46.706(b)(1), "General," warranty items are defects identified during the warranty period but do not include damage caused by the government (i.e., substantial completion starts warranty period).
[39] OBO, Office of Construction Management, Construction Alert A-2010-06 (September 21, 2010).

spare parts for major systems more than 17 months after substantial completion was declared, which resulted in maintenance delays because expected parts were unavailable.

As-Built Documents and Drawings

OIG found that the as-built documents and drawings were incomplete and incorrect. For example, the as-built drawings observed at The Hague were dated February 2017, 9 months before substantial completion. During the intervening time, construction activities continued, and changes were made to the facility, such as the addition of a parking canopy noted in a modification to the contract in April 2017. In addition, according to FM personnel at NEC The Hague, the car wash drawings do not match the as-built conditions. Furthermore, when performing maintenance on the sewer system, FM personnel consulted the as-built drawings and discovered they deviated by about 20 percent from actual conditions. Inaccurate as-built drawings impede the timely completion of maintenance and repairs. For example, FM personnel may need to spend additional time locating system components and items needing repair if they are not built in accordance with original designs and not corrected in the final drawings.

Global Maintenance Management System

As was the case at NEC London, The Hague's Facility Manager stated that GMMS was only partially loaded by the contractor. According to the contract for the construction of NEC The Hague, the contractor must complete the computerized maintenance plan 60 days prior to substantial completion. However, the contractor's incomplete population of GMMS was not included in the punch list as a requirement to be completed before final acceptance. Without the completed population of system data and maintenance requirements in GMMS, maintenance may not be properly scheduled and performed, jeopardizing installed systems and placing applicable manufacturer warranties at risk.

Warranty Management

Before final acceptance of the NEC The Hague project, OBO personnel must ensure that all deficient items noted in the punch list have been performed, completed, or corrected. However, like at NEC London, officials at NEC The Hague combined punch list and warranty items into one consolidated list to make tracking such items easier, although doing so actually made it more difficult to reconcile contract requirement deficiencies and ensure they were completed and closed. In addition, comments associated with the list prepared by OBO were not consistently updated or added for tracking the completion of defects. As a result, OIG could not confirm that work had been completed. For example, OIG received a punch list for NEC The Hague from OBO in July 2019 showing that 26 items remained open and that 61 had moved to the warranty list. However, during audit fieldwork at the embassy in April 2019, the FM stated that almost all items had been completed but had not been verified and cleared. The Warranty Manager further stated that the FM had "a stack of paper" for each item to document completion but the FM did not have the personnel to verify and close the open items. In addition, the process to verify and track warranty and punch list items at NEC The Hague, and

to note their completion, was performed manually, using paper and pen, rather than electronically.

Spare Parts

OIG found that the construction contractor at NEC The Hague failed to provide the required materials and spare parts. For example, according to NEC The Hague's 11-month warranty inspection, the spare parts list was placed on the warranty list but was moved back to the punch list because the contractor failed to provide receipts confirming turnover of required spare parts. During fieldwork for this audit in April 2019, approximately 17 months after substantial completion had been declared, an OBO official stated that NEC The Hague's warehouse clerk had identified 75 of 600 spare parts that had not been provided by the contractor. Furthermore, during NEC The Hague's 11-month warranty inspection, the inspection team noticed that some maintenance items had been deferred because of a lack of parts. Without a complete set of spare parts, scheduled maintenance at NEC The Hague of embassy systems may not be performed without additional cost to the Department, possibly jeopardizing such systems and their warranties.

Final Acceptance Activities at NEC N'Djamena

OIG found that OBO personnel overseeing the construction of NEC N'Djamena generally followed procedures related to final acceptance activities and implemented practices to advance the project to final acceptance. This occurred, in part, because of the early involvement of the FM at post during construction.

As-Built Documents and Drawings

OIG verified that the FM had a copy of the as-built drawings at NEC N'Djamena but did not inspect the as-built drawings for accuracy because OIG's construction engineer did not visit this site. However, OIG met with facilities personnel on site and none of them expressed any concerns regarding the as-built drawings.

Global Maintenance Management System

OIG found that the contractor populated the required basic information into GMMS. According to the FM, the contractor was responsible for populating GMMS with scheduled, preventive maintenance activities. The FM and his staff made the appropriate modifications and additions. Specifically, the FM stated, and OIG confirmed, that the FM and his staff would input additional data, including processes, into GMMS to further identify scheduled, preventive maintenance, reactive maintenance, and long-term projects. Ensuring complete and updated information is maintained in GMMS facilitates the tracking of required scheduled maintenance to avoid voiding any warranties.

Warranty Management

OIG found the warranty management process employed by OBO and post personnel at NEC N'Djamena generally followed guidance. For example, warranty items at NEC N'Djamena were

all finalized within approximately the first 2 months after the 11-month warranty inspection, including new items that were identified at the time of the warranty inspection. When warranty items were identified, the FM stated that they were added to the warranty log and provided to the contractor's warranty manager, who was located at NEC N'Djamena for 1 year after substantial completion was declared, along with three additional staff members. The contractor's warranty manager also reviewed post systems and equipment and self-identified additional warranty items. Throughout the warranty claims process, the post and contractor identified and corrected 82 warranty items.

Early Involvement of Facilities Management Benefits the Department

OIG found facilities management personnel were involved at an early stage in the construction of NEC N'Djamena. For example, FM personnel participated in the installation and testing of many of the systems as they were installed. FM personnel were then familiar with both operations of the systems and understood how they were installed. As a result, the issues OIG identified at NEC London and NEC The Hague did not occur at NEC N'Djamena.

Early involvement of the FM was also noted in a separate OIG report that described similar results. That report's Spotlight on Success stated:

> Before the contractor turned over the new consulate general facility in Jeddah[, Saudi Arabia,] and the Department accepted it, the consulate general Facilities Management staff developed its own punch list, independent of those created by contractor and OBO staffs. The consulate general's punch list identified 340 items that neither the contractor nor OBO included as part of their quality assurance processes. The embassy estimated the punch list items would cost $3.07 million to correct. The consulate general's punch list allowed the Department and embassy to hold the contractor responsible for properly completing all required items, saving the U.S. Government the cost of correcting the items.[40]

U.S. Army Corps of Engineers As-Built Requirements Provide Guidance for Improvement

The U.S. Army Corps of Engineers (USACE) has over 33,000 dedicated civilians and soldiers delivering engineering services to customers in more than 130 countries worldwide. In FY 2018, USACE delivered a $48 billion portfolio of projects. USACE has developed a multitude of engineering regulations, policies, and procedures governing the construction of military and civil works projects.

Because of the deficiencies found in the as-built drawings reviewed at NEC London and NEC The Hague, OIG believes that improvement can be made to OBO guidelines and requirements.

[40] OIG, Inspection of Embassy Riyadh and Constituent Posts, Saudi Arabia 27 (ISP-I-18-17, May 2018).

OIG reviewed the guidelines used by USACE for preparation of complete and accurate as-built drawings. According to a USACE bulletin issued in November 2017 and revised October 9, 2019, "This Engineering and Construction Bulletin (ECB) requires the use of electronic format for developing red-lines, maintaining as-builts, and delivering record drawings throughout the construction process for all USACE Army projects."[41] "The use of an electronic format for documentation of red-lines and as-builts, and delivery of record drawings during construction facilitates the shift from a paper-based to an electronic workflow. Additionally, digital platforms improve legibility and consistency, and facilitate web-based collaboration between contractors and project delivery teams in real time."[42] The Unified Facilities Guide Specifications, Section 01 78 00, "Closeout Submittals," contains specific guidance used during the construction process to ensure complete and accurate as-built drawings.

In addition, contract requirements contained in the USACE guidance requires the submission of the final record electronic drawings package for the entire project within 20 days of substantial completion of all phases of work. This submission package includes one set of American National Standards Institute D-size Portable Document Format and Computer-Aided Design files on optical disc, read-only memory; two sets of American National Standards Institute D-size prints; and one set of the approved working record drawings. The package must be complete in all details and identical in form and function to the contract drawing files supplied by the Government.[43]

> **Recommendation 7:** OIG recommends that the Bureau of Overseas Buildings Operations develop or adopt guidance and contract requirements used by the U.S. Army Corps of Engineers for as-built drawings and documentation to ensure complete and accurate final as-built drawings are consistently obtained.
>
> **Management Response:** OBO concurred with the recommendation, stating that the "Division 1" contract specifications are tailored to specific OBO projects as opposed to the guidance used by USACE, which covers a more diverse catalog of projects.
>
> **OIG Reply:** On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed the updated OBO "Division 1" contract specifications and concluded that the updated requirements for as-built drawings and documentation and additional requirements to validate the receipt of such items meets the intent of the recommendation. No further action regarding this recommendation is required.

[41] USACE, Engineering and Construction Bulletin 2017-22, "Electronic Red-lines, As-builts, and Record Drawings" 1 (October 9, 2019).
[42] USACE, Engineering and Construction Bulletin 2017-22.
[43] USACE, Unified Facilities Guide Specifications, Section 01 78 00, "Closeout Submittals," Part 3.3.1, "Final Record Drawing Package" 24 (May 2019).

Conclusion

OIG found deficiencies in OBO's 12-month warranty process, in which punch list and warranty items were often combined for tracking and management purposes. This approach makes it difficult to verify that contractual requirements are met before final acceptance. The principal purposes of a warranty in a Government contract are to delineate the rights and obligations of the contractor and the Government for defective items and services and to foster quality performance.[44] Unlike the deficiencies identified on the punch list provided at substantial completion, the completion of warranty items is not necessary for the recommendation for final acceptance by the PD. In addition, once the project has been turned over to the Department, the post FM is responsible for managing the warranty program. To enable the FM to properly schedule and perform maintenance, the contractor must ensure systems turned over to the Government are operating as designed and provide the current GMMS information, as-built drawings, the associated O&M manuals, and the manufacturer recommended spare parts. As noted above, NEC London and NEC The Hague both had several missing deliverables. Specifically, OBO did not ensure that contractors provided complete GMMS information, spare parts, and up-to-date, accurate as-built documents prior to substantial completion. These deliverables are critical elements required to ensure systems are functioning as designed and properly maintained to prevent the warranty from being voided.

OIG also concluded that the warranty management process must have early and robust involvement with post facilities management personnel. OIG found that such involvement was lacking for Facilities Management personnel at both NEC London and NEC The Hague.

To address the deficiencies identified with final acceptance activities, OIG is offering the following recommendations:

> **Recommendation 8:** OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors involved with the execution of a construction project to verify that the contractor populates the Global Maintenance Management System in accordance with contract requirements prior to issuing substantial completion.
>
> **Management Response:** OBO concurred with the recommendation, stating that in 2018 it published a Construction Alert (A-2018-02) announcing the newly created position of Operations and Maintenance Transition Coordinator and providing guidance for the use of a "validation checklist." OBO noted that both the newly created position and use of the validation checklist will assist in completing the contract requirement for a Computerized Maintenance Management System.
>
> **OIG Reply:** On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed OBO's Construction

[44] FAR 46.702(a)(1),(2), "General." FAR Subpart 46.7, "Warranties," provides guidance on warranty use in contracts and solicitations.

Alert (A-2018-02) and the validation checklist. OIG concluded that the newly created position and use of the validation checklist will assist in validating the completion of the contract requirement for a Computerized Maintenance Management System. No further action regarding this recommendation is required.

Recommendation 9: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Director to justify and document the decision to issue the Certificate of Substantial Completion before the contractor completes the population of the Global Maintenance Management System in accordance with contract requirements.

Management Response: OBO concurred with the recommendation, stating that in accordance with OBO Construction Alert (A-2018-02) a validation checklist must be completed prior to issuing the Certificate of Occupancy. OBO further noted that unresolved issues, such as an incomplete Computerized Maintenance Management System, are forwarded to a senior OBO official having discretion to grant an exception.

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed OBO Construction Alert A-2018-02 and the validation checklist. OIG concluded that these items, and OBO's intended actions for unresolved issues such as an incomplete Computerized Maintenance Management System, meet the intent of the recommendation. No further action regarding this recommendation is required.

Recommendation 10: OIG recommends that the Bureau of Overseas Buildings Operations update the OBO Construction Management Guidebook to clarify that punch list items must be documented and tracked separately from warranty list items to avoid ambiguity.

Management Response: OBO concurred with the recommendation, stating than an update to the OBO Construction Management Guidebook is scheduled to be released by the end of January 2021. OBO stated that the updated Guidebook will clarify punch list and warranty log requirements to avoid ambiguity.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that OBO updated the OBO Construction Management Guidebook to clarify that punch list items must be documented and tracked separately from warranty list items to avoid ambiguity.

Recommendation 11: OIG recommends that the Bureau of Overseas Buildings Operations, in concert with Recommendation 10, establish and communicate the

required process to track and clear punch list and warranty list items to ensure consistent application of the process across all construction projects.

Management Response: OBO concurred with the recommendation, stating than an update to the OBO Construction Management Guidebook is scheduled to be released by the end of January 2021. OBO stated that the updated Guidebook will include procedures to track punch list and warranty items separately.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that OBO established and communicated the required process to track and clear punch list and warranty list items to ensure consistent application of the process across all construction projects.

RECOMMENDATIONS

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors assigned to execute a construction project to establish attainable project milestones and update those milestones when contract modifications are executed to ensure all major building systems are tested and commissioned before issuing the Certificate of Substantial Completion.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Director to justify and document the decision to issue the Certificate of Substantial Completion before all major building systems are tested and commissioned, including how such decisions influence project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures requiring Project Directors assigned to execute a construction project to ensure that a complete and accurate punch list is provided to the contractor with the issuance of the Certificate of Substantial Completion.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Directors to justify and document the decision to issue the Certificate of Substantial Completion without promptly providing a consolidated, complete, and accurate punch list to the contractor, including the impact of such decisions on the projected final acceptance date of the project and the additional costs to be incurred as a result.

Recommendation 5: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement staffing plans for all capital construction projects, especially those projects that are complex, large scale, and costly (such as New Embassy Compound London) to ensure that the staff assigned are available and onsite at key junctures of the construction project to ensure quality assurance is effectively performed and project milestones are met.

Recommendation 6: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from established staffing plans for capital construction projects, that require the Project Director to document the deviation from the staffing plan, including the effect of such decisions on project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

Recommendation 7: OIG recommends that the Bureau of Overseas Buildings Operations develop or adopt guidance and contract requirements used by the U.S. Army Corps of

Engineers for as-built drawings and documentation to ensure complete and accurate final as-built drawings are consistently obtained.

Recommendation 8: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors involved with the execution of a construction project to verify that the contractor populates the Global Maintenance Management System in accordance with contract requirements prior to issuing substantial completion.

Recommendation 9: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Director to justify and document the decision to issue the Certificate of Substantial Completion before the contractor completes the population of the Global Maintenance Management System in accordance with contract requirements.

Recommendation 10: OIG recommends that the Bureau of Overseas Buildings Operations update the OBO Construction Management Guidebook to clarify that punch list items must be documented and tracked separately from warranty list items to avoid ambiguity.

