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# **Management Assistance Report: Modernizing Processes To Maintain Overseas Buildings Operations Commissioning Documentation Is Needed**

MANAGEMENT ASSISTANCE REPORT

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## Summary of Review

During an audit of the commissioning of the Staff Diplomatic Apartment-2 (SDA-2) and Staff Diplomatic Apartment-3 (SDA-3) at Embassy Kabul, Afghanistan, which is currently underway, the Office of Inspector General (OIG) identified weaknesses in the manner in which the Bureau of Overseas Buildings Operations (OBO) maintains commissioning documentation. Commissioning documentation serves as the historical record of key decisions throughout the project planning and delivery process. In preparation for the audit of SDA-2 and SDA-3 at Embassy Kabul, OIG also reviewed commissioning documentation at Embassies Islamabad, Pakistan, and The Hague, the Netherlands, and noted similar weaknesses. Given the similar conditions found at all three locations, OIG believes that remedying the weaknesses identified in this report will benefit OBO construction projects worldwide.

OIG found two distinct weaknesses in OBO's practices for maintaining commissioning documentation. First, commissioning agents typically complete commissioning tests in hard-copy format. Specifically, commissioning test templates are prepared electronically, printed, and then the hard-copy print-out is taken to the construction site and completed. According to OBO officials, completing commissioning tests, which includes important performance tests on major facility components and systems, has traditionally been done in hard-copy format by the commissioning agent because no approved platform to create and transfer testing results electronically currently exists. Furthermore, OIG found that commissioning tests and related documentation are scanned and uploaded to ProjNet only at the conclusion of the construction project. ProjNet is the database used by OBO that is intended to share information among OBO officials, project team members, construction contractors, designers, and other consultants authorized to work on a construction project. According to the commissioning agent's contract, uploading commissioning documentation to ProjNet is not required until the construction project is complete. OBO construction management officials told OIG that doing so earlier would detract from conducting commissioning activities. However, completing and storing commissioning tests in a hard-copy format and uploading the commissioning tests and related documentation at the end of the construction project is problematic for several reasons: 1) organizing commissioning tests in hard-copy format and then scanning and uploading the information to ProjNet is inefficient; 2) the risk of important commissioning tests and related documentation being inadvertently lost or not uploaded increases because commissioning activities often take several years to complete and involve thousands of pages; and 3) the practice of uploading commissioning documentation to ProjNet at the conclusion of the construction project does not advance the goal of using ProjNet, which is to share information among construction project team members during the construction project. OIG concludes that OBO, as well as the commissioning agents involved, would benefit from eliminating the practice of using a hard-copy format to complete commissioning tests and employing a platform that would generate electronic commissioning documents and save them to an online repository.

Second, OBO's Construction Management Guidebook designates OBOLink as the repository to retain records for completed construction projects, including the final commissioning report, email, cables, and functional performance tests of components and systems.

However, OBO is not using OBOLink to deposit construction project documentation because the platform cannot accommodate voluminous construction project files. This has been a long-standing problem. As a result, compact disks (CDs) are used to serve as the repository for commissioning documentation. However, using CDs as a final repository for commissioning documentation has disadvantages: 1) the life of CDs is limited, making them not ideal to serve as the medium for a repository of record and 2) OBO has not established a central repository or chain of custody for CDs received from the commissioning agent for each project. Instead, the CDs are typically retained by the associated Project Director. Even aside from the relatively short life span of the CDs, current processes create the risk that, if the associated Project Director leaves the Department, the CD could be inadvertently lost or destroyed.

OIG made six recommendations in this report that are intended to modernize OBO's processes to maintain commissioning documentation. On the basis of OBO's response to a draft of this report, OIG considers one recommendation closed and five resolved, pending further action. A synopsis of OBO's comments regarding 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.

## BACKGROUND

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During the past 9 years, the Department of State (Department) significantly expanded the construction of new facilities at Embassy Kabul, Afghanistan. The Department awarded a firm-fixed-price contract (SAQMMA-10-C-0255) in FY 2010 to Caddell Construction Co., LLC (Caddell) to construct facilities on the embassy compound. These facilities include office buildings and staff diplomatic apartments such as Staff Diplomatic Apartment-2 (SDA-2) and Staff Diplomatic Apartment-3 (SDA-3). As of April 2019, the combined value of Caddell's contract for work at the embassy was \$790 million, and the contract completion date was March 2019.<sup>1</sup> The commissioning of SDA-2 and SDA-3 began in 2016, and both buildings were declared substantially complete in January 2019.<sup>2</sup> Commissioning is the systematic process of assuring that all building systems perform interactively, in accordance with the design documentation and intent, and with the owner's operational needs. Before declaring substantial completion, most commissioning activities should be targeted for completion. In declaring substantial completion, the Project Director/Contracting Officer's Representative has determined that the

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<sup>1</sup> In March 2019, the construction contractor projected that construction would be completed by May 2019.