Recommendation 11: OIG recommends that the Bureau of Overseas Buildings Operations, in concert with Recommendation 10, establish and communicate the required process to track and clear punch list and warranty list items to ensure consistent application of the process across all construction projects.

APPENDIX A: PURPOSE, SCOPE, AND METHODOLOGY

The Office of Inspector General (OIG) for the Department of State (Department), Office of Audits, conducted this audit to determine whether Bureau of Overseas Buildings Operations (OBO) personnel executed construction project closeout procedures in accordance with Federal, Department, and project-specific requirements. OIG performed fieldwork for this audit in the Washington, DC, metropolitan area and at three locations: New Embassy Compound (NEC) London, the United Kingdom; NEC The Hague, the Netherlands; and NEC N'Djamena, Chad.

The Office of Audits conducted this performance audit from December 2018 to July 2020 in accordance with generally accepted government auditing standards. These standards require that OIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions presented in this report. OIG believes that the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objective.

To gain an understanding of the audit topic, OIG researched and reviewed Federal laws, regulations, and Department policy and guidance related to OBO's Construction Closeout Procedures. Specifically, OIG reviewed requirements prescribed in the Federal Acquisition Regulation; the Department's Bureau of Administration, Office of the Procurement Executive Overseas Contracting and Simplified Acquisition Guidebook; and the OBO Construction Management Guidebook.

To gain an understanding of how OBO personnel executed construction project closeout procedures, OIG met with and interviewed key OBO officials, including the Managing Director of Construction, Facilities, and Security Management; the Branch Chief of OBO's Commissioning Branch; and OBO's Office of Fire Protection. Additionally, OIG personnel conducted audit fieldwork from April 8 to 19, 2019, at three U.S. embassies declared substantially complete in 2017—London, the United Kingdom; The Hague, the Netherlands; and N'Djamena, Chad. OIG met and interviewed the OBO's Project Director and the Operations and Maintenance Transition Coordinator for NEC The Hague and met with embassy personnel to gain an understanding of embassy operations related to construction closeout procedures, including roles and responsibilities, warranty management, and the construction closeout process at each post. Specifically, OIG conducted interviews with respective embassy Facility Management officials and discussed their experience with the construction closeout process and whether they believed certain areas could be improved. OIG also interviewed representatives from both Caddell and BL Harbert International construction companies.

Prior OIG Reports

During this audit, OIG issued two management assistance reports to address deficiencies noted at NEC London and NEC The Hague. These reports can be found in Appendices C and D of this report, respectively.

In July 2020, OIG reported that several major systems were not commissioned at NEC London or operating at the time substantial completion was declared, which ultimately led to additional, unexpected costs.[1] OIG found that major systems were not fully commissioned at NEC London, at least in part, because OBO personnel did not perform adequate quality assurance to identify and address potential causes for schedule delays and its impact on the commissioning of major building systems.

In August 2019, OIG reported outstanding deliverables owed by the contractor 19 months after a new U.S. embassy construction project at NEC The Hauge, The Netherlands, had been certified as substantially complete, including a lighting installation not completed and the absence of a full spare parts inventory.[2] Other deficiencies OIG identified included problems with an irrigation system, exterior walkway lights that could pose a tripping hazard to pedestrians, and the stainless-steel exterior façade on two buildings that exhibited signs of corrosion. OIG made five recommendations to correct the deficiencies identified. As of March 2020, three of the recommendations were resolved, pending further action, and two were closed.

In January 2018, OIG reported that OBO's oversight of commissioning, substantial completion, and turnover of the New Office Annex and Staff Diplomatic Apartment-1 at U.S. Embassy Kabul, Afghanistan, was inconsistent with Department policies, procedures, and directives.[3] Specifically, OIG reported that the OBO Project Director declared both New Office Annex and Staff Diplomatic Apartment-1 substantially complete and proceeded with occupancy before several key project milestones had been met. The decision to accept the buildings without completing the commissioning process contributed to a range of building deficiencies after occupancy. In addition, OIG reported that OBO did not ensure that Caddell, or the Commissioning Agent prepared and submitted key project documents before substantial completion and occupancy. Furthermore, OBO did not follow established procedures or best practices in planning for the buildings' turnover from OBO's Office of Construction Management to the post Facility Manager. As a result, Facility Management personnel were not fully prepared to accept responsibility for operations and maintenance of the New Office Annex and Staff Diplomatic Apartment-1 following substantial completion and occupancy. OIG made 10 recommendations to correct the deficiencies identified in the report. As of June 2020, eight recommendations were resolved, pending further action, and two were closed.

In June 2017, identified a number of ongoing deficiencies throughout the NOX and SDA-1 that, If left uncorrected, will have long-term implications for the effectiveness and efficiency of equipment and systems in both buildings.[4] OIG determined that the deficiencies identified

[1] OIG, *Management Assistance Report: Execution of the New Embassy Compound London Construction Project Offers Multiple Lessons* (AUD-CGI-20-36, July 2020).
[2] OIG, *Management Assistance Report: Outstanding Construction Deliverables and Deficiencies Need Attention at New Embassy Compound The Hague, the Netherlands* (AUD-CGI-19-38, August 2019).
[3] OIG, *Audit of Bureau of Overseas Buildings Operations' Oversight of New Construction Projects at the U.S. Embassy in Kabul, Afghanistan* (AUD-MERO-18-17, January 2018).
[4] OIG, *Management Assistance Report: Building Deficiencies Identified at U.S. Embassy Kabul, Afghanistan Need Prompt Attention* (AUD-MERO-17-44, June 2017).

were due in part to weakness in OBO's lack of oversight during key phases of the project. Questions remained as to whether the deficiencies would be addressed under the terms of the general contractor's warranty, which had expired 1 year after substantial completion and occupancy. Failure to adequately address these deficiencies would result in additional maintenance, increased costs, and shortened life cycles of building equipment. OIG made 19 recommendations to correct the deficiencies identified in the report. As of June 2020, all 19 recommendations were closed.

Work Related to Internal Controls

OIG performed steps to assess the adequacy of internal controls related to the areas audited. For example, OIG gained an understanding of the Department's processes required to execute construction closeout procedures for capital construction projects. Significant internal control deficiencies identified during this audit are presented in the Audit Results section of this report.

Use of Computer-Processed Data

During this audit, OIG used electronically processed data obtained from OBO. Specifically, OIG obtained a list of capital construction projects for calendar year 2017. The reliability of each dataset is discussed below.

Universe of Capital Construction Projects

OIG requested a list of capital construction facilities that were certified substantially complete between January 1, 2017, and December 31, 2017. OBO provided a list of six capital construction projects. OIG confirmed that all projects provided by OBO were included in OBO's FY 2016 Planning report. As such, OIG concluded the completeness and accuracy of the audit universe for the scope period of interest was reliable for the purpose of this audit.

To verify the accuracy of the certified substantially complete dates, OIG used the Department's cable search function under its "State Messaging and Archive Retrieval Toolkit" to verify the substantial completion and Certificate of Occupancy dates for each of the six projects OBO provided.

Table A.1: Project Universe

Post and Location	Substantial Completion Certification Date	Construction Budget
London, the United Kingdom	December 22, 2017	$562,990,519
N'Djamena, Chad	April 27, 2017	166,232,620
Dushanbe, Tajikistan	December 15, 2017	14,381,084
Monterrey, Mexico	July 11, 2017	1,997,991
Moscow, Russia	November 30, 2017	160,609,800
The Hague, the Netherlands	November 18, 2017	125,035,030
Total		**$1,031,247,044**

Source: Prepared by OIG from construction project data obtained from OBO.

Detailed Sampling Methodology

To gather evidence in response to the audit objective, OIG received from OBO a list of capital construction facilities that were certified as substantially complete between January 1, 2017, and December 31, 2017, the first full calendar year before the audit started. OBO provided a list of six such capital construction projects. For the scope of this audit, and to limit site visits and their associated travel expenses, OIG selected three of the six sites for testing and determined that only construction projects that were certified substantially complete in calendar year 2017 would be reviewed given the nature of the audit. The selection provided a sufficient number of projects to review that had reached substantial completion.

OIG removed three of the six capital construction projects from the universe for a variety of reasons. For example, the audit team determined that the capital construction project in Monterrey, Mexico, was not related to the construction of the New Consulate Compound but rather consisted of a consular canopy to provide visa applicants shelter from the elements, additional perimeter fencing, and drainage to mitigate flooding issues that the post was experiencing. The audit team determined that it would not be subject to many of OBO's closeout procedures and would not be beneficial to include in the audit target universe. In addition, the audit team removed Moscow and Dushanbe from the audit target universe because traveling to the remaining three posts (London, The Hague, and N'Djamena) could be accomplished in a single and a more economical trip. Specifically, traveling to Russia and Tajikistan would require at least one additional trip and would incur additional travel costs.

Table A.2: Units Removed From the Universe

Post and Location	Substantial Completion Certification Date	Construction Budget
Dushanbe, Tajikistan	December 15, 2017	14,381,084
Monterrey, Mexico	July 11, 2017	1,997,991
Moscow, Russia	November 30, 2017	160,609,800
Total		**$176,988,875**

Source: Prepared by OIG from construction project data obtained from OBO.

Selected Capital Construction Projects

The audit team reviewed the identified target universe consisting of three capital construction projects (London, The Hague, and N'Djamena), valued at $854,258,169, that were certified substantially complete in calendar year 2017.

APPENDIX B: BUREAU OF OVERSEAS BUILDINGS OPERATIONS RESPONSE

United States Department of State

Washington, D.C. 20520

August 20, 2020

UNCLASSIFIED

TO: OIG/AUD – Denise M. Colchin

FROM: OBO/RM – Jeffrey Reba, acting JEFFREY C REBA Digitally signed by JEFFREY C REBA Date: 2020.08.21 10:59:25 -04'00'

SUBJECT: OIG Draft Report: Audit of the Bureau of Overseas Buildings Operations Process to Execute Construction Closeout Procedures for Selected Capital Construction Projects

The Bureau of Overseas Buildings Operations (OBO) has reviewed the draft OIG Draft Report. Attached is OBO's response to recommendations 1-11.

Attachment:
As stated.

UNCLASSIFIED

UNCLASSIFIED

Coordinated by: OBO/RM/P: E. Madrid 5-5745

Cleared by:
OBO/CFSM: T. Thomas ok
OBO/CFSM/CM: A. Younes ok
OBO/CFSM/CM: B. Miles ok
OBO/RM/P: R. Benya

UNCLASSIFIED

UNCLASSIFIED

OBO Comments on the OIG Draft Report
Audit of the Bureau of Overseas Buildings Operations Process to Execute Construction Closeout Procedures for Selected Capital Construction Projects

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors assigned to execute a construction project to establish attainable project milestones and update those milestones when contract modifications are executed to ensure all major building systems are tested and commissioned before issuing the Certificate of Substantial Completion.

OBO Response, August 2020: OBO concurs with the recommendation. OBO updates the Division 1 specification of contracts annually. The current Division 1 specification has been reviewed and evaluated and is fully in line with the recommendation. Section 013205 of Division 1 (attached) covers the management process of the Project Execution Schedule (PES) and section 019115 requires the commissioning execution plan and schedule to be integrated in the PES. The PES is a living document for each contract. Modifications and changes in milestones are required to be captured in updates. Substantial Completion is defined in section 552.211.70 of the FAR (attached), with all requirements to meet the milestone therein. OBO agrees that all systems should be complete and commissioned at substantial completion, but as policy must follow the legal authority in the FAR.

OBO requests that OIG close this recommendation.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Directors to justify and document the decision to issue the Certificate of Substantial Completion before all major building systems are tested and commissioned, including how such decisions influence project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

OBO Response, August 2020: OBO concurs with the recommendation. OBO is in the process of updating the Policy and Procedures Directive (P&PD) CM 01 - Commissioning and Transition to Occupancy for Overseas Facilities. The update will include the authority, requirements, and procedures for beneficial occupancy, as allowed by the FAR but not previously defined in OBO policy. The policy update is targeted for completion by the end of December 2020.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors assigned to execute a construction project to ensure that a complete and accurate punch list is provided to the contractor with the issuance of the Certificate of Substantial Completion.

OBO Response, August 2020: OBO concurs with the recommendation. The OBO Office of Construction Management (CM) is currently updating the CM Guidebook. To address this recommendation, the guidebook will expound on the importance of an accurate and complete punch list and include an example template. The CM Guidebook update is targeted for

UNCLASSIFIED

UNCLASSIFIED

completion by the end January 2021. However, COVID related issues may impact the delivery date.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Directors to justify and document the decision to issue the Certificate of Substantial Completion without promptly providing a consolidated, complete, and accurate punch list to the contractor, including the impact of such decisions on the projected final acceptance date of the project and the additional costs to be incurred as a result.

OBO Response, August 2020: OBO concurs with the recommendation. OBO is currently updating the Construction Management (CM) Guidebook, and will expound on the importance of a consolidated, complete, and accurate punch list. Sometimes minor, but long lead items such as delivery of replacement part require punch list items to be tracked on warranty logs. This process and appropriate examples will be added to the guidebook update. For extreme circumstances that warrant deviation from standard closeout, the new policy will add beneficial occupancy procedure to the OBO policy in lieu of issuing substantial completion. The CM Guidebook update is targeted for completion by the end January 2021. However, COVID related issues may impact the delivery date

Recommendation 5: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement staffing plans for all capital construction projects, especially those projects that are complex, large scale, and costly (such as New Embassy Compound London) to ensure that the staff assigned are available and onsite at key junctures of the construction project to ensure quality assurance is effectively performed and project milestones are met.

OBO Response, August 2020: OBO concurs with the recommendation. To improve the hiring process for OBO project teams, CM, in coordination with the Bureau of Global Talent Management's Office of Overseas Employment (GTM/OE), created Standard Job Descriptions for OBO Construction Management Field Staff. This was added to the GTM/OE catalog in January 2020 (attached).

OBO requests that OIG close this recommendation.

Recommendation 6: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from established staffing plans for capital construction projects, that require the Project Director to document the deviation from the staffing plan, including the effect of such decisions on project milestones, the additional costs to be incurred, and the projected final acceptance date of the project.

OBO Response, August 2020: OBO concurs that staffing shortages impact the Quality Assurance (QA) process (contract quality and compliance enforcement). Staffing overseas projects is often difficult, thus OBO uses multiple resources to fully staff construction projects. CM recently created new multiple Standard Job Descriptions (attached). In addition, OBO utilizes third party contractors, IDIQ contracts, and TDY Personal Service Contractors/Civil Servants when necessary to support projects. OBO is currently updating the Construction Management Guidebook and will include new guidance to Project Directors for alternative

UNCLASSIFIED

UNCLASSIFIED

support options when understaffing or significant deviation from the staffing plan threaten the QA process on a project. The CM Guidebook update is targeted for completion by the end January 2021. However, COVID related issues may impact the delivery date.

Recommendation 7: OIG recommends that the Bureau of Overseas Buildings Operations develop or adopt guidance and contract requirements used by the U.S. Army Corps of Engineers for as-built drawings and documentation to ensure complete and accurate final as-built drawings are consistently obtained.

OBO Response, August 2020: OBO agrees with the recommendation. The Unified Facilities Guide Specifications used by USACE is intended for the diverse catalog of projects they manage (USACE uses an automated system called SpectsIntact to then create a project specification), and the OBO Division 1 specification is tailored to the type of projects OBO executes and is updated annually. Older project specifications may not reflect the current Division 1 specification template. The current requirements for as-built drawings, section 017705 of Division 1 (attached), are structured to ensure accurate deliverables.

OBO requests that OIG close this recommendation.

Recommendation 8: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures that require Project Directors involved with the execution of a construction project to verify that the contractor populates the Global Maintenance Management System in accordance with contract requirements prior to issuing substantial completion.

OBO Response, August 2020: OBO concurs with the recommendation. Completion of the Computerized Maintenance Management System (CMMS) (previously GMMS) is a standard contract requirement. It requires a coordinated effort from the project team and facilities staff to ensure accurate completion. The A-2018-02 Construction Alert (attached) released in 2018 addresses the complex effort by adding the new O&M Transition Coordinator for two years, beginning one year before substantial completion. Completion of CMMS is included on the O&M Validation Checklist for Building Acceptance, a new requirement added in A-2018-02, and the checklist is signed by both the Project Director and the Facility Manager.

OBO requests that OIG close this recommendation.

Recommendation 9: OIG recommends that the Bureau of Overseas Buildings Operations establish and implement procedures, when circumstances warrant deviation from standard construction project closeout procedures, that require the Project Directors to justify and document the decision to issue the Certificate of Substantial Completion before the contractor completes the population of the Global Maintenance Management System in accordance with contract requirements.

OBO Response, August 2020: OBO concurs with the recommendation. OBO established a new policy with Construction Alert A-2018-02 (attached) that requires completion of the O&M Validation for Building Acceptance checklist prior to issuance of Certificate of Occupancy. If the Computerized Maintenance Plan is not loaded into CMMS, or if any unresolved issues remain, occupancy is not granted unless the CFSM Managing Director grants an exception.

UNCLASSIFIED

UNCLASSIFIED

OBO requests that OIG close this recommendation

Recommendation 10: OIG recommends that the Bureau of Overseas Buildings Operations update the OBO Construction Management Guidebook to clarify that punch list items must be documented and tracked separately from warranty list items to avoid ambiguity.

OBO Response, August 2020: OBO concurs with the recommendation and is currently updating the Construction Management (CM) Guidebook to clarify punch list requirements and warranty log issues to avoid ambiguity. The CM Guidebook update is targeted for the end of January 2021. However, COVID related issues may impact delivery date.

Recommendation 11: OIG recommends that the Bureau of Overseas Buildings Operations in concert with Recommendation 10, establish and communicate the required process to track and clear punch list and warranty items to ensure consistent application of the process across all construction projects.

OBO Response, August 2020: OBO concurs with the recommendation and will include the process to track punch list and warranty log issues separately in the Construction Management (CM) Guidebook update. The CM Guidebook update is targeted for the end of January 2021. However, COVID related issues may impact delivery date.

UNCLASSIFIED

UNCLASSIFIED

APPENDIX C: MANAGEMENT ASSISTANCE REPORT: EXECUTION OF THE NEW EMBASSY COMPOUND LONDON CONSTRUCTION PROJECT OFFERS MULTIPLE LESSONS

UNCLASSIFIED

Office of Inspector General
United States Department of State

AUD-CGI-20-36 | Office of Audits | July 2020

Management Assistance Report: Execution of the New Embassy Compound London Construction Project Offers Multiple Lessons

MANAGEMENT ASSISTANCE REPORT

IMPORTANT NOTICE: This report is intended solely for the official use of the Department of State or the U.S. Agency for Global Media, or any agency or organization receiving a copy directly from the Office of Inspector General. No secondary distribution may be made, in whole or in part, outside the Department of State or the U.S. Agency for Global Media, by them or by other agencies or organizations, without prior authorization by the Inspector General. Public availability of the document will be determined by the Inspector General under the U.S. Code, 5 U.S.C. 552. Improper disclosure of this report may result in criminal, civil, or administrative penalties.

UNCLASSIFIED

UNCLASSIFIED

CONTENTS

UNCLASSIFIED

UNCLASSIFIED

Summary of Review

The Department of State (Department) broke ground on the new embassy compound (NEC) London, the United Kingdom, in November 2013. The former embassy property, located at Grosvenor Square in London's Mayfair district, was being replaced with NEC London in large part because it did not meet current physical security standards. NEC London was erected in the Nine Elms district of London, a revitalized industrial neighborhood close to the center of the city. The construction project was widely hailed by the Department's Bureau of Overseas Buildings Operations (OBO) for its "Design Excellence" concept.

The budgeted cost of NEC London was approximately $1.022 billion, and OBO chose a delivery method known as Early Contractor Involvement (ECI) to execute this construction project. ECI is a form of collaboration by which the contractor works to assist the U.S. Government and the design team during the design and construction phases of the work. By employing the ECI delivery method, the construction contractor for NEC London, B.L. Harbert International, LLC (BLHI), provided preconstruction services concurrent with the design of the project by the Architect and Engineering (A&E) firm Kieran-Timberlake, PLC (KT).

The timely construction of NEC London was particularly important because of a lease-back arrangement for the former embassy property. Specifically, the Department sold its former embassy property located at Grosvenor Square to Qatari Diar with an original lease-back agreement until February 2017, after which the Department would owe additional rent every 6 months. Because construction was not completed by February 2017, as contracted, the Department had to extend the lease-back option of the former embassy property for an additional year at a cost of $34 million. Moreover, approximately $19.8 million rent would have been assessed for an additional 6-month period had the Department not vacated by the end of February 2018. This created an obvious financial incentive to occupy NEC London as quickly as possible.

OBO certified that construction of NEC London was substantially complete in December 2017 and occupancy followed in January 2018. Substantial completion is the point when the OBO project director (PD) determines that work is sufficiently complete and satisfactory to occupy the structure with only minor items remaining to be completed or corrected. However, the Office of Inspector General (OIG) found that inadequate attention to major systems design and local building requirements present challenges that have—or will require—additional financial outlays to remedy. Specifically, OIG found major building systems that were either abandoned or had to be modified to function properly. For example, the Wastewater Treatment Plant (WWTP) for NEC London cost approximately $2 million to install but was abandoned when it did not function as intended. In another example, the Combined Heat and Power (CHP) system was not completed under its original contract, in part because of design deficiencies. As a result, a separate contract was issued to ENGIE Urban Energy Limited (ENGIE) for $1.6 million in September 2019 to complete installation of the CHP system. Furthermore, OIG learned that the natural gas internal piping system installed at NEC London did not comply with local building standards. This occurred because OBO officials applied U.S. standards for the natural gas internal piping system instead of local standards.

UNCLASSIFIED

Finally, the semicircular pond located on one side of the NEC London, which serves partly as a security barrier, had design flaws, and NEC London officials had to replace the piping and pumping system as a result.

OIG also found that certain decisions and inadequate installation, among other issues, resulted in building deficiencies that will require continuous attention. Specifically, ground water is seeping into the lower levels of NEC London because a decision was made following a value engineering study not to include an additional floor "slab" and a perimeter masonry wall. In addition, interior stone tiles have cracked, and exterior stone pavers have deteriorated to the point that vehicle traffic in certain areas has been limited to avoid additional damage. Furthermore, portions of the roof at NEC London were improperly installed and will require continuous attention to avoid leaks and water damage. For example, in October 2018, a third-party contractor identified more than 700 defects with the exterior façade covering NEC London, including missing restraint lugs and improperly installed, missing, or damaged gaskets.

Furthermore, OIG found that, even though 2 years have passed since OBO declared NEC London "substantially complete," final acceptance of the NEC London construction project remains pending as of February 2020. According to OBO's "Construction Management Guidebook," the construction contractor has 6 months to complete all outstanding items after substantial completion is reached. However, in October 2019, OIG found that 274 identified defects or "punch list" items were still awaiting remediation. A punch list item is typically a minor defect that needs to be corrected, adjusted, or replaced before a Certificate of Final Acceptance for the construction project can be issued. OIG determined that the extensive time it has taken to address the punch list is due, in part, to the failure by OBO officials to follow prescribed procedures for preparing a consolidated punch list. Specifically, during OIG's audit of OBO's construction closeout process, which is currently underway, OIG found that OBO did not prepare a consolidated punch list but instead provided the contactor with 14 separate "Notices of Deficiencies."

This Management Assistance Report is intended to provide early communication of the deficiencies OIG identified at NEC London during its audit of OBO's construction closeout process. OIG made seven recommendations to address the deficiencies identified during the project. In response to a draft of this report, OBO concurred with the recommendations offered and stated that it had taken, or planned to take, action to address them. On the basis of OBO's concurrence with the recommendations and actions taken, OIG considers six recommendations closed and one resolved pending further action. A synopsis of OBO's responses to the recommendations offered and OIG's reply follow each recommendation in the Results section of this report. OBO's response to a draft of this report is reprinted in its entirety in Appendix A.

UNCLASSIFIED

BACKGROUND

About New Embassy Compound London

According to an OBO memorandum from October 2013, NEC London had a final authorized budgeted cost of approximately $1.022 billion. The Department broke ground on NEC London in November 2013 to replace the former embassy property because the latter did not meet current physical security standards, among other reasons. Specifically, the Grosvenor Square property was built in 1960 and did not comply with current standards for setback, infrastructure, operational space, and electrical and mechanical systems. Moreover, the location of the Grosvenor Square property and other limitations made it impossible to bring the building into compliance via renovation.

NEC London was erected in the Nine Elms district of London, a revitalized industrial neighborhood close to the center of the city. The construction project was hailed for its design, which incorporated sustainable features at the leading edge of practice, including aspirations for carbon neutrality, a self-sufficient water system, and goals for minimum certification as Leadership in Energy and Environmental Design (LEED®)[1] "Gold." NEC London is situated on a 4.9-acre tract and includes a chancery, a consular section, support spaces, a U.S. Marine residence, access pavilions, and parking. Figure 1 is a photo showing the exterior of NEC London.

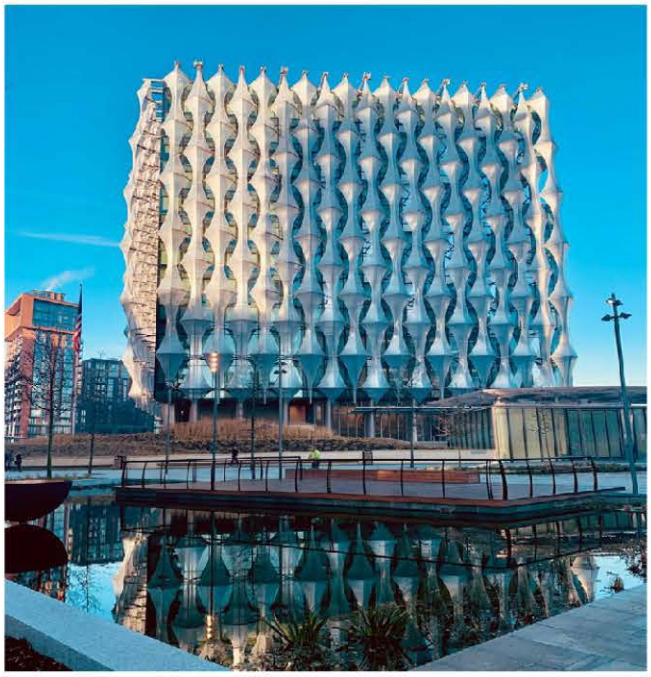


Figure 1: Exterior of NEC London.
Source: Photograph from Embassy London Facebook page.

Timely construction of NEC London was important because of a lease-back arrangement of the former Grosvenor Square embassy property. Specifically, the Department sold the Grosvenor Square embassy property to Qatari Diar but agreed to lease back the property through February 2017, during which time NEC London was under construction. If the Department

[1]According to the Green Building Certification Institute, LEED is the most widely used green building rating system in the world. The Green Building Certification Institute states that LEED is available for virtually all building project types, from new construction to interior fit-outs and operation and maintenance and that it provides a framework that project teams can apply to create healthy, highly efficient, and cost-saving green buildings. The Institute further noted that LEED certification is a globally recognized symbol of sustainability achievement.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

needed additional time, the contract contained an escalated lease-back agreement based on 6-month periods. In fact, the Department did extend the lease-back option for an additional year, from February 28, 2017, to February 28, 2018, at a cost of $34 million. The additional $19.8 million 6-month lease obligation the Department would incur if it did not vacate by February 28, 2018, was an obvious financial incentive to occupy NEC London as quickly as possible. OBO certified the construction of NEC London as substantially complete in December 2017 and occupancy followed in January 2018. Substantial completion[2] is the point when the OBO PD determines that work is sufficiently complete and satisfactory to occupy the structure, with only minor items remaining to be completed or corrected.

About the Early Contractor Involvement Delivery Method

OBO chose the ECI delivery method to execute the NEC London construction project.[3] By employing this delivery method, the construction contractor for NEC London, BLHI, provided preconstruction services concurrent with the design of the project by the A&E firm KT. As part of these preconstruction services, BLHI provided construction execution and material cost information to the Government at the same time that scope and quality decisions were being refined.

The preconstruction services portion of the ECI contract was negotiated as a firm-fixed-price[4] effort, although the construction services portion of the contract was a negotiated fixed-price-incentive (successive targets) effort. Construction services were included within the ECI contract as a separate contract line item number to be exercised at a time agreed upon by the Department and the construction contractor. Competition for this contract was based on contractors' proposals to perform both the preconstruction and construction services. As the contract recipient, BLHI was part of the "one team" concept during the design phase, which is a feature of ECI contracts. According to the construction solicitation, "As the design evolves and develops, the three members of the One Team will work together to promote innovation, challenge convention as is prudent and reasonable, mutually vet and develop consensus on all progressive design elements tendered, and bring the project in within budget and schedule while maintaining the highest standards of Design Excellence."

Purpose of the Audit and This Management Assistance Report

This Management Assistance Report is intended to provide early communication of the deficiencies OIG identified at NEC London during its audit of OBO's construction closeout process, which is currently underway. The objective of the audit is to determine whether OBO personnel executed closeout procedures in accordance with Federal, Department, and project-

[2] OBO Policy and Procedures Directive CM01, Appendix B, "Definitions."

[3] According to the Statement of Work for Preconstruction and Construction Service, ECI is a form of collaboration by which the contractor works to assist the U.S. Government and the design team during the design and construction phases of the work. The construction contractor works alongside the Department and the A&E firm, operating as "one team" to complete the project.

[4] According to FAR 16.202-1, "Firm-fixed-price contracts," a firm-fixed-price agreement provides for a price that is not subject to any adjustment on the basis of the contractor's cost experience in performing the contract.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

specific requirements. OIG is reporting the conditions discussed in this Management Assistance Report in accordance with generally accepted government auditing standards. In performing the work related to this report, OIG interviewed OBO officials, reviewed applicable criteria and supporting documentation, and conducted audit fieldwork at both OBO headquarters in the Washington, DC, metro area and at NEC London. OIG believes that the evidence obtained pertaining to the conditions and deficiencies identified provide a reasonable basis for the conclusions presented in this report.