<sup>2</sup> For large buildings such as SDA-2 and SDA-3, which are two 8-story buildings containing 432 apartments total, commissioning takes several years. For example, commissioning the buildings constructed at Embassy The Hague, the Netherlands, took place between July 2015 and November 2017. Commissioning the buildings constructed during the first phase of construction at Embassy Islamabad, Pakistan, took place between June 2012 and September 2014.

work is sufficiently complete and satisfactory to allow the building to be occupied or used for its intended purpose.<sup>3</sup>

## **Commissioning Documentation**

According to the National Institute for Building Sciences, commissioning documentation serves as the historical record of the “what, why, and how” key decisions were made throughout the construction project planning and delivery process.<sup>4</sup> The Institute states that commissioning documentation supports the establishment of standards of performance for building systems and verifies that designed and constructed structures meet those standards. According to the National Institute of Building Sciences, key commissioning documentation includes the following:

- **Commissioning Plan** – Outlines the scope of commissioning activities, along with responsibilities, schedules, and procedures.
- **Pre-functional Checklists** – Sets out static inspections and procedures to prepare the equipment or system for initial operation.
- **Functional Performance Tests** – Tests components or systems to verify that they meet performance standards identified in contract specifications.
- **Final Commissioning Report** – Includes all documentation associated with commissioning, including the commissioning report, completed pre-functional checklists, functional performance test results, and the commissioning action list.<sup>5</sup>

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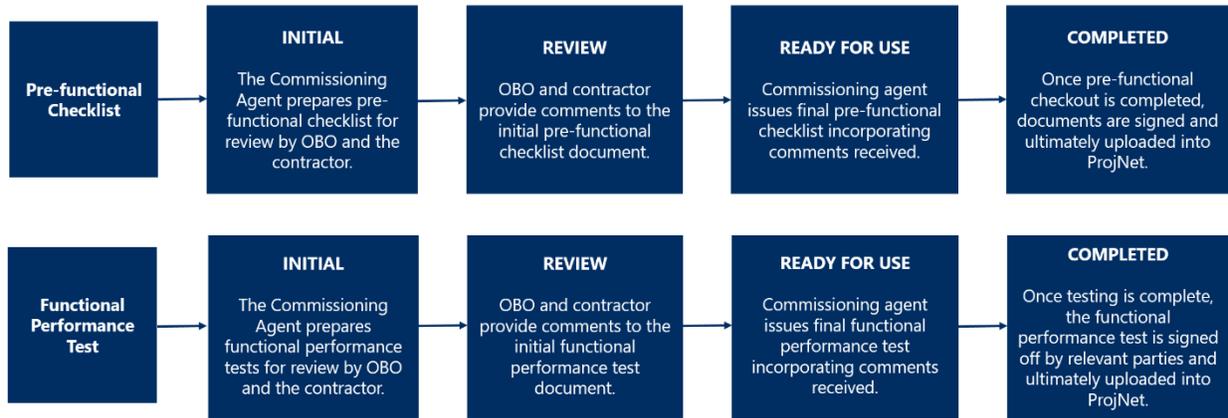
<sup>3</sup> Bureau of Overseas Buildings Operations Policy and Procedures Directive, P&PD CM 01: Commissioning and Transition to Occupancy of Overseas Facilities, 11, 30.

<sup>4</sup> Authorized by the U.S. Congress, the National Institute of Building Sciences is a non-profit, non-governmental organization that includes representatives from government, industry, labor, and regulatory agencies to serve the country by supporting advances in building sciences and technology. <https://www.wbdg.org/building-commissioning/commissioning-document-compliance-and-acceptance>. See also AUD-MERO-18-17, 10.

<sup>5</sup> The commissioning action list identifies deficiencies found during commissioning that must be corrected by the contractor before commissioning can be considered complete.

Figure 1 depicts the process of developing and administrating these tests and uploading completed documents to ProjNet.

**Figure 1: Pre-Functional Checklist and Functional Performance Test Development Process**



**Source:** Developed by OIG from information provided by OBO.

Commissioning documentation is prepared by both the construction contractor and the commissioning agent. The commissioning agent is a third-party contractor subject matter expert hired by OBO to perform commissioning services.<sup>6</sup> Project stakeholders with specific roles and responsibilities in the construction and commissioning process include the following entities:<sup>7</sup>

- **OBO’s Construction Management Office** – Group that includes the Project Director, who also serves as the Contracting Officer’s Representative (COR) for both the construction and commissioning agent contracts.
- **Commissioning Agent** – Third-party subject matter expert contracted by the Office of Acquisitions Management on behalf of OBO to assist in the commissioning process. The Commissioning Agent provides advice, oversight, monitoring, coordination, and assistance for integration of all commissioning activities executed by the general contractor.
- **The General Contractor** – Organization responsible for the design and construction of the project. The general contractor produces commissioning documents and conducts commissioning tests.
- **OBO’s Office of Facility Management** – Office that oversees the day-to-day operations and maintenance needs of posts worldwide. Embassy facility managers and staff work with the OBO construction team on the transition and turnover of newly constructed buildings. As part of the commissioning team, Facilities Management has the opportunity to observe building systems as they are tested.