RESULTS

Finding A: Inadequate Attention to Major Systems Design and Local Building Requirements

OIG found that inadequate attention to major systems design and local building requirements presents challenges that have—or will require—additional financial outlays to remedy. Specifically, OIG found major building systems that were either abandoned or had to be modified to function properly. For example, the WWTP for NEC London cost approximately $2 million to install but was abandoned when it did not function as intended. In another example, the CHP system was not completed under its original contract, in part because of design deficiencies. As a result, a separate contract was issued to ENGIE[5] for $1.6 million in September 2019 to complete installation of the CHP system. Furthermore, OIG learned that the natural gas internal piping system installed at NEC London did not comply with local building standards. This occurred because OBO officials decided to apply U.S. standards for the natural gas internal piping system instead of local standards. Finally, the semicircular pond located on one side of NEC London, which serves partly as a security barrier, had design flaws, and NEC London officials accordingly had to replace the piping and pumping system.

NEC London Wastewater Treatment Plant

OIG found that the WWTP installed at NEC London was abandoned because it did not function as intended. The WWTP system, which cost approximately $2 million to install, was intended to allow NEC London to use reclaimed, non-potable water for purposes such as irrigation and for the CHP cooling tower. However, the WWTP did not function properly because of limitations in the type of sewage materials it could process. Specifically, the system grinding pumps were not large enough and were not designed to process items such as baby wipes and sanitary napkins that were found in the system. According to NEC London officials, the WWTP system was installed at the new facility primarily to achieve a high-level Leadership in Energy and Environmental Design certification, often referred to as "LEED certification." OIG does not question the Department's choice to seek LEED certification either generally or in specific building projects. In this case, however, it was not necessary to install a WWTP at the Embassy to achieve this goal because it would have received the same gold certification that it ultimately was awarded even without building the WWTP. OIG also noted that London has an adequate sewage system that the NEC could use (and was in fact using as of January 2020).

[5] ENGIE Urban Energy Limited is an energy services provider with offices in the UK.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

According to Embassy officials, a subcontractor designed the WWTP. Initially, BLHI attempted to hold the subcontractor responsible for an inappropriately designed system. However, the subcontractor stated that all parties agreed to the design and that the system was installed as designed. NEC London officials ultimately decided to abandon the WWTP, connect the building directly into the City of London's sewage system, and bypass the WWTP. They will eventually remove the WWTP system from the facility. Because the London sewage system was available for use by the NEC, the inclusion of a WWTP in the design of NEC London was unnecessary, the WWTP failed to function as intended, and OIG is questioning the $2 million initial cost of the WWTP as well as the costs incurred to bypass and remove the system.

Combined Heat and Power System

OIG found that the CHP system designed for NEC London was not completed under the BLHI contract, in part because of design deficiencies. As a result, a separate contract was issued to ENGIE for $1.6 million on September 24, 2019, to complete installation of the CHP system. A September 6, 2018, OBO memorandum[6] stated the CHP had not been completed and fully commissioned "for a variety of reasons including design deficiencies and contractor deficient installation." As a result, ENGIE was selected to complete, commission, and operate the system.

According to OBO, installation of the CHP was required by two local planning commissions—the Greater London Authority and the London Borough of Wandsworth. The planning commissions determined that NEC London would be the anchor tenant of the Nine Elms "Opportunity Area" and accordingly would be required to provide district heating. In April 2015, the Embassy, the London Borough of Wandsworth, and major developers in the area signed a Memorandum of Understanding to create the "Embassy Quarter Heat Network." In compliance with the planning commissions' requirements, the CHP system was designed to be composed of two natural gas generators that would provide heat and power for NEC London. In addition, the CHP system was designed to provide excess electricity and hot water to the local grid once the building demand was met.[7]

Natural Gas Internal Piping System

During audit fieldwork at NEC London in October 2019, OIG learned that the natural gas internal piping system that had been installed did not comply with local building standards. Specifically, gas intake into NEC London is at a higher pressure level than allowed by local building standards. This occurred because OBO officials applied U.S. standards for the natural gas internal piping system instead of local standards. However, the contract with BLHI clearly stated that the contractor must comply with all laws, codes, ordinances, and regulations of the host country, which is also required by the FAR.[8] Specifically, according to the contract:

[6] "New London Embassy Path to Full Occupancy and Final Acceptance."

[7] OBO, "New Embassy Construction Project, Embassy of the United States of America, London, England, Final Completion Report" (March 2018), 1.2.6.5

[8] FAR 52.236-7, "Permits and Responsibilities."

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

> LAWS AND REGULATIONS - The Contractor shall, without additional expense to the Government, be responsible for complying with all laws, codes, ordinances, and regulations applicable to the performance of the work, including those of the host country, and with the lawful orders of any governmental authority having jurisdiction. Host country authorities may not enter the construction site without the permission of the Contracting Officer. Unless otherwise directed by the Contracting Officer, the Contractor shall comply with the more stringent of the requirements of such laws, regulations and orders and of the contract. In the event of a conflict between the contract and such laws, regulations and orders, the Contractor shall promptly advise the Contracting Officer of the conflict and of the Contractor's proposed course of action for resolution by the Contracting Officer.

Within OBO, the Design and Engineering Division is charged with developing, coordinating, and maintaining all applicable building codes, standards, criteria, and guidelines for facility design. The Design and Engineering Division acts as the "building code official" to confirm the technical adequacy of construction documents.[9] Because this project was located overseas, construction should have complied with both the "2011 Building Code of the Overseas Buildings Operations" (2009 International Building Code) and the host country's local building codes.

In addition, issues with the gas pressure should have been identified by OBO and properly mitigated during the design phase of construction. According to the "Contract and the Project Managers Handbook," during project design an architectural and engineering assessment[10] should be conducted by OBO to analyze the local construction environment to determine locally available labor, materials and equipment resources, potential cost escalation, labor and industry standards and practices, safety standards, and other factors that may impact the construction of the project. An OBO official told OIG that the natural gas internal piping system was designed according to U.S. construction standards, rather than "mixing and matching" U.S. and U.K. standards. Furthermore, according to OBO, the OBO Mechanical Commissioning Agent commissioned the natural gas internal piping system as being fully compliant with U.S. standards. However, during installation of the gas piping system, local technicians refused to activate the gas system because the pressure entering the facility was greater than permitted by local standards. Eventually, natural gas was connected to the NEC and activated. However, certified U.K. gas technicians will not perform future maintenance because of the risk of losing their certification. As a result, technicians from the United States will be needed to perform maintenance or train NEC London facility maintenance staff to perform the required maintenance.

Furthermore, because of noncompliance with local building standards, the kitchen appliances in the NEC London cafeteria, which were expected to be powered by natural gas, are being replaced with electric appliances at an added cost of approximately $147,120. Because the

[9] OBO "Project Manager's Handbook" (March 2010), Section 3.2, "Roles and Responsibilities of OBO Offices."

[10] OBO "Project Manager's Handbook" (March 2010), Initial Planning Survey, "Part III Architectural and Engineering Assessment," 391.

UNCLASSIFIED

natural gas internal piping system did not function as expected, OIG considers the funds expended to replace the appliances and mitigate the conditions surrounding the natural gas internal piping system as questioned costs.

NEC London Pond

OIG found that the semicircular pond located on one side of NEC London, which serves partly as a security barrier, was inadequately designed and that NEC London officials had to replace the piping and pumping system as a result. Specifically, the piping and pumping system that is used to fill and maintain the water level in the pond was poorly designed because the elevation of the intake pipe was above the pump intake, which caused air to be trapped and prevented the pumps from properly engaging. In addition, only one strainer[11] was installed with the pumping system and it was not sufficient for the size of the pond. Furthermore, according to the OBO project director, the drain line collected sand and gravel because a liner was not included in the design to keep the sand and gravel away from the piping.

OIG found that OBO did not require the construction contractor to repair the issues identified because the pond had been constructed and installed as designed. Therefore, NEC London officials took action to replace the piping and added two pumps and two strainers to the system. Even with the replacements, algae continues to be an issue with the pond, and the A&E contractor stated that it will take 2 years for the plants to begin to absorb the algae-producing contaminants in the water. In the interim, NEC London has spent approximately $200,000 each year on chemicals to clean the pond and reduce algae.

Because of the design deficiencies with the pond and because the Department expended additional funds to remove the existing system and design and install another piping and pumping system, OIG considers these additional financial outlays questioned costs.

OIG Questioned Costs

OIG determined that the deficiencies described above stemmed, in part, from inadequate attention to major systems design and local building requirements. As a result, additional financial outlays were required to replace, remove, or modify the inadequate systems. Moreover, the lease-back option had to be extended, at a cost of $34 million, to provide additional time to address the conditions encountered. OIG considers the costs associated with the inadequate major systems, the financial outlays necessary to remove or make them operable, and the lease-back extension questioned costs because the systems failed to meet their intended purpose or were unnecessary and delayed the scheduled occupancy of NEC London. Table 1 presents the costs OIG questioned by major system and the lease-back extension.

[11] A strainer is used to intercept debris and keep it away from the pump.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

Table 1: OIG Questioned Costs Related to Major Systems and Lease-Back

Major Systems	Questioned Cost
Wastewater Treatment Plant	$2,000,000[a]
NEC London Pond	$235,967[b]
Gas Kitchen Appliance Replacement	$147,120[c]
Lease-Back Extension	$34,000,000
Total	**$36,383,087**

[a] WWTP estimated installation costs.
[b] NEC London pond estimated modification costs.
[c] Electric appliance estimated replacement costs.
Source: Generated by OIG from data provided by OBO.

Responsibility for Major Systems Design and NEC Construction Delays and Additional Costs

KT, the A&E firm for NEC London, had primary responsibility for the design of NEC London, including the major systems installed. According to the Office of the Procurement Executive, "The architecture-engineer contractor must prepare drawings and specifications describing the work to be done in sufficient detail to permit a construction contractor to submit a firm-fixed-price proposal for the work."[12] Additionally, the Federal Acquisition Regulation (FAR) provides that architecture-engineer contractors are responsible for the professional quality, technical accuracy, and coordination of all services required under the contract.[13] Therefore, when modifications are required to a contract because of an error or deficiency in the design, the Contracting Officer shall consider the extent to which the architecture-engineer contractor may be reasonably liable.[14] Additionally, the FAR states that failure by the architecture-engineer contractor to comply with the contract may be grounds for rejection and, moreover, that the Government's failure to identify noncompliant items does not relieve the architecture-engineer contractor of the duty to comply with the contract requirements.[15]

BLHI and OBO both had responsibilities related to the design of NEC London during the early pre-construction phase and as part of the "one team" concept under the ECI process. ECI is intended to bring key stakeholders to the table earlier than typical design-build or design-bid-build processes. Specifically, BLHI's contract required that preconstruction services include a review and evaluation of the design documents for constructability, operability, cost, value engineering suggestions, risk management review and workshops, identification of any problems or errors in the design and design documentation, consultation during construction document production, assistance in defining bid packages and construction phasing, integration of IT, mockups and mockup testing, preliminary project schedule development, cost estimates along with substantiating documentation, and development of subcontractor and supplier interest. Because OIG is unaware of any effort by the Department to analyze and potentially

[12] OPE Overseas Contracting and Simplified Acquisition Guidebook (December 2017), Chapter 9, II.B.
[13] FAR 36.608, "Liability for Government costs resulting from design errors or deficiencies."
[14] Ibid.
[15] FAR 52.236-23, "Responsibility of the Architect-Engineer Contractor."

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

pursue liability claims against the A&E firm or the construction contractor involved with the design and construction of NEC London, including its major systems, OIG is offering the following recommendations.

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $34 million in identified questioned additional costs expended for the otherwise unnecessary lease-back extension of the former U.S. Embassy London and b) recover from each firm those costs for which they are determined to be responsible.

Management Response: OBO concurred with the recommendation and provided consolidated comments that apply to Recommendations 1–4. In those comments, OBO stated that the costs expended for the lease-back extension were directly related to the delayed contract completion. In April 2016, OBO ordered BLHI to accelerate the work and take all necessary actions to increase productivity. In response, BLHI engaged specialty consultants to assist with planning, assigned additional resources, and expedited all logistics and supply chains to complete the project as soon as possible. The order to accelerate resulted in a request for equitable adjustment (REA) by BLHI to recover costs for actions outside of its contract requirements. The Department specifically stated that "[s]ettlement of the REA took into consideration the status of the construction progress at the time the order to accelerate was given, the impact of ongoing design questions on BLHI's progress, and the availability of local construction labor in the surging local economy." Negotiation of the REA and contract close-out were finalized in three rounds of meetings—one related to schedule delays, one related to direct costs of design changes, and the last one related to acceleration and disruption. Accordingly, determination for BLHI's responsibility in both construction delays and deficiencies was made as part of the negotiation and contact close-out. "The contract modifications that were executed account for BLHI's responsibilities and also waive [its] rights to make additional claims against the U.S. government."

In addition, OBO reviewed the magnitude of the changes with respect to the size and complexity of the project and concluded that Kieran-Timberlake PLC's work met the standard of care that would normally be expected on projects of "similar scope and complexity." OBO found that design issues by Kieran-Timberlake PLC did not significantly impact its schedule. Design issues that did occur early in the 5-year process were found to be well within the standard of care for an architectural engineering effort and the project was reported to be on schedule until the last year of construction.

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed the memorandum signed by the OBO Design and Engineering office director stating that OBO has reviewed the performance of the Architectural Company Kieran-Timberlake PLC that provided the Architectural and

UNCLASSIFIED

Engineering Services for the New London Embassy and is fully satisfied that its services meet the standard of professional care. In addition, OIG reviewed the REA negotiation memorandum and contract modifications and determined that the Department considered BLHI's liability for construction delays. No further action regarding this recommendation is required.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $2 million in identified questioned additional costs expended to install the subsequently abandoned Wastewater Treatment Plant at the New U.S. Embassy London and b) recover from each firm those costs for which they are determined to be liable.

Management Response: OBO concurred with the recommendation, noting that, as set forth in response to Recommendation 1, with respect to the responsibility of Kieran-Timberlake PLC, OBO reviewed the magnitude of the changes in regard to the size and complexity of the project and concluded that its work met the standard of care that would normally be expected on projects of similar scope and complexity. In addition, the wastewater treatment plant ultimately functioned and can continue to do so. OBO worked with KT and BLHI to "rectify the function of the plant and replace parts that were not adequate."

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed the memorandum signed by the OBO Design and Engineering office director stating that OBO has carefully reviewed the performance of the Architectural Company Kieran-Timberlake PLC that provided the Architectural and Engineering Services for the New London Embassy and is fully satisfied that its services meet the standard of professional care. No further action regarding this recommendation is required.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent, the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060) is responsible for its design deficiencies resulting in $235,967 in additional costs expended to modify the new U.S. Embassy London semicircular pond and b) recover those costs for which the firm is determined to be liable.