<sup>6</sup> RMF Engineering is the commissioning agent for SDA-2 and SDA-3 at Embassy Kabul. Sebesta (now NV5) was the commissioning agent for both Embassy Islamabad and Embassy The Hague.

<sup>7</sup> Policy and Procedures Directive Construction Management 01: Commissioning and Transition to Occupancy of Overseas Facilities, 10.

OBO uses two main platforms to exchange, approve, and store construction and commissioning documentation: ProjNet and OBOLink. ProjNet is intended to be used during the construction of an embassy and is the primary tool for OBO to transmit and share information among project team members, construction contractors, designers, and other consultants authorized to work on a project.<sup>8</sup> The construction contractor and commissioning agent are contractually required to submit their deliverables through ProjNet to be exchanged with and reviewed by OBO.<sup>9</sup> After OBO construction projects are completed, OBO requires that documentation be maintained in OBOLink, the Bureau's official file repository for completed construction projects.<sup>10</sup> Any records associated with the project, including the final commissioning report, email, cables, and other documentation must be placed into OBOLink project file folders.<sup>11</sup>

## **OBO Construction Management Oversight**

The OBO Washington, DC-based project team, as described in OBO's Policy and Procedures, consists of the Project Manager, Design Manager, and Construction Executive, all of whom support the Project Director who is located at the construction site.<sup>12</sup> The Project Director keeps the Washington, DC-based project team informed of construction status through the weekly activity report, monthly progress report, and the non-expendable property account report.<sup>13</sup> The Construction Executive uses information provided by the Project Director to develop reports for other senior OBO officials. These reports include the project performance review, the critical project report, and the movement report.<sup>14</sup> In short, all the personnel and

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<sup>8</sup> Project Extranet (ProjNet) was developed and is maintained by the U.S. Army Corps of Engineers Engineer Research and Development Center as an internet-based service that allows the secure exchange and processing of design and construction information among authorized business partners.

<sup>9</sup> The construction contract sets deadlines for uploading the commissioning documentation to ProjNet. Pursuant to its contract, the commissioning agent is only required to upload commissioning documentation to ProjNet at project completion. Sometimes, however, individual commissioning agents choose to upload that information earlier.

<sup>10</sup> Bureau of Overseas Buildings Operations, Office of Construction Management, 2016 Construction Management Guidebook, 52.

<sup>11</sup> Ibid.

<sup>12</sup> The Project Manager has principal authority for ensuring the project's scope, schedule, and budget are executed, as approved, by the OBO Director. The Design Manager is responsible for the development and quality of the design throughout the life of the project, from inception until occupancy. The Construction Executive is the primary representative of the Office of Construction Management during the early development phases of the construction project and the alternate COR during the construction phase. See OBO Policy and Procedures Directive Project Development and Coordination 02: OBO Core Project Team, 1.

<sup>13</sup> The weekly and monthly progress reports contain information such as weather conditions, personnel issues, safety concerns, serious injuries, and delays. The non-expendable property account report tracks real property used during construction.

<sup>14</sup> The project performance review is a monthly report providing the status of the scope, schedule, and budget for all OBO projects. The critical project report addresses projects that have major issues such as security, budget, and schedule that need to be brought to the attention of senior OBO management as well as Department management. The movement report is used to inform the Office Director of when the Project Director is leaving or coming to the project site. The Office Director heads the Office of Construction Management and oversees management oversight and onsite construction supervision services for OBO's worldwide diplomatic facilities.

offices involved in the construction process benefit from access to the project documentation in order to fulfill their roles and obligations.

## **Purpose of the Ongoing Audit and the Management Assistance Report**

This Management Assistance Report is intended to provide early communication of deficiencies OIG identified during its ongoing audit of OBO commissioning of SDA-2 and SDA-3. The primary objective of the audit is to determine whether OBO's commissioning of SDA-2 and SDA-3 was done in accordance with all applicable policies and procedures, documentation associated with the commissioning process was maintained in accordance with Department requirements, and Integrated Systems Tests for both buildings were conducted in accordance with Department guidance. During the audit, OIG identified weaknesses in the manner in which OBO maintains commissioning documentation. OIG noted similar weaknesses in OBO's practices for maintaining commissioning documentation at Embassies Islamabad, Pakistan, and The Hague, the Netherlands.<sup>15</sup> Given the similar conditions found, OIG believes that remedying the weaknesses identified in this report will benefit OBO construction projects worldwide.

Accordingly, OIG is issuing this Management Assistance Report to provide early communication of the deficiencies identified. OIG is reporting its findings in accordance with generally accepted government auditing standards. OIG believes that the evidence obtained provides a reasonable basis for the findings and conclusions presented in this report. Issuance of this report was delayed because of the lapse in OIG's appropriations that occurred from 11:59 p.m. December 21, 2018, through January 25, 2019.

## **RESULTS**

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### **Finding A: Commissioning Tests Are Completed in Hard-Copy Format and Not Visible During Project Execution**

OIG found that commissioning agents typically complete commissioning tests in hard-copy format. Specifically, commissioning test templates are prepared electronically, printed, and then the hard-copy test template is completed at the construction site. According to OBO officials, completing commissioning tests, which includes important performance tests on major facility components and systems, has traditionally been done in hard-copy format by the commissioning agent because no approved platform to simultaneously create and transfer testing results electronically currently exists. Furthermore, OIG found that the commissioning agent scans and uploads commissioning tests and related documentation to ProjNet at the conclusion of the construction project. ProjNet is the database used by OBO that is intended to share information among OBO officials, project team members, construction contractors, designers, and other consultants authorized to work on a construction project. However, completing and storing commissioning tests in a hard-copy format and uploading the

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<sup>15</sup> OIG reviewed commissioning documentation involving Embassies Islamabad and The Hague in preparation for its audit of the commissioning process at Embassy Kabul. In addition, OIG conducted audit fieldwork at Embassy Islamabad.

commissioning tests and related documentation at the end of the construction project is problematic for several reasons.

First, organizing commissioning tests in a hard-copy format and then scanning and uploading the information to ProjNet is inefficient. Moreover, the risk that important commissioning tests and related documentation could be inadvertently lost or not uploaded increases because commissioning activities often take several years to complete and involve thousands of pages. OIG concludes that OBO, as well as the commissioning agents involved, would benefit from eliminating the practice of using a hard-copy format to complete commissioning tests and should instead employ a platform that would generate electronic commissioning documents and save them to an online repository.

At Embassies Kabul, Islamabad, and The Hague, OIG found that functional performance tests on major facility components and systems were manually completed in a hard-copy format and placed in binders. This practice is concerning because the commissioning process can take years to complete. For example, at Embassy Kabul, the commissioning process began in May 2016 and is projected to be completed in 2019. During this time, thousands of pages of tests on facility components and systems have been performed, compiled, placed in binders, and are only available at the construction site in hard copy. Moreover, pre-functional checklists and functional performance tests are the most voluminous commissioning documents. They contain detailed information on the results of hundreds of individual tests and are time consuming to complete because the checklists and test form templates contain pages of detailed contract specifications against which individual building systems are tested to verify that they comply with contract specifications. Figures 2 and 3 depict how pre-functional checklists and functional performance test results at Embassies Kabul and Islamabad have been compiled and organized in separate binders, which are the only documentary record.

**Figure 2: Binders Containing Pre-Functional Checklists and Functional Performance Tests Results of SDA-2 and SDA-3 at Embassy Kabul**



Source: OIG photograph taken in Kabul, Afghanistan, March 2019.

**Figure 3: Binders Containing Pre-Functional Checklists and Functional Performance Test Results at Embassy Islamabad**



Source: OIG photograph taken in Islamabad, Pakistan, November 2018.

Once the construction project is complete, the commissioning test documents are scanned and uploaded to ProjNet. According to the construction contractor for SDA-2 and SDA-3, scanning the completed commissioning tests once the construction project is completed will take approximately 2 weeks to finish.<sup>16</sup> It is important to emphasize that the testing documents, specifically pre-functional checklists and functional performance tests and supporting documentation, are not typically scanned and uploaded to ProjNet until the construction project is complete. This occurs because the commissioning agent contract, established by OBO and awarded by the Bureau of Administration, Office of the Procurement Executive, Office of Acquisition Management, does not require the commissioning agent to upload test documentation to ProjNet until the end of the construction project. According to OBO officials, uploading documentation earlier is not required because scanning and uploading the commissioning tests during the construction project could detract from conducting commissioning activities.