Management Response: OBO concurred with the recommendation, noting that the pond system was not performing as desired, but OBO could not determine whether the circulation system was installed as designed without "costly, unsightly, and impractical demolition testing." Instead, OBO worked with Kieran-Timberlake PLC and BLHI to modify the system to bring it into greater balance and restore it as a naturally functioning pond.

UNCLASSIFIED

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed the memorandum signed by the OBO Design and Engineering office director stating that OBO has carefully reviewed the performance of the Architectural Company Kieran-Timberlake PLC that provided the Architectural and Engineering Services for the New London Embassy and is fully satisfied that its services meet the standard of professional care. No further action regarding this recommendation is required.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $147,120 in questioned additional costs expended to replace gas appliances with electric appliances at the new U.S. Embassy London due to the failure to comply with contract requirements regarding host country laws, codes, ordinances, and regulations and b) recover from each firm those costs for which they are determined to be liable.

Management Response: OBO concurred with the recommendation, noting that the gas line and gas kitchen equipment in London were designed pursuant to OBO's 2012 Standard Embassy Design program and applicable codes of the United Kingdom. OBO further stated that a formal review by local permit officials and the London Fire Brigade was conducted on the subject of U.S. versus UK gas service standards and it was decided by the UK officials that it was "better to stay with one standard (U.S.) rather than mix and match." The design was reviewed and accepted by both OBO and BLHI during the design phase. OBO became aware of the differing gas service standards when the kitchen was being set up for a potential vendor. Post officials made the decision to switch to electric appliances because such appliances were less costly to maintain and service and were in compliance with local standards for a food operator.

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG reviewed the memorandum signed by the OBO Design and Engineering office director stating that OBO has carefully reviewed the performance of the Architectural Company Kieran-Timberlake PLC that provided the Architectural and Engineering Services for the New London Embassy and is fully satisfied that its services meet the standard of professional care. No further action regarding this recommendation is required.

Finding B: Decisions Resulted in Deficiencies That Will Require Continuous Attention

OIG found that certain decisions and inadequate installation, among other issues, resulted in building deficiencies that will require continuous attention. Specifically, ground water is seeping

UNCLASSIFIED

into the lower levels of NEC London because a decision was made, following a value engineering study,[16] not to include an additional floor "slab" and a perimeter masonry wall. In addition, portions of the roof at NEC London were improperly installed and will require continuous attention to avoid leaks and water damage. A third-party contractor identified more than 700 defects with the exterior façade covering NEC London, including missing restraint lugs and improperly installed, missing, or damaged gaskets. Furthermore, interior stone tiles have cracked, and exterior stone pavers have deteriorated to the point that vehicle traffic in certain areas has been limited to avoid additional damage.

Ground Water Seeping Into NEC London Lower Level

OIG found ground water seeping into the lower level of NEC London because a decision was made, following a value engineering study, not to include an additional floor "slab" and a perimeter masonry wall in the lower level. The purpose of a value engineering study is to improve the function or reduce cost by promoting the substitution of material and methods with less expensive alternatives without sacrificing functionality. According to OBO policy, a value engineering study is required for construction projects that cost more than $5 million.[17]

The value engineering study conducted for NEC London proposed removing the additional floor slab on the lower level to reduce cost. OBO accepted that recommendation and removed the floor slab from the design. However, the value engineering study also noted the potential consequences of removing the slab, stating, "The parking would be directly on the structural slab. It is noted that there will be moisture on the parking slab coming up from below. There will be drainage to move the water away, but moisture will be present." OBO made the decision to remove the additional floor slab and, as predicted in the value engineering study, ground water is seeping into the lower level of NEC London. Figures 2, 3, and 4 are photographs from the lower level of NEC London taken in January 2020.

[16] Value engineering provides a systematic review that aims to lower life-cycle costs and improve quality and performance.

[17] OBO "Policy and Procedures Directive (P&PD)," Cost 02, "Value Engineering."

UNCLASSIFIED

Figure 2: Ground water seeping into the lower level parking garage of NEC London.
Source: OIG photograph taken January 2020.

Figure 3: Ground water seeping through the lower level floor of NEC London.
Source: OIG photograph taken January 2020.

Figure 4: Mold forming on the wall in the lower level parking garage of NEC London.
Source: OIG photograph taken January 2020.

Roof

OIG found that portions of the roof at NEC London were improperly installed and will require continuous attention to avoid leaks and water damage. According to the NEC London project director, the roof design for NEC London prepared by the A&E contractor KT never aligned with OBO's expectations. However, OBO did not require changes to the design from the A&E firm. Instead, an OBO roofing expert was assigned to the NEC London project to make changes to the original roof design. This created a "hybrid" design with features from both the A&E

UNCLASSIFIED

contractor's design and from OBO's standard roof design. OIG found that the finished roof was completed improperly and identified defects with the equipment pads. Because OIG does not know the basis by which OBO chose to alter the design of the roof after accepting the design of the roof from the A&E contractor, OIG is not offering a recommendation to address this condition. Figures 5 and 6 show the results of improper installation of roofing over equipment pads.

Figure 5: Improper installation of roofing over equipment pad.
Source: Photograph taken by OIG in April 2019.

Figure 6: Improper installation of roofing on sidewall.
Source: Photograph taken by OIG in April 2019.

Exterior Façade

Before the 11-month warranty inspection in November 2018, post officials commissioned two third-party contractors to conduct inspections on the building's rain cladding and tensioned sails. The contractor inspecting the rain cladding identified more than 700 defects, including missing restraint lugs and improperly installed, missing, or damaged weatherproofing gaskets.

In addition, the contractor inspecting the tensioned sails listed in its inspection report 30 types of construction phase defects and hundreds of individual deficiencies, including wrinkles, splits, and tears in the sails and several loose wind cables. Additionally, the inspectors found missing, improperly installed, or incorrectly sized nuts, bolts, and clamps used to secure the sail panels, which caused broken or missing fittings. The audit team observed detached brackets and other defects during the team's visit, but for security reasons could not take photographs.

Figure 7: Wind Cable detached from building.
Source: Photograph from Stan Ltd. Inspection.

These issues were not identified and addressed prior to declaring NEC London substantially complete because OBO did not conduct an effective quality assurance inspection of the façade

UNCLASSIFIED

before issuing the certificate of substantial completion.[18] The consequences of these problems are substantial. Post personnel stated that exterior building maintenance, including window washing and treatment costs for the complex façade would increase tenfold, from $30,000 for the prior embassy to $300,000 per year for the new embassy.

Although OIG has identified design decisions as a cause for deficiencies resulting in additional attention and possible additional cost, it is not making a recommendation at this time. However, an audit of the design approval and coordination process is included in the FY 2020–FY 2021 workplan.

Stone Tiles and Pavers Cracking and Deteriorating

OIG found that interior stone tiles have cracked and exterior stone pavers have deteriorated to the point that vehicle traffic leading into the main entrance of NEC London has been limited to avoid additional damage. OIG could not determine the specific cause for the defects, but the quality of the tiles and stone pavers as well as the way they were installed could be the reason since NEC London has only been open for approximately 2 years. Figures 8, 9, and 10 demonstrate these defects, including cracking, delamination, and color variances.

Because OIG could not determine the specific cause for the defects, OIG is recommending that OBO verify that the stone pavers and tiles installed were the grade and quality of materials approved and that they were installed correctly. If the grade and quality of materials was not consistent with contract requirements, then OBO, in coordination with the Bureau of Administration and the Office of the Legal Advisor, should determine the extent to which BLHI is responsible and recover any associated costs.

Figure 8: Damaged interior stone tiles on sixth floor showing spalling and delamination.
Source: Photograph taken by OIG in January 2020.

Figure9: Damaged (cracked) interior stone tiles.
Source: Photograph taken by OIG in April 2019.

[18] FAR 46.102, "Policy," requires inspections for quality of work before Government acceptance.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

Figure 10: Damaged edges of exterior stone pavers on embassy driveway.
Source: Photograph taken by OIG in April 2019.

Recommendation 5: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy London and prior to issuing the Certificate of Final Acceptance, verify that the stone pavers and tiles that were installed at Embassy London were the grade and quality of materials approved and that they were installed correctly. If the grade and quality of materials is not consistent with contract requirements, in coordination with the Bureau of Administration and the Office of the Legal Advisor, OBO should determine the extent to which the construction contractor, B.L. Harbert International, LLC, (under contract # SAQMMA-12-C-0111) is responsible and recover any associated costs.

Management Response: OBO concurred with the recommendation, noting it "verified that the Coquina stone installed on the 6th and 7th floors was provided and installed per contract requirements. OBO also verified that the exterior paver China Impala stone was provided and installed per the contract requirement."

OIG Reply: On the basis of OBO's actions taken, OIG considers this recommendation closed. OIG reviewed the approved submittals for the stone tiles and pavers that were installed. In addition, as noted above, OBO represented that it had verified the approved tiles were appropriately installed. No further action regarding this recommendation is required.

Finding C: Final Acceptance of the NEC London Construction Project Remains Pending

OIG found that, as of April 2020, more than 2 years since OBO declared NEC London "substantially complete," final acceptance of the construction project remains pending.

According to OBO's "Construction Management Guidebook," the beginning of the construction project closeout process occurs when the contractor notifies the PD in writing that construction work is substantially complete. The PD performs inspections and tests to verify that, in fact, the

UNCLASSIFIED

work is substantially complete. Upon satisfactory completion of the inspections, the PD issues a Certificate of Substantial Completion and provides the contractor with a list of the remaining minor unfinished items, referred to as a schedule of defects or punch list, that must be corrected within 6 months.[19] The final steps of project completion and acceptance typically begin 60 days or less after the Certificate of Substantial Completion is issued. The length of time for project completion depends on the contractor's ability to correct the items listed in the punch list.

As of October 2019, nearly 2 years after substantial completion, OIG found that 274[20] identified defects or punch list items were still awaiting remediation. A punch list item is typically a minor defect that needs to be corrected, adjusted, or replaced before a Certificate of Final Acceptance for the construction project can be issued. OIG determined that the lengthy time it has taken to address the punch list is due, in part, to the failure by OBO officials to follow prescribed procedures for preparing a consolidated punch list. Specifically, during OIG's audit of OBO's construction closeout process, which is currently underway, OIG found that OBO did not prepare a consolidated punch list that the contractor needed to address. Instead, OBO officials provided the contactor 14 separate "Notices of Deficiencies" in January 2018, the month following substantial completion. The separate lists of items were a result of the multiple inspections occurring on various earlier dates, such as those for security, fire safety, and elevators. Having separate deficiency lists, rather than one consolidated punch list, made it difficult for both OBO and BLHI to track the defects on the punch list.

According to FAR 52.236-11, "Use and Possession Prior To Completion," a single "list" is required:

> The Government shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the Government intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The Government's possession or use shall not be deemed an acceptance of any work under the contract.

[19] OBO, "Construction Management Guidebook," Volume 1, Section 3.3.18, "Substantial Completion," 3–54, and Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 4, "Transition to Occupancy Activities," Appendix B, "Definitions," 30.

[20] Some punch list items contained several separate defects from notices of deficiencies that were combined into a single line item for tracking purposes when OBO and the contractor agreed, as described subsequently, to merge the punch list and warranty tracking list for convenience. The actual number of defects contained on the list is more than 274.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

In addition, OIG found that some of the items on the punch list (14 separate lists) related to warranties. Likewise, some of items listed on the warranty list should have been identified as punch list items. Eventually, OBO and the contractor agreed to combine the punch list and the warranty list[21] because, according to OBO officials, this would make it easier to track both. However, because OIG identified items that appeared to have been marked as defects and claimed as warranty items and vice versa, it was difficult to identify the punch list contractual requirements. In fact, combining the issues in this way was inconsistent with OBO Construction Alert A-2010-06, which states that the contractor shall not be allowed to view the Schedule of Defects as "warranty issues."[22] In addition to failing to follow its own policy, this practice makes it difficult for OBO to hold the construction contractor accountable for contractual obligations to address all punch list items before final acceptance.

Furthermore, during a second site visit, in January 2020, the PD stated that he did not have a current punch list available. After completion of the site visit, the PD provided an updated punch list on January 24, 2020, which continued to include warranty items. In addition, OIG found that the punch list did not accurately document the status of each item listed. For example, the list received from OBO on January 24, 2020, included 29 items, of which 4 appear to be closed. However, according to comments associated with those items, it appears that OBO officials were not necessarily in agreement that the items were indeed closed. For example, "strip lighting" on the 5th and 7th floors were one such deficiency. The notes state that this issue was closed on October 12, 2019. However, the next comment referred to a subsequent email from post stating that some of these items had not, in fact, been cleared, and another comment noted that six new lights were required. In another example, "power sockets" were described as being inoperable in four rooms. One comment stated that the items were subsequently closed, but the next comment cited a later email from post explaining that some of these items had not been cleared; yet another comment stated that post and the contractor were to review the issue during the next visit by the electrical subcontractor. As a result of these inconsistencies, OBO is unable to demonstrate what items remain open and what actions are ultimately needed to close them and achieve final acceptance of the NEC London construction project.

Because OBO did not adhere to its closeout process in two of the three projects reviewed for the audit, the deviation from the process is presented in detail in the upcoming audit report and will present a recommendation to address the shortcoming. However, because of the importance of ensuring that all punch list items are completed before final acceptance, OIG is making two recommendations to address this shortfall for NEC London.

Recommendation 6: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy London, create and formally communicate to the contractor a

[21] FAR 46.7, "Warranty," defines warranty list as a stated period of time or use, or the occurrence of a specified event, after acceptance by the Government to assert a contractual right for the correction of defects. That is, in contrast to a punch list, which are items that are identified before acceptance, warranty items are non-functional items identified after acceptance (i.e., substantial completion).
[22] OBO, Office of Construction Management, Construction Alert A-2010-06, September 21, 2010.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

consolidated schedule of defects (punch list) that describes all defects that the contractor must address prior to final acceptance of the building. The schedule of defects should not include any items related to warranties. Furthermore, the schedule of defects should reflect the current status of each reported defect.

Management Response: OBO concurred with this recommendation and provided an updated list with deficiencies (defects) that remained open. Other than the items on the updated list, OBO stated that it had verified that all items on the schedule of defects have been completed.

OIG Reply: On the basis of OBO's concurrence with the recommendation and actions taken, OIG considers this recommendation closed. OIG verified that a consolidated schedule of defects (punch list) had been created and that the information had been communicated to the contractor. No further action regarding this recommendation is required.

Recommendation 7: OIG recommends that, once an accurate consolidated schedule of defects is developed (Recommendation 6), the Bureau of Overseas Buildings Operations, in coordination with Embassy London, establish timeframes for completing all identified defects and verify completion before final acceptance.

Management Response: OBO concurred with this recommendation, noting it will work with Embassy London to verify completion of all defects identified on the list of deficiencies (defects), referred to in OBO's response to Recommendation 6, before final acceptance. OBO established a timeframe and estimated that the task would be completed by October 2020.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. The recommendation will be closed when OIG receives and accepts documentation demonstrating that all defects identified on the list of deficiencies (defects) have been completed.