These practices, however, do not advance the goal of using ProjNet. OBO's Construction Management Guidebook states that ProjNet's primary purpose is to share Sensitive But Unclassified information among project team members, including OBO, construction contractors, designers, and other consultants.<sup>17</sup> The ProjNet website further describes ProjNet as helping users to organize and centralize critical design documents and information, as well as improve design review communications among all project stakeholders. In addition, according to OBO's 2009 Administrative Bulletin (A-2009-01), scanning and uploading project files during the construction project—rather than at the end—is encouraged. Although, this administrative bulletin was intended for project completion CDs, OIG believes this same principle can be applied to uploading documents to ProjNet during construction. In issuing the bulletin, OBO stated that an OIG inspection report identified this vulnerability and noted that the hard-copy files were very difficult to access.<sup>18</sup>

One OBO official told OIG that they have advocated for solutions that would eliminate hard-copy document versions altogether. According to the official, automating the process would have the additional benefit of maintaining commissioning data in a usable and readily available format, without requiring additional staffing or contract costs. Furthermore, an electronic, automated platform would allow OBO to produce reports and track project status. For example, for their commercial projects, some of OBO's commissioning agents use an electronic, automated commissioning document platform that records commissioning test results on laptop computers, tablets, and smart phones and immediately uploads the results via an

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<sup>16</sup> Commissioning documentation is a shared responsibility between the commissioning agent and construction contractor; however, the commissioning agent is ultimately responsible for those documents.

<sup>17</sup> OBO advised OIG that it considers pre-functional checklists and functional performance test results to be Sensitive But Unclassified.

<sup>18</sup> OIG, *Report of Inspection, Bureau of Overseas Buildings Operations* (ISP-I-08-34, August 2008). OIG stated that collecting all the relevant project and contract documentation necessary to conduct its inspection was difficult. Consequently, OIG recommended that OBO "establish and enforce a project documentation database that provides essential information from planning to commissioning in a readily retrievable format." The recommendation was closed based upon the issuance of A-2009-01 and the introduction of an improved version of OBOLink.

internet connection. This confirms that it is technologically feasible to employ an electronic, automated platform if it can be configured to ensure security of the data. However, according to OBO officials, achieving such a platform would need support and authorization from the Bureaus of Diplomatic Security and Information Resource Management and would have to include hardware, software, and data backup processes that ensure the commissioning platform is secure.

OIG concludes that OBO, as well as the commissioning agents involved, would benefit from eliminating the use of a hard-copy format to complete commissioning tests and instead employing a platform that would generate electronic commissioning documents and save them to an online repository. Furthermore, the current practice of uploading commissioning tests and related documentation at the end of a construction project inhibits the visibility of the tests and increases the risk that important commissioning tests and related documentation could be inadvertently lost or not uploaded. If years of accumulated hard-copy commissioning documentation were lost in the course of a construction project, OBO would likely be unable to recover these documents, ultimately losing the record of commissioning results. Moreover, lack of access to test documentation outside post limits its utility to OBO management. OIG therefore makes the following recommendations:

**Recommendation 1:** OIG recommends that the Bureau of Overseas Buildings Operations (1) identify industry best practices for automating commissioning documentation, (2) develop an electronic commissioning platform, and (3) conduct a pilot program using the electronic platform that would allow commissioning tests to be created digitally and test results saved to an online repository.

**Management Response:** OBO concurred with the recommendation, stating that “a task order will be issued to implement this recommendation.”

**OIG Reply:** On the basis of OBO’s concurrence with the recommendation and its description of actions planned, OIG considers the recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that OBO has 1) identified industry best practices for automating commissioning documentation, (2) developed an electronic commissioning platform, and (3) conducted a pilot program using the electronic platform that would allow commissioning tests to be created digitally and test results saved to an online repository.

**Recommendation 2:** Until such time as Recommendation 1 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations, in conjunction with the Office of Acquisition Management, implement contractual provisions requiring commissioning agents to routinely scan and upload hard-copy commissioning performance tests and related documentation to ProjNet.

**Management Response:** OBO concurred with the recommendation, stating that it “will meet with appropriate [Bureau of Administration, Office of the Procurement Executive,

Office of Acquisition Management] representatives to review the scope of the recommendation and make necessary revisions.”

**OIG Reply:** On the basis of OBO’s concurrence with the recommendation and its description of actions planned, OIG considers the recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that OBO has implemented contractual provisions requiring commissioning agents to routinely scan and upload hard-copy commissioning performance tests and related documentation to ProjNet.

## **Finding B: Compact Disks Are the Medium Used To Store Historical Commissioning Documentation**

OBO’s Construction Management Guidebook designates OBOLink as the repository of record for completed construction projects, including the final commissioning report, email, cables, and functional performance tests of components and systems.<sup>19</sup> However, OIG found that OBO is not using OBOLink for depositing construction project documentation because the platform cannot accommodate voluminous construction project files. This has been a long-standing problem faced by OBO. In addition, according to OBO officials, replacing OBOLink would be difficult because a new repository system would require approval from the Bureau of Diplomatic Security and Information Resource Management and also need to meet National Archives and Records Administration (NARA) Electronic Records Management System requirements. As a result, compact disks (CDs) are used to serve as the repository for commissioning documentation. However, OIG found that using CDs as a final repository for commissioning documentation has disadvantages: 1) The life of CDs is limited and therefore not ideal to serve as the medium for a repository of record and 2) OBO has not established a central repository or chain of custody for CDs received from the commissioning agent for each project. Instead, the CDs are typically retained by the associated Project Director. Even aside from the relatively short life span of the CDs, current processes create the risk that, if the associated Project Director leaves the Department, the CD could be inadvertently lost or destroyed.

### ***The Life of Compact Disks Is Limited and Not Ideal To Serve as a Repository of Record***

According to NARA, saving imaged records on CDs has advantages and disadvantages.<sup>20</sup> Specifically, NARA states that “generally, systems change every 18 months to 5 years, software changes every 2 to 3 years, and the life expectancy of media is relatively short.”<sup>21</sup> In addition, in

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<sup>19</sup> Bureau of Overseas Buildings Operations, Office of Construction Management, 2016 Construction Management Guidebook, 52.

<sup>20</sup> According to NARA’s Frequently Asked Questions about Imaged Records, advantages to imaged records include high-density storage media, shorter retrieval time, low shipping costs, ease of making copies, and not losing quality generation to generation; disadvantages include not human readable without computer equipment, significant equipment costs, potential for hardware and software obsolescence, extensive indexing requirements, and digital quality control. See <https://www.archives.gov/records-mgmt/faqs/imaged.html>

<sup>21</sup> Ibid.

May 2011, OBO issued Construction Alert A-2011-06, which stated “that when storing special media, including CDs, it is important to consider how long the information will be retrievable on that particular media.” Notwithstanding the disadvantages of using CDs, OBO still requires that the commissioning agent upload all commissioning documentation onto CDs at contract completion. In addition, according to officials at Embassies Kabul and Islamabad, after hard-copy commissioning performance tests and related documents are uploaded to ProjNet and a CD, the hard-copy documents are typically destroyed. Therefore, the commissioning tests uploaded to the CD serve as the final repository for the test results, despite NARA’s warning about the disadvantages of using this medium.<sup>22</sup>

OBO’s inability to use OBOLink as its official file repository has been a long-standing issue. As early as late 2002, OBOLink had replaced OBO’s H Drive to serve as a central location for organizing and maintaining OBO’s historical construction records, using Commercial-Off-The-Shelf software. However, according to OBO officials, OBOLink is limited to a 2GB file size and cannot accommodate the voluminous file sizes associated with OBO construction projects. In addition, DS policy limits the file size to 2GB for IIS Web Server usage, which OBOLink currently uses. OBO officials also stated that research to find an alternative to OBOLink that meets DS standards is ongoing. In conducting research for this report, OIG discovered that the U.S. Army Corps of Engineers (USACE) uses the Virtual Contracting Enterprise Paperless Contracting File System, which can accommodate large files, to serve as its repository for all construction project files. Among other benefits, the USACE file system allows both the contracting office and construction field office to upload all contract-related documentation into the file system. Therefore, the file system records all contract actions related to a construction project.

OIG reviewed the CDs for Embassies Islamabad and The Hague to assess the completeness and organization of commissioning documentation and found that each CD contained a large PDF file consisting of the final commissioning report and appendices with thousands of pages of commissioning documentation. Final commissioning reports have no standardized file structure. Within the Embassy The Hague and the Embassy Islamabad CDs, all commissioning documents were bookmarked by document type and test results were bookmarked by building, system, and test number. OIG found the reports to be largely complete but found inconsistencies in how well the information in the report was organized.<sup>23</sup> Consequently, if a report does not have ample bookmarks in place, searching for a document requires manually reviewing thousands of pages of text.<sup>24</sup>

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<sup>22</sup> ProjNet meets some but not all NARA requirements that are necessary to be considered an official file repository.

<sup>23</sup> OIG found three duplicated test documents and one instance in which a completed pre-functional checklist was missing. OIG confirmed with the commissioning agent that the missing test document was available in hard copy but had not been scanned and uploaded to OBOLink.

<sup>24</sup> The commissioning agent contract requires that electronic documents be word searchable “to the maximum extent practicable.” OIG found that thousands of pages of text are scanned and were not word searchable.

***OBO Has Not Established a Central Repository or Chain of Custody for CDs Received From the Commissioning Agent***

FAR 4.805, "Storage, Handling, and Contract Files," requires that contract files be kept for 6 years after final payment unless an agency requires a shorter retention period. Additionally, FAR 4.805 (a) states that agencies must prescribe procedures for the handling, storing, and disposing of contract files in accordance with NARA requirements.<sup>25</sup> These procedures must take into account documents held in all types of media, including microfilm and various electronic media. OBO has procedures to close out project files and upload them to OBOLink. However, completed construction project files are not being uploaded to OBOLink and instead are stored on CDs, with no procedures to handle and store the CDs in accordance with NARA requirements.