UNCLASSIFIED

RECOMMENDATIONS

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $34 million in identified questioned additional costs expended for the otherwise unnecessary lease-back extension of the former U.S. Embassy London and b) recover from each firm those costs for which they are determined to be responsible.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $2 million in identified questioned additional costs expended to install the subsequently abandoned Wastewater Treatment Plant at the New U.S. Embassy London and b) recover from each firm those costs for which they are determined to be liable.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent, the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060) is responsible for its design deficiencies resulting in $235,967 in additional costs expended to modify the new U.S. Embassy London semicircular pond and b) recover those costs for which the firm is determined to be liable.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $147,120 in questioned additional costs expended to replace gas appliances with electric appliances at the new U.S. Embassy London due to the failure to comply with contract requirements regarding host country laws, codes, ordinances, and regulations and b) recover from each firm those costs for which they are determined to be liable.

Recommendation 5: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy London and prior to issuing the Certificate of Final Acceptance, verify that the stone pavers and tiles that were installed at Embassy London were the grade and quality of materials approved and that they were installed correctly. If the grade and quality of materials is not consistent with contract requirements, in coordination with the Bureau of

UNCLASSIFIED

Administration and the Office of the Legal Advisor, OBO should determine the extent to which the construction contractor, B.L. Harbert International, LLC, (under contract # SAQMMA-12-C-0111) is responsible and recover any associated costs.

Recommendation 6: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy London, create and formally communicate to the contractor a consolidated schedule of defects (punch list) that describes all defects that the contractor must address prior to final acceptance of the building. The schedule of defects should not include any items related to warranties. Furthermore, the schedule of defects should reflect the current status of each reported defect.

Recommendation 7: OIG recommends that, once an accurate consolidated schedule of defects is developed (Recommendation 6), the Bureau of Overseas Buildings Operations, in coordination with Embassy London, establish timeframes for completing all identified defects and verify completion before final acceptance.

UNCLASSIFIED

APPENDIX A: BUREAU OF OVERSEAS BUILDINGS OPERATIONS RESPONSE

United States Department of State

Washington, D.C. 20520

June 11, 2020

UNCLASSIFIED

TO: OIG/AUD – Denise M. Colchin

FROM: OBO/RM – Jeffrey Reba, acting \s\

SUBJECT: OIG Draft Management Assistance Report: Execution of the New Embassy Compound London Construction Project Offers Multiple Lessons

The Bureau of Overseas Buildings Operations (OBO) has reviewed the draft OIG Management Assistance Report. Attached is OBO's response to recommendations 1-7.

Attachment:
As stated.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

OBO Comments on the OIG Draft Management Assistance Report: Execution of the New Embassy Compound London Construction Project Offers Multiple Lessons

Completing the new London Embassy project became a top priority for OBO Director Tad Davis upon his arrival in OBO in September 2018. Recognizing the importance and magnitude of the project, the potential risks, as well as Congressional interest, Director Davis made multiple visits – the first within 30 days of coming onboard - to inspect the project and get a firsthand perspective of the issues and challenges on the ground. He established monthly meetings with the project team to track the progress of every outstanding item and issue, held multiple meetings with the president of B.L. Harbert International, and hosted a number of technical discussions with architects and engineers focused on the design and construction of selected features of the project, to include the combined heating and power plant, wastewater treatment plant, and pond. This detailed attention from OBO leadership put the appropriate pressure on both the contractor and OBO team to bring the project to a successful completion and achieve the mutual ultimate goal of moving embassy staff into a new, safe, secure and resilient facility.

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $34 million in identified questioned additional costs expended for the otherwise unnecessary lease-back extension of the former U.S. Embassy London and b) recover from each firm those costs for which they are determined to be responsible.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $2 million in identified questioned additional costs expended to install the subsequently abandoned Wastewater Treatment Plant at the New U.S. Embassy London and b) recover from each firm those costs for which they are determined to be liable.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent, the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060) is responsible for its design deficiencies resulting in $235,967 in additional costs expended to modify the new U.S. Embassy London semicircular pond and b) recover those costs for which the firm is determined to be liable.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with the Bureau of Administration and the Office of the Legal Advisor, a) determine whether and, if so, to what extent the architecture-engineering firm Kieran-Timberlake PLC (under contract # SAQMMA-10-C-0060)—for design deficiencies—and the construction contractor B.L. Harbert International, LLC (under contract # SAQMMA-12-C-0111)—for construction deficiencies—are responsible for the $147,120 in questioned additional costs expended to replace gas appliances with electric appliances at the new U.S. Embassy London due to the failure to comply with contract

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

requirements regarding host country laws, codes, ordinances, and regulations and b) recover from each firm those costs for which they are determined to be liable.

OBO Response to Recommendations 1-4: OBO concurs with Recommendations 1-4 and has taken the following actions to resolve and close these issues:

The costs expended for the lease-back extension are directly related to the delayed contract completion. When it was apparent that B.L. Harbert International, LLC, (BLHI) was not going to achieve substantial completion before the contract completion date, in April 2016 the U.S. government ordered them to accelerate the work and take all necessary actions to increase their productivity. In response, BLHI engaged specialty consultants to assist with planning, assigned additional resources, and expedited all logistics and supply chains in order to complete the project as soon as possible. The order to accelerate resulted in a request for equitable adjustment (REA) by BLHI to recover costs for actions outside of their contract requirements. Settlement of the REA took into consideration the status of the construction progress at the time the order to accelerate was given, the impact of ongoing design questions on BLHI's progress, and the availability of local construction labor in the surging local economy.

The U.S. government derived a benefit from the acceleration which resulted in project completion sooner than what would have been achieved otherwise. Negotiation of the REA and contract close-out were finalized in three rounds of meetings – one related to schedule delays, one related to direct costs of design changes, and the last one related to acceleration and disruption. Accordingly, determination for the responsibility of BLHI in both construction delays and deficiencies was made as part of the negotiation and contact close-out. The contract modifications that were executed account for BLHI's responsibilities and also waive their rights to make additional claims against the U.S. government.

With respect to the responsibility of Kieran-Timberlake PLC, OBO reviewed the magnitude of the changes in regards to the size and complexity of the project and concluded that their work met the standard of care that would normally be expected on projects of similar scope and complexity.

The waste water treatment plant in the end was functioning and is capable of continuing to do so. OBO worked with KT and BLHI to rectify the function of the plant and replace parts that were not adequate. The system was not required in the UK due to a lack of a utility network, but was designed to provide recycled gray water for irrigation and waste plumbing. However, the plant was taken off line by the Post facility staff to avoid future maintenance time and costs.

The pond system was not performing as desired, but OBO could not determine whether the circulation system was installed as designed without costly, unsightly and impractical demolition testing. Instead, OBO worked with KT and BLHI to modify the system to bring it into greater balance and restore it as a naturally functioning pond.

The gas line and gas kitchen equipment in London were designed per 2012-OBO-ICS-IPC-2009, the kitchen guidelines in the 2012 SED program, and UK codes BS1710 and 12056. A formal review by Wandsworth permit officials and the London Fire Brigade on the subject of US versus UK standards and in particular the gas service was conducted and it was decided by the UK officials that it is better to stay with one standard (US) rather than mix and match. The design

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

was reviewed and accepted by both OBO and B.L. Harbert during the design phase. OBO became aware of the issue of UK versus US standard for the gas service when the kitchen was being set up for a potential vendor. Post made a decision to switch to electric appliances because it is less costly to maintain and service, and is in compliance with local standards for a food operator.

OBO respectfully requests that OIG close recommendations 1-4.

Recommendation 5: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy London and prior to issuing the Certificate of Final Acceptance, verify that the stone pavers and tiles that were installed at Embassy London were the grade and quality of materials approved and that they were installed correctly. If the grade and quality of materials is not consistent with contract requirements, in coordination with the Bureau of Administration and the Office of the Legal Advisor, OBO should determine the extent to which the construction contractor, B.L. Harbert International, LLC, (under contract # SAQMMA-12-C-0111) is responsible and recover any associated costs.

OBO Response: OBO concurs with the recommendation and verified that the Coquina stone installed on the 6th and 7th floor was provided and installed per contract requirements. OBO also verified that the exterior paver China Impala stone was provided and installed per the contract requirement.

OBO respectfully requests that OIG close this recommendation.

Recommendation 6: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy London, create and formally communicate to the contractor a consolidated schedule of defects (punch list) that describes all defects that the contractor must address prior to final acceptance of the building. The schedule of defects should not include any items related to warranties. Furthermore, the schedule of defects should reflect the current status of each reported defect.

OBO Response: OBO concurs with this recommendation and provides the attached list of schedule of defects. This list of defects is OBO's response to BLHI's September 22, 2017 request for substantial completion submittal. Also included is an updated list with deficiencies (defects) that remain open. Other than the items on the updated list, OBO has verified that all items in the schedule of defects have been completed.

OBO respectfully requests that OIG close this recommendation.

Recommendation 7: OIG recommends that, once an accurate consolidated schedule of defects is developed (Recommendation 6), the Bureau of Overseas Buildings Operations, in coordination with Embassy London, establish timeframes for completing all identified defects and verify completion before final acceptance.

OBO Response: OBO concurs with this recommendation and will work with Embassy London to verify completion of all defects identified in the deficiencies list, referred to in OBO response to recommendation 6, before final acceptance. The end of October 2020 is the estimated timeframe for completion of this task.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

OIG AUDIT TEAM MEMBERS

Denise M. Colchin, Director
Contracts, Grants, and Infrastructure Division
Office of Audits

Mark P. Taylor, Audit Manager
Contracts, Grants, and Infrastructure Division
Office of Audits

David R. Tolle, Senior Advisor for
Construction and Contracts
Office of Audits

Rachel A. Kell, Audit Manager
Contracts, Grants, and Infrastructure Division
Office of Audits

Brian K. Jones, Senior Auditor
Contracts, Grants, and Infrastructure Division
Office of Audits

Mario O. Barco, Auditor
Contracts, Grants, and Infrastructure Division
Office of Audits

UNCLASSIFIED

HELP FIGHT

FRAUD, WASTE, AND ABUSE

1-800-409-9926
Stateoig.gov/HOTLINE

If you fear reprisal, contact the
OIG Whistleblower Coordinator to learn more about your rights.
WPEAOmbuds@stateoig.gov

Office of Inspector General | U.S. Department of State | 1700 North Moore Street | Arlington, Virginia 22209

UNCLASSIFIED

APPENDIX D: MANAGEMENT ASSISTANCE REPORT: OUTSTANDING CONSTRUCTION DELIVERABLES AND DEFICIENCIES NEED ATTENTION AT NEW EMBASSY COMPOUND THE HAGUE, THE NETHERLANDS

UNCLASSIFIED

Office of Inspector General
United States Department of State

AUD-CGI-19-38 | Office of Audits | August 2019

Management Assistance Report: Outstanding Construction Deliverables and Deficiencies Need Attention at New Embassy Compound The Hague, the Netherlands

MANAGEMENT ASSISTANCE REPORT

IMPORTANT NOTICE: This report is intended solely for the official use of the Department of State or the U.S. Agency for Global Media, or any agency or organization receiving a copy directly from the Office of Inspector General. No secondary distribution may be made, in whole or in part, outside the Department of State or the U.S. Agency for Global Media, by them or by other agencies or organizations, without prior authorization by the Inspector General. Public availability of the document will be determined by the Inspector General under the U.S. Code, 5 U.S.C. 552. Improper disclosure of this report may result in criminal, civil, or administrative penalties.

UNCLASSIFIED

UNCLASSIFIED

CONTENTS

UNCLASSIFIED

UNCLASSIFIED

Summary of Review

The Department of State (Department) recently constructed a new embassy compound (NEC) in The Hague, the Netherlands. The Bureau of Overseas Buildings Operations (OBO) certified that construction of the NEC was "substantially complete" on November 25, 2017. Substantial completion is the point in time when the OBO project director (PD) determines that work is sufficiently complete and satisfactory, in accordance with the requirements of the contract, and the structure can be occupied with only minor items remaining to be completed or corrected. After substantial completion is reached, the construction contractor has 6 months to complete all outstanding items, according to the OBO Construction Management Guidebook.

During an audit of OBO's construction closeout process, which is currently underway, the Office of Inspector General (OIG) identified outstanding deliverables owed by the contractor. Specifically, as of June 2019, which was approximately 19 months after OBO issued the Certificate of Substantial Completion, the contractor had not completed items required by the contract. The outstanding items included removing a curb and lowering a sidewalk to smoothly transition to the main roadway in front of the compound, providing lighting for bench seats along the compound walkway, and providing a complete inventory of spare parts for major building systems.

Post officials also identified other matters requiring attention. For example, the irrigation system for the compound does not have adequate filtration to prevent clogging. A post official stated that the cost to replace the filtration system will be approximately $37,000. In addition, exterior walkway lights protrude approximately 2 inches above the ground surface (as designed) but have proven to be a tripping hazard for pedestrians. The cost to replace the lights is estimated to be $16,000. In addition, OIG noted that the stainless-steel exterior façade on two buildings was rusting approximately 17 months after substantial completion was declared, even though the construction contract required the contractor to apply a Type 316 stainless-steel façade that is used in marine environments to avoid rust. OIG could not determine whether Type 316 stainless-steel panels were used for the exterior façade. According to an OBO official, the panels were cleaned and polished after the completion of OIG's fieldwork at Embassy The Hague, and the embassy Facilities Manager estimated that the steel panels will need to be cleaned and polished at least annually to maintain their appearance. The cost of cleaning was approximately $5,400.

The purpose of this Management Assistance Report is to provide early communication of the deficiencies OIG identified during its ongoing audit so that they can be addressed before final acceptance of the construction project. OIG made five recommendations. In response to a draft of this report, OBO concurred with the recommendations and stated that it planned to take action to address them. On the basis of OBO's planned action, OIG considers all five recommendations resolved, pending further action. A synopsis of OBO's response to the recommendations offered and OIG's reply follow each recommendation in the Results section of this report. OBO's response to a draft of this report is reprinted in its entirety in Appendix A.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

BACKGROUND

OBO's construction contract closeout process is intended to be an orderly method to ensure that, before the warranty period has ended, the following goals have been accomplished and standards have been met:

- Building systems and assemblies have been planned, designed, procured, installed, tested, and adjusted in the prescribed manner to meet the design intent and specified performance.
- Personnel are properly and adequately trained in the operation and maintenance of the building systems.
- Building systems operate within the functional performance guidelines, as required by the contract.

Prior to beginning the closeout process for a construction project, a Project Commissioning Team[1] commissions the facility to verify that it performs according to the design intent, is operationally efficient and maintainable, and meets safety goals and security requirements. Commissioning entails the organization and control of the activities required to ensure that the transition period between completion of construction and occupancy will proceed without delay and will result in a complete and usable facility that meets all functional requirements.[2] Most commissioning activities should be targeted for completion by the project's substantial completion date.

The beginning of the construction project closeout process occurs when the contractor notifies the PD in writing that construction work is substantially complete. The PD performs inspections and tests to verify that, in fact, the work is substantially complete. For example, the PD will perform or verify that inspections related to fire safety, security, and elevator performance and safety have been completed and are satisfactory. Substantial completion is the point in time when the PD determines that the work is sufficiently complete and satisfactory, in accordance with the requirements of the contract documentation; the structure can be occupied or used for its intended purpose; and only minor items, such as touch-ups, adjustments, and minor replacements or installations, remain to be completed.[3]

The next step is for OBO's Managing Director for Operations, Office of Fire Protection, to inspect the fire protection systems and life safety features to ensure that no critical defects exist and then issue the Letter of Acceptance. Next, the Bureau of Diplomatic Security conducts

[1] The Project Commissioning Team is a group that includes representatives from OBO, the contractor, and the intended users and operators of the facility. The team consists of the Project Director; the construction executives; the commissioning agents; the commissioning agent's alternate Contracting Officer's Representative; operations and maintenance coordinators; post facility managers; Government-responsible Commissioning Teams; and the contractor's commissioning representative, staff, and subcontractors.

[2] OBO, "Construction Management Guidebook," Volume 1, Section 3.3.9, "Commissioning," 3–48 (rev. May 2016).

[3] OBO, "Construction Management Guidebook," Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 4, "Transition to Occupancy Activities," Appendix B, "Definitions," 30.

UNCLASSIFIED

an accreditation inspection[4] and, once all security concerns are resolved, issues the Certificate of Substantial Compliance. Upon satisfactory completion of the inspections, the PD issues a Certificate of Substantial Completion and provides the contractor with a list of the remaining minor unfinished items, referred to as a schedule of defects or "punch list," that must be corrected within 6 months.[5] The final steps of project completion and acceptance typically begin 60 days or less after the Certificate of Substantial Completion is issued. The length of time for project completion depends on the contractor's ability to correct the items listed in the punch list.

Next, the construction executive[6] prepares the appropriate documentation package, recommending that a Certificate of Occupancy be issued.[7] The Certificate of Occupancy authorizes post personnel to move into the facility.[8]

The contractor's 1-year warranty period begins at substantial completion.[9] During this period, all as-built drawings[10] and other related project documentation (such as catalogs, operating manuals, maintenance procedures and instructions, warranties, guarantees, and spare parts) must be turned over to either the post General Services Office or Facility Manager as soon as available, but no later than, the time of final acceptance.[11]

---

[4] The Accreditation Inspection Program is a significant component of the Department's compliance with Pub. L. 100-204, The Foreign Relations Authorization Act, as amended. Inspections verify that security of a newly constructed or renovated overseas facility intended for storage of classified materials or the conduct of classified activities meets relevant Overseas Security Policy Board physical and technical security standards. See also 12 FAM 361 Exhibit 361.3, Memorandum of Understanding Concerning Collaboration, Certification and Accreditation Among The Bureau of Overseas Buildings Operations, The Bureau of Diplomatic Security, and The Center for Security Evaluation.

[5] OBO, "Construction Management Guidebook," Volume 1, Section 3.3.18, "Substantial Completion," 3–54, and Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 4, "Transition to Occupancy Activities," Appendix B, "Definitions," 30 (rev. May 2016).

[6] The construction executive is the responsible manager and point of contact once the construction contract is awarded and is accountable for all technical, administrative, and project budget matters for the assigned project.

[7] OBO, "Construction Management Guidebook," Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Section 4.4.2, "Certificate of Occupancy," 3 (rev. May 2016).

[8] OBO, "Construction Management Guidebook," Volume 1, Section 3.4.3, "Certificate of Occupancy," 3–67 (rev. May 2016).

[9] OBO, "Construction Management Guidebook," Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Attachment 4, "Transition to Occupancy Activities," Appendix B, "Definitions," 31.

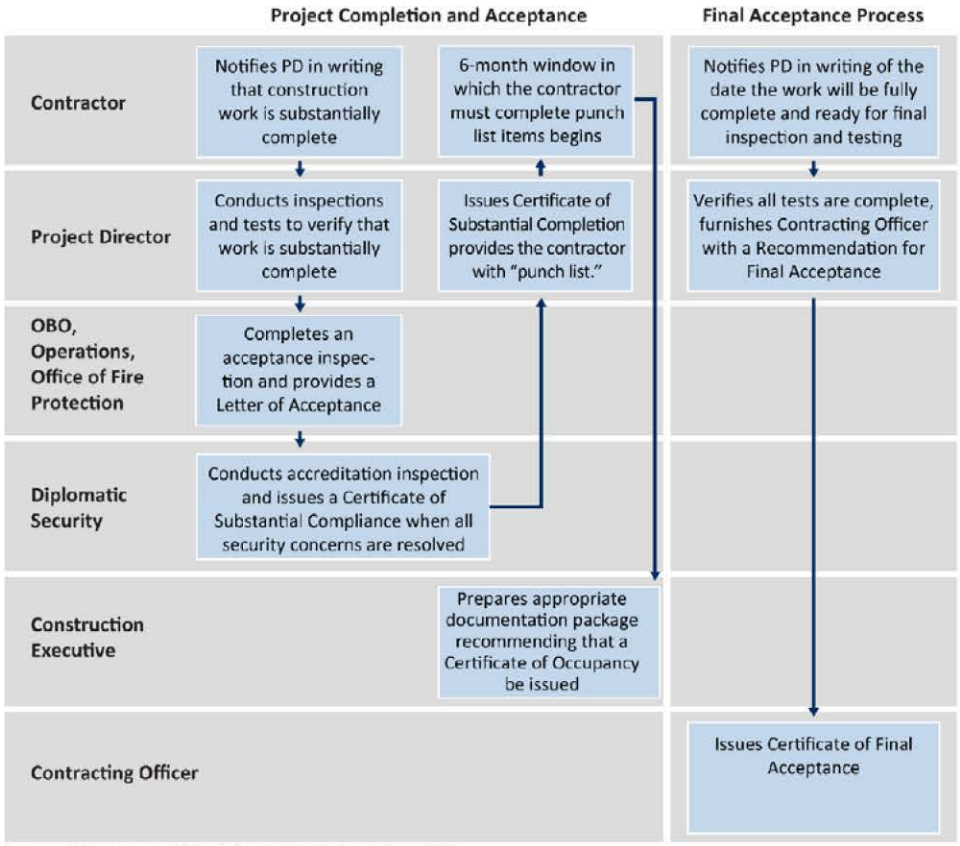
[10] As-built drawings are drawings of the construction as actually completed, including all changes to the original design and details of differing site conditions. Post is to keep a copy of these drawings and send the original as-built drawings to OBO's Office of Operations and Maintenance, Area Management Division. The as-built drawings become the permanent record documents for the facility.

[11] OBO, "Construction Management Guidebook," Volume 1, Section 3.4.1, "As-builts and Related Project Documentation provided to Post," 3–67 (rev. May 2016).

UNCLASSIFIED

The final acceptance process begins when the contractor notifies the PD in writing of the date the work will be fully complete and ready for final inspection and testing. The PD then verifies that all tests are complete, that the items on the schedule of defects have been corrected, that all work is complete, and the contractor has furnished all required deliverables, warranties, and releases. The PD then furnishes the Contracting Officer with a Recommendation for Final Acceptance. The Contracting Officer will in turn issue the Certificate of Final Acceptance.[12] The process is shown in Figure 1.

Figure 1: OBO's Construction Project Closeout Process Through Final Acceptance



Source: OIG-generated from information obtained from OBO.

[12] OBO, "Construction Management Guidebook," Volume 2, Appendix B, "Policy and Procedures Directives," P&PD CM 01, "Commissioning and Transition to Occupancy of Overseas Facilities," Section 4.4.3, "Final Acceptance," 3 (rev. May 2016).

UNCLASSIFIED

New Embassy Compound The Hague

Embassy The Hague is situated on a 10-acre site in the municipality of Wassenaar and includes a chancery/new office building, a U.S. Marine Corps residence, a utility building, and multiple access pavilions. The construction contract was awarded to Caddell Construction Company, Inc. on September 19, 2013, at a final cost of $134 million. Groundbreaking for the project occurred on May 28, 2014. OBO issued the certificate of substantial completion on November 25, 2017. As of July 2019, the Department had not issued a Certificate of Final Acceptance.

Purpose of the Audit and This Management Assistance Report

This Management Assistance Report is intended to provide early communication of deficiencies that OIG identified during its audit of OBO's construction closeout process so the deficiencies can be addressed before final acceptance of the construction project at NEC The Hague. The objective of the audit is to determine whether OBO personnel executed construction project closeout procedures in accordance with Federal, Department, and project-specific requirements. OIG is reporting the deficiencies discussed in this Management Assistance Report in accordance with generally accepted government auditing standards. In performing the work related to these deficiencies, OIG interviewed OBO officials and reviewed applicable criteria and supporting documentation, at both OBO headquarters in the Washington, DC, metro area and at Embassy The Hague. OIG believes that the evidence obtained provides a reasonable basis for the deficiencies identified in this report.

RESULTS

Finding A: Outstanding Contract Deliverables

According to the OBO Construction Management Guidebook, the Certificate of Substantial Completion begins a 6-month window, during which the contractor must complete punch list items. As of June 2019, which was approximately 19 months after OBO issued the Certificate of Substantial Completion,[13] the contractor that constructed NEC The Hague had not fulfilled all contract requirements. Two punch list items—from an original list of more than 2,000—had not been completed: (1) removing a curb and lowering a sidewalk to smoothly transition to the main roadway in front of the compound and (2) providing lighting for bench seats along an embassy compound walkway that was improperly installed below the seating. According to OBO officials, resolution of the first item was delayed because it took longer than anticipated to obtain a permit from the local government. OBO officials stated that the permit has now been obtained and that the work will be completed by September 2019. OBO did not provide information on the other open punch list item regarding lighting for the bench seats.

In addition, according to the OBO Construction Management Guidebook, spare parts for major building systems must be turned over to either the post General Services Office or the Facility Manager as soon as available, but no later than the time of final acceptance. The construction

[13] The Substantial Completion letter was signed on November 25, 2017.

UNCLASSIFIED

contract's Closeout Procedures also state that, before requesting the Certificate of Substantial Completion from the PD, the contractor should provide extra materials, including spare parts.[14] As of April 2019, the contractor had not delivered a complete inventory of spare parts. According to a Facilities Management official at post, approximately 75 (13 percent) of 600 spare parts had not been provided. Unless they have a complete supply of spare parts from the contractor, Facilities Management personnel cannot perform ongoing maintenance of embassy systems without procuring the needed parts at additional expense.[15]

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, verify completion of the two outstanding punch list items (tie-in to the main roadway and correcting bench seat lighting) related to construction of the New Embassy Compound in The Hague.

Management Response: OBO stated that it planned to clear the two outstanding punch list items before issuing the Certificate of Final Acceptance.

Regarding the tie-in to the main roadway, post officials decided it was "unnecessary to incur the cost to remove the section of the curb that ties-in to the main roadway that vehicles can drive over easily." OBO stated that it will request a confirmation email from post and then will remove the item from the punch list before issuing the Certificate of Final Acceptance.

Regarding the bench seat lighting, post decided the repair was unnecessary and requested that the contractor not complete the task. Instead, the contractor will fund several other facility projects needed at post. OBO stated that the "F[acilities] M[anager] will inform OBO once the contractor has provided funding for these projects. OBO will request an email from post confirming receipt of the funding agreed upon" to remove the item from the punch list before issuing the Certificate of Final Acceptance.

OIG Reply: On the basis of OBO's planned actions, OIG considers this recommendation resolved, pending further action. Post's determination that the two punch list items do not need to be completed meets the intent of the recommendation, which was to ensure that the punch list was fully addressed. However, if the Contracting Officer determines that these decisions constitute a change to the scope of work, the Contracting Officer must complete the required contracting actions. This recommendation will be closed when OIG receives and accepts evidence demonstrating that the tie-in to the main roadway and correcting bench seat lighting were removed from the punch list related to construction of the New Embassy Compound in The Hague prior to issuing the Certificate of Final Acceptance and that the Contracting

[14] Contract SAQMMA-13-C-0214, Division 1 – General Requirements, Section 017705, "Closeout Procedures," Part 3.02, "Substantial Completion," A(5)(c).

[15] The causes for deficiencies identified with OBO's project closeout process will be included in the report related to the overall audit.

UNCLASSIFIED

Officer has been notified of the changes and has taken appropriate action. In addition, OIG requests that OBO provide the list of additional projects and their associated value that the contractor agreed to complete in lieu of correcting the bench seat lighting deficiency.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, obtain from Caddell Construction Company, Inc., all contractually required spare parts for major building systems to facilitate maintenance of embassy systems at Embassy The Hague.

Management Response: OBO concurred with the recommendation, stating that the contractor has "ordered all remaining spare parts identified except for 77 items related to the fire suppression and detection system." According to OBO, the contractor believes that it already turned over those items, but OBO stated that it "has no documentation to this effect." OBO stated that it will request the contractor to provide documentation showing that post received those items or that the 77 items were in stock when the relevant inspections were performed. OBO further stated that, if the contractor is unable to provide proof that the 77 items were delivered, the contractor must provide those items before OBO issues the Certificate of Final Acceptance.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives and accepts documentation demonstrating that all contractually required spare parts for major building systems to facilitate maintenance of embassy systems at Embassy The Hague were received from the contractor before OBO issues the Certificate of Final Acceptance.

UNCLASSIFIED

Finding B: Identified Deficiencies Need Attention

Post officials identified other deficiencies that need attention. Specifically, the irrigation system for the compound does not have adequate filtration to prevent clogging caused by debris—including dirt and algae—in the natural pond used to provide water for irrigation. Because the pumps selected and purchased do not have adequate filtration, the pump system fails and the irrigation system cannot be used as designed and built. According to the Facilities Manager at post, OBO will need to replace the pumping system with one that has a "self-purging" filtration system at an approximate cost of $37,000.

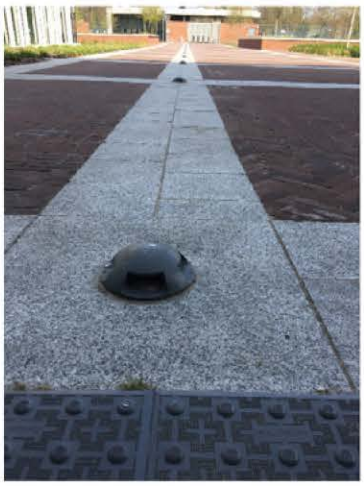


Figure 2: Raised lights separating walkway from driveway at Embassy The Hague. **Source:** OIG photograph taken April 2019.

In another example, the contract included a requirement for installation of 18 small lights to delineate a walkway from the driveway next to it, as shown in Figure 2. The "runway lights," as a Facilities Management official called them, protrude approximately 2 inches from the ground and are designed so that vehicles can drive over them. Although they are working as designed, embassy staff have expressed concern that, because of their height, the lights create a tripping hazard for pedestrians. Because of the complaints, post plans to replace them with lights that are lower to the ground at a cost of $16,000.