OBO, in fact, has no central repository of the CDs received for each project, such as a CD room or library. Instead, the CDs are typically retained by the associated Project Director. According to the Office of Procurement Executive Procurement Information Bulletin 2014-10, *Contract Files and COR File Checklist*, CORs are responsible for the transfer of records to their successors. The Project Director is the COR of the construction and commissioning agent contracts and, therefore, is responsible for the transfer of the CDs. However, no chain of custody is established for these CDs. This creates a risk that the CDs could be lost if the Project Director ceases employment with the Department or is deployed to another construction site. OIG is therefore offering the following recommendations:

**Recommendation 3:** OIG recommends that the Bureau of Overseas Buildings Operations, in conjunction with the Bureau of Information Resource Management and the Bureau of Diplomatic Security, expand the capacity of OBOLink to accommodate all historical construction project records, in accordance with National Archives and Record Administration (NARA) and Department requirements, or establish an alternative platform that meets NARA and Department requirements to serve as the official repository of all construction projects records.

**Management Response:** OBO concurred with the recommendation, stating that it "will discuss internally on a path forward, whether through utilizing OBOLink or an alternative system, and will engage with appropriate [Bureau of Information Resource Management] and [Bureau of Diplomatic Security representatives], as needed."

**OIG Reply:** On the basis of OBO's concurrence with the recommendation and its description of actions planned, OIG considers the recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that OBO has expanded the capacity of OBOLink to accommodate all historical construction project records, in accordance with NARA and Department requirements, or has established an alternative platform that meets NARA and

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<sup>25</sup> Also see 5 FAM 400 Records Management; and 5 FAH-4 Records Management Handbook.

Department requirements to serve as the official repository of all construction projects records.

**Recommendation 4:** Until such time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations appoint a senior representative to oversee the bureau's efforts to address the limitations of OBOLink and periodically report progress toward the establishment of an effective repository of all construction projects records.

**Management Response:** OBO concurred with the recommendation, stating that it "has appointed a Chief Information Officer to focus on OBO's vision, priorities, and direction of the organization's investment in information resources." OBO further stated that it "will be addressing OBOLink limitations and a path forward that will simplify and improve processes and make it clearer and more centralized."

**OIG Reply:** On the basis of OBO's concurrence with the recommendation and the appointment of a Chief Information Officer, OIG is closing this recommendation and no further action is required.

**Recommendation 5:** Until such time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations update its Construction Management Guidebook to include instructions on how to establish the file structure to organize construction project records. These instructions should address, for example, whether documents should be maintained in tabs or folders and what categories of documents should be included. These categories should include the contract award, contract modifications, payment records, progress schedules, submittals, and commissioning tests and related documents, and closeout documentation.

**Management Response:** OBO concurred with the recommendation, stating that it "will update the [Construction Management] Guidebook appropriately."

**OIG Reply:** On the basis of OBO's concurrence with the recommendation and its description of actions planned, OIG considers the recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that OBO has updated its Construction Management Guidebook to include instructions on how to establish the file structure to organize construction project records.

**Recommendation 6:** Until such a time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations establish a centralized, Compact Disk library to maintain and manage the custody of construction project records submitted by commissioning agents on Compact Disks.

**Management Response:** OBO concurred with the recommendation, stating that it "will discuss internally a path forward to establish a centralized location to maintain and

manage the custody of construction project records.”

**OIG Reply:** On the basis of OBO’s concurrence with the recommendation and its description of actions planned, OIG considers the recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that OBO has established a centralized location to maintain and manage the custody of construction project records.

## RECOMMENDATIONS

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**Recommendation 1:** OIG recommends that the Bureau of Overseas Buildings Operations (1) identify industry best practices for automating commissioning documentation, (2) develop an electronic commissioning platform, and (3) conduct a pilot program using the electronic platform that would allow commissioning tests to be created digitally and test results saved to an online repository.

**Recommendation 2:** Until such time as Recommendation 1 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations, in conjunction with the Office of Acquisition Management, implement contractual provisions requiring commissioning agents to routinely scan and upload hard-copy commissioning performance tests and related documentation to ProjNet.

**Recommendation 3:** OIG recommends that the Bureau of Overseas Buildings Operations, in conjunction with the Bureau of Information Resource Management and the Bureau of Diplomatic Security, expand the capacity of OBOLink to accommodate all historical construction project records, in accordance with National Archives and Record Administration (NARA) and Department requirements, or establish an alternative platform that meets NARA and Department requirements to serve as the official repository of all construction projects records.

**Recommendation 4:** Until such time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations appoint a senior representative to oversee the bureaus' efforts to address the limitations of OBOLink and periodically report progress toward the establishment of an effective repository of all construction projects records.