In addition, OIG noted that the stainless-steel exterior façade on the Access Control facility and the new office building were rusting approximately 17 months after substantial completion of construction was declared. As shown in Figures 3 and 4, rust appeared even though the construction contract required the contractor to apply a Type 316 stainless-steel façade that is resistant to corrosion and rust and is typically used in marine environments where saltwater corrosion is a particular concern.

UNCLASSIFIED

Figure 3: Stainless-steel panels under the eaves of the Main Compound Access Control facility at Embassy The Hague.
Source: OIG photograph taken April 2019.

Figure 4: Stainless-steel panels on the front of the new office building at Embassy The Hague.
Source: OIG photograph taken April 2019.

During audit fieldwork at Embassy The Hague, OIG could not affirm whether Type 316 stainless-steel panels were used for the exterior façade as required by the contract and agreed to in the product submittals. However, according to an OBO official, the panels were cleaned and polished following OIG's fieldwork at Embassy The Hague and the embassy Facilities Manager stated that the stainless-steel panels will need to be cleaned and polished at least annually to maintain their appearance. The cost of cleaning is approximately $5,400. On the basis of this finding and the issues identified by post officials, OIG is making the following recommendations.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, correct the deficiency in the irrigation system (pumping and filtration) and report to OIG the amount expended to correct the defect.

Management Response: OBO concurred with the recommendation, stating that OBO provided post with $40,000 for the filtration upgrade to the irrigation system, a project expected to start in September 2019. Once the upgrade is completed, the contractor will commission the system, and OBO will confirm that it is fully functional.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives and accepts documentation demonstrating that the deficiency in the irrigation system (pumping and filtration) has been corrected and the amount expended to correct the defect has been reported to OIG.

UNCLASSIFIED

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, correct the deficiency identified in the walkway lighting and report to OIG the amount expended to correct the defect.

Management Response: OBO concurred with the recommendation, stating that the post Facility Manager has requested $17,500 for a post-managed project to replace the walkway lights. The project can be scheduled once post receives funding.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives and accepts documentation demonstrating that the walkway lighting deficiency has been corrected and the amount expended to correct the defect has been reported to OIG.

Recommendation 5: OIG recommends that, before issuing the Certificate of Final Acceptance, the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, (a) verify whether the stainless-steel façade applied to the exterior of the New Office Building and the Main Compound Access Control facility at Embassy The Hague was Type 316 stainless steel, as required by the contract, and (b) if determined that the material is not in compliance with contract specifications and material substitution occurred without approval, determine whether the contractor is liable, recover all applicable/appropriate costs, and report to OIG the amount recovered.

Management Response: OBO concurred with the recommendation, stating that OBO is working with the contractor to confirm that OBO received the stainless-steel panels specified in the contract. OBO further stated that issuance of the Certificate of Final Acceptance depends on confirmation that required materials were used.

OIG Reply: On the basis of OBO's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation verifying the correct materials were installed. If the correct materials were not installed, this recommendation will be closed when OBO has recovered all applicable and appropriate costs and reported the full amount recovered to OIG.

CONCLUSION

One of the purposes of OBO's construction contract closeout process is to promote an orderly procedure to ensure that, before releasing the contractor from liability, the building systems and assemblies have been planned, designed, procured, installed, tested, and adjusted in the prescribed manner to meet the design intent and specified performance. In June 2019, approximately 19 months after the issuance of the Certificate of Substantial Completion on November 25, 2017, OIG found that the contractor responsible for the construction of Embassy The Hague had not fulfilled all contract requirements. Specifically, two items from the punch list

UNCLASSIFIED

remain incomplete and the contractor had not provided post with a complete inventory of spare parts. In addition, OIG identified deficiencies and possible product substitution or improper installation of one type of item. As a result of the deficiencies, the Department is expending other program funds to fix or replace installations. All contract deficiencies must be addressed before final acceptance.

UNCLASSIFIED

RECOMMENDATIONS

Recommendation 1: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, verify completion of the two outstanding punch list items (tie-in to the main roadway and correcting bench seat lighting) related to construction of the New Embassy Compound in The Hague.

Recommendation 2: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, obtain from Caddell Construction Company, Inc., all contractually required spare parts for major building systems to facilitate maintenance of embassy systems at Embassy The Hague.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, correct the deficiency in the irrigation system (pumping and filtration) and report to OIG the amount expended to correct the defect.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, correct the deficiency identified in the walkway lighting and report to OIG the amount expended to correct the defect.

Recommendation 5: OIG recommends that, before issuing the Certificate of Final Acceptance, the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, (a) verify whether the stainless-steel façade applied to the exterior of the New Office Building and the Main Compound Access Control facility at Embassy The Hague was Type 316 stainless steel, as required by the contract, and (b) if determined that the material is not in compliance with contract specifications and material substitution occurred without approval, determine whether the contractor is liable, recover all applicable/appropriate costs, and report to OIG the amount recovered.

UNCLASSIFIED

APPENDIX A: BUREAU OF OVERSEAS BUILDINGS OPERATIONS RESPONSE

United States Department of State

Washington, D.C. 20520

AUG 1 4 2019

UNCLASSIFIED

TO: OIG/AUD – Denise M. Colchin

FROM: OBO/RM – Jeff Reba, Acting

SUBJECT: OIG Draft Management Assistance Report: Outstanding Construction Deliverables and Deficiencies Need Attention at New Embassy Compound The Hague, the Netherlands.

The Bureau of Overseas Buildings Operations (OBO) has reviewed the draft OIG inspection report. Attached are OBO comments in response to the recommendations provided by OIG.

Attachment:
As stated.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

OBO Comments on the OIG Draft Management Assistance Report: Outstanding Construction Deliverables and Deficiencies Need Attention at New Embassy Compound The Hague, the Netherlands

Recommendation 1: OIG recommends that, before issuing the Certificate of Final Acceptance, the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, verify completion of the two outstanding punch list items (tie-in to the main roadway and correcting bench seat lighting) related to construction of the New Embassy Compound in The Hague.

OBO Response:
Tie-in to the main roadway: Post Facility Manager (FM) and Regional Security Officer (RSO) revisited this deficiency list item and decided it is unnecessary to incur the cost to remove the section of the curb that ties-in to the main roadway that vehicles can drive over easily. OBO will request an email from post confirming the above in order to remove this item from the Deficiency (Punch) list, prior to issuing Final Acceptance.

Bench seat lighting: Post FM made a decision that repairing bench seat lighting was not necessary and requested that Contractor (Caddell) not complete this task. In lieu of the repair, the FM and Contractor arranged for the Contractor to fund several other facility projects needed at post. The FM will inform OBO once the Contractor has provided the funding for these projects. OBO will request an email from post confirming receipt of the funding agreed upon in order to remove this item from the Deficiency (Punch) list, prior to issuing Final Acceptance.

Recommendation 2: OIG recommends that, before issuing the Certificate of Final Acceptance, the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, obtain from Caddell Construction Company, Inc., all contractually required spare parts for major building systems to facilitate maintenance of embassy systems at Embassy The Hague.

OBO Response: Concur with recommendation. Caddell has ordered all remaining spare parts identified, except for 77 items related to the fire suppression and detection system. The Contractor believes that they have already turned over these 77 items. However, OBO has no documentation to this effect. OBO will request that the Contractor provide a receipt showing post received these items or a signed inventory list from the OBO Fire Marshall confirming the 77 items were in stock when their inspections were performed. If the Contractor is unable to provide proof of the above, the Contractor must then provide the 77 items related to the fire suppression and detection system before Final Acceptance.

Recommendation 3: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, correct the deficiency in the irrigation system (pumping and filtration) and report to OIG the amount expended to correct the defect.

OBO Response: OBO accepts this recommendation. OBO provided post with $40,000 for the filtration upgrade project to the irrigation system. Once this is complete, the Contractor will commission the irrigation system and OBO/CFSM/CM will have a representative observe and

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

confirm the system is fully functional. Project expected to start in September 2019. Attached is a copy of the Advice of Allotment.

Recommendation 4: OIG recommends that the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, correct the deficiency identified in the walkway lighting and report to OIG the amount expended to correct the defect.

OBO Response: Concur with recommendation. The Facility Manager at post has submitted a request for MCI funding ($17,500) for a post managed project to replace the walkway lights. Post can schedule project once they receive funding.

Recommendation 5: OIG recommends that, before issuing the Certificate of Final Acceptance, the Bureau of Overseas Buildings Operations, in coordination with Embassy The Hague, prior to issuing the Certificate of Final Acceptance, a) verify whether the stainless-steel façade applied to the exterior of the New Office Building and the Main Compound Access Control facility at Embassy The Hague was Type 316 stainless steel, as required by the contract, and b) if determined that the material is not in compliance with contract specifications and material substitution occurred without approval, determine whether the contractor is liable, recover all applicable/appropriate costs, and report to OIG the amount recovered.

OBO Response: Concur with recommendation. OBO/CFSM/CM is working with the Contractor to provide the required Pre-Installation Meeting Minutes for the Stainless Steel Panels. With the meeting minutes, CFSM/CM can confirm that the accepted submittal for the panels and the Contractor's Quality Assurance & Quality Control Three Step Program properly verified that OBO received the Stainless Steel Panels specified in the contract. Final Acceptance is dependent on confirmation of the above.

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED
Official - Transitory

For Addressee(s) Only
E.O.: 13526
TAGS: ABUD
Subject: Advice of Allotment, U.S. Embassy The Hague, Allotment 6256, $50,000.00, 19___X0535000C

Advice of Allotment
Department of State
OBO Netherlands, The Hague
To: Officer in Charge (ref. 4FAH-3 H-133)
U.S. Embassy The Hague

Appr: 19___X0535000C
Allotment: 6256
Request Code: 12740
Allotment Tracking Number: 2019-12740-OBO-0024071
IBIS Approved Date: 02/21/2019

You are hereby authorized to incur obligations during fiscal year 2019, within the amounts of this document in accordance with the following prescribed conditions and limitations, and for the purpose stated. Obligations and/or expenditures which exceed any allotment limitation set forth in this document constitute a violation of the revised statutes, 31 U.S.C. 1517 as specified in Section 080 of 4 FAM.

Fiscal Element		Fiscal Element Name
Appropriation ID:	19___X0535000C	SEC.& MAINT.OF US MISSIONS,
Project Code:	XJBT8051	FOR THE HAGUE (256)
Function Code:	7112	CONSTRUCTION
Allotment Code:	6256	OBO Netherlands, The Hague

Allotment Total		
Previous	**Modification**	**Authorized**
$0.00	$50,000.00	$50,000.00

Allotment Summary by Quarter				
Category A - Authorization by Quarter				Category B - Full Year Authorization
1st Qtr	**2nd Qtr**	**3rd Qtr**	**4th Qtr**	**Full Year**
-	-	-	-	$50,000.00

Remarks
Funds are provided in the amount of $50,000 USD for the purpose of installation of irrigation pump filtration system and complete electrical upgrade related to the TSS system This allotment requires the use of project number XJ-BT-8051, Post Name The Hague, Project Name The Hague NEC, Function Code 7112, and must only be used for costs associated withinstallation of irrigation

Madrid, Eli
UNCLASSIFIED
Official - Transitory
2

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED
Official - Transitory

pump filtration system and complete electrical upgrade related to the TSS system Construction BOC is 3220, reimbursable VAT BOC is 4161, and non-reimbursable VAT 4163. This information is required for the effective management of maintenance and construction funding, and to comply with real property reporting requirements. Post FMC should ensure proper obligation and expenditures of funds. Post should promptly issue contracts, purchase orders, or other obligating documents to obligate funds, and also inform OBO of the date project execution will commence as well as the estimated completion date. Funds must be obligated in the fiscal year they were received. Unobligated funds will be withdrawn at the end of the fiscal year. If funds are withdrawn, post can request the withdrawn amount in the following year.

POC: Patrick Dow

This allotment authorized and originally signed by:
Shawn L. Taylor
Nadia S. Riley
Vincent R. Moore
John R. Higi
Dechantea Williams
Nicholas E. Deutsch

MINIMIZE CONSIDERED

Approved By:	IBIS DISTRIBUTION SYSTEM:IBIS, 1
Released By:	IBIS DISTRIBUTION SYSTEM:IBIS, 1
Info:	GFSCAR-Fed@state.gov *ROUTINE*
Action Post:	AMEMBASSY THE HAGUE
Dissemination Rule:	FMO_LES_INFO, FMO

UNCLASSIFIED

Madrid, Eli

UNCLASSIFIED
Official - Transitory

3

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

OIG AUDIT TEAM MEMBERS

Denise M. Colchin, Director
Contracts, Grants, and Infrastructure Division
Office of Audits

Mark P. Taylor, Audit Manager
Contracts, Grants, and Infrastructure Division
Office of Audits

Rachel A. Kell, Audit Manager
Contracts, Grants, and Infrastructure Division
Office of Audits

Brian K. Jones, Senior Auditor
Contracts, Grants, and Infrastructure Division
Office of Audits

David R. Tolle, Senior Advisor for
Construction and Contract Management
Office of Audits

UNCLASSIFIED

HELP FIGHT

FRAUD, WASTE, AND ABUSE

1-800-409-9926
Stateoig.gov/HOTLINE

If you fear reprisal, contact the
OIG Whistleblower Coordinator to learn more about your rights.
WPEAOmbuds@stateoig.gov

Office of Inspector General | U.S. Department of State | 1700 North Moore Street | Arlington, Virginia 22209

UNCLASSIFIED

ABBREVIATIONS

BLHI	BL Harbert International
CHP	Combined Heat and Power System
Department	Department of State
ECI	Early Contractor Involvement
FAR	Federal Acquisition Regulations
FM	Facilities Manager
GMMS	Global Maintenance Management System
LEED	Leadership in Energy and Environmental Design
NEC	New Embassy Compound
O&M	Operations and Maintenance
OBO	The Bureau of Overseas Buildings Operations
OIG	The Office of the Inspector General
OPE	Office of the Procurement Executive
PD	Project Director
USACE	U.S. Army Corps of Engineers

OIG AUDIT TEAM MEMBERS

Denise M. Colchin, Director
Contracts, Grants, and Infrastructure Division
Office of Audits

Mark P. Taylor, Audit Manager
Contracts, Grants, and Infrastructure Division
Office of Audits

David R. Tolle, Senior Advisor for
Construction & Contracts
Office of Audits

Rachel A. Kell, Senior Auditor
Contracts, Grants, and Infrastructure Division
Office of Audits

Brian K. Jones, Senior Auditor
Contracts, Grants, and Infrastructure Division
Office of Audits

Mario O. Barco, Auditor
Contracts, Grants, and Infrastructure Division
Office of Audits

HELP FIGHT

FRAUD, WASTE, AND ABUSE

1-800-409-9926
Stateoig.gov/HOTLINE

If you fear reprisal, contact the
OIG Whistleblower Coordinator to learn more about your rights.
WPEAOmbuds@stateoig.gov