**Recommendation 5:** Until such time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations update its Construction Management Guidebook to include instructions on how to establish the file structure to organize construction project records. These instructions should address, for example, whether documents should be maintained in tabs or folders and what categories of documents should be included. These categories should include the contract award, contract modifications, payment records, progress schedules, submittals, and commissioning tests and related documents, and closeout documentation.

**Recommendation 6:** Until such a time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations establish a centralized, Compact Disk library to maintain and manage the custody of construction project records submitted by commissioning agents on Compact Disks.

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## APPENDIX A: RESPONSE FROM THE BUREAU OF OVERSEAS BUILDINGS OPERATIONS

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United States Department of State

Washington, D.C. 20520

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May 31, 2019

**MEMORANDUM FOR NORMAN BROWN – OIG/AUD**

FROM: OBO/RM – Jeffrey C. Reba, Acting 

SUBJECT: Draft Management Assistance Report: *Modernizing Processes To Maintain Overseas Buildings Operations Commissioning Documentation Is Needed*; AUD-MERO-19-XX, May 2019

As requested, attached is OBO's response to Recommendation numbers 1-6 of the subject report.

Attachment:  
As stated.

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Drafted: OBO/RM/P – J. Quincy, ext. 5-5719

Cleared By: OBO/CFSM – A. Kanga  
OBO/CFSM/CM – P. Barth - *AK = 6/5*  
OBO/CFSM/CM – B. Miles (ok)  
OBO/CFSM/CM – M. Mills (ok)  
OBO/RM/EX/IRM – C. Strange (ok)  
OBO/RM/EX/IRM – T. Burgess (ok)  
OBO/RM/P – C. Fullem (ok)  
OBO/RM/P – A. Gertsch (ok)

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**Office of Inspector General**  
***Management Assistance Report: Modernizing Processes to Maintain Overseas Buildings***  
***Operations Commissioning Documentation Is Needed***  
**Report No. AUD-MERO-19-XX, May 2019**

**OIG Recommendation 1:** OIG recommends that the Bureau of Overseas Buildings Operations (1) identify industry best practices for automating commissioning documentation, (2) develop an electronic commissioning platform, and (3) conduct a pilot program using the electronic platform that would allow commissioning tests to be created digitally and test results saved to an online repository.

**OBO Response, June 2019:** OBO concurs with this recommendation; a task order will be issued to implement this recommendation.

**OIG Recommendation 2:** Until such time as Recommendation 1 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations, in conjunction with the Office of Acquisition Management, implement contractual provisions requiring commissioning agents to routinely scan and upload hard-copy commissioning performance tests and related documentation to ProjNet.

**OBO Response, June 2019:** OBO concurs with this recommendation. The Bureau will meet with appropriate AQM representatives to review the scope of this recommendation and make necessary revisions.

**OIG Recommendation 3:** OIG recommends that the Bureau of Overseas Buildings Operations, in conjunction with the Bureau of Information Resource Management and the Bureau of Diplomatic Security, expand the capacity of OBOLink to accommodate all historical construction project records, in accordance with National Archives and Record Administration (NARA) and Department requirements, or establish an alternative platform that meets NARA and Department requirements to serve as the official repository of all construction projects records.

**OBO Response, June 2019:** OBO concurs with this recommendation. The Bureau will discuss internally on a path forward, whether through utilizing OBOLink or an alternative system; and will engage with appropriate IRM and DS representatives, as needed.

**OIG Recommendation 4:** Until such time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations appoint a senior representative to oversee the Bureau's efforts to address the limitations of OBOLink and periodically report progress towards the establishment of an effective repository of all construction projects records.

**OBO Response, June 2019:** OBO concurs with this recommendation. OBO has appointed a Chief Information Officer to focus on OBO's vision, priorities, and direction of the organization's investment in information resources. OBO will be addressing OBOLink limitations and a path forward that will simplify and improve processes and make it clearer and more centralized.

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**OIG Recommendation 5:** Until such a time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations update its Construction Management Guidebook to include instructions on how to establish the file structure to organize construction project records. These instructions should address, for example, whether documents should be maintained in tabs or folders and what categories of documents should be included. These categories should include the contract award, contract modifications, payment records, progress schedules, submittals, and commissioning tests and related documents, and closeout documentation

**OBO Response, June 2019:** OBO concurs with this recommendation, and will update the CM Guidebook appropriately.

**OIG Recommendation 6:** Until such a time as Recommendation 3 is fully implemented, OIG recommends that the Bureau of Overseas Buildings Operations establish a centralized, Compact Disk library to maintain and manage the custody of construction project records submitted by commissioning agents on Compact Disks.

**OBO Response, June 2019:** OBO concurs with this recommendation, and will discuss internally on a path forward to establish a centralized location to maintain and manage the custody of construction project records.

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## OIG AUDIT TEAM MEMBERS

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Kathleen Sedney, Division Director  
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