

# SIGAR

## Special Inspector General for Afghanistan Reconstruction

SIGAR 16-26 Inspection Report

### Afghan Air Force University: Contract Requirements Were Generally Met, but Instances of Non-Compliance, Poor Workmanship, and Inadequate Maintenance Need to Be Addressed



MARCH  
2016

# SIGAR

## Special Inspector General for Afghanistan Reconstruction

### WHAT SIGAR REVIEWED

On January 22, 2012, the U.S. Army Corps of Engineers (USACE) awarded a nearly \$10 million fixed-price, design/build contract to Technologists, Inc., a U.S. company, to construct the facilities necessary to convert the National Military Academy of Afghanistan into the Afghan Air Force University. The university is located on the perimeter of Kabul International Airport and is designed to house and train 1,200 air force cadets with 400 support personnel. The contract called for the construction of 8 new buildings and the renovation of 24 existing buildings.

Beginning in November 2012, a series of contract modifications decreased the project's scope to the construction of 3 new buildings—a kitchen/cold storage area; an entry control point; and a depot for petroleum, oil, and lubricants—and the renovation of 15 existing buildings—4 barracks, 4 bathroom buildings, 3 dining facilities, a training center, and 3 support structures. The building renovations largely consisted of replacing doors, windows, carpeting, tiles, bathroom fixtures, and fans, as well as patching and painting, depending on the building. The modifications also decreased the contract price to about \$6.7 million.

On April 14, 2014, USACE and the Train, Advise, Assist Command–Air (TAAC-Air) transferred 8 of the 15 renovated buildings to Afghan authorities as part of a two-phased turnover strategy. The 1-year warranty for these eight buildings began on April 14, 2014. On April 4, 2015, USACE and TAAC-Air transferred the 10 remaining buildings—3 new buildings and the remaining 7 renovated buildings—to Afghan authorities. The 1-year warranty for these 10 buildings began on February 9, 2015.

The objectives of this inspection were to determine whether (1) construction was completed in accordance with contract requirements and applicable construction standards, and (2) the new and renovated buildings were being used as intended and maintained.

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March 2016

## Afghan Air Force University: Contract Requirements Were Generally Met, but Instances of Non-Compliance, Poor Workmanship, and Inadequate Maintenance Need to Be Addressed

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### SIGAR 16-26 INSPECTION REPORT

#### WHAT SIGAR FOUND

SIGAR found that the Afghan Air Force University's renovation work and new construction was largely completed according to the terms of the contract between USACE and Technologists, Inc. This work included installing new doors and windows, new plumbing fixtures, and overhead lighting, fresh paint, and tile work in 15 buildings and new construction, which included a kitchen with multiple ranges, food preparation areas, and a series of walk-in cold storage areas that were all completed successfully. However, during the inspection, SIGAR found some instances of non-compliance with the contract, as well as some instances of poor workmanship. Non-compliance issues involved the lack of required plumbing insulation, missing ventilation fans, and the lack of protective metal strips on stairways. For example, plumbing work done in the renovated bathrooms of four existing buildings and the new kitchen/cold storage area did not include the required insulation. In addition, the contract required Technologists, Inc. to install metal strips, called nosing, on each stair landing. Stair nosing protects the leading edge of the concrete landing from chipping. However, this was not installed in one of the barracks. SIGAR also found that Technologists, Inc. substituted lower-grade, lower-cost door handles and locks, and sink faucets in at least 14 buildings without USACE's prior approval. SIGAR estimates that about \$80,000 in cost adjustments should have been made to reflect these substitutions. Of that amount, USACE believes it may be able to recoup an estimated \$65,500 for the substituted door hardware. With regard to poor workmanship, SIGAR found inadequate ceramic tile work in some buildings. These issues can largely be attributed to USACE's failure to (1) fully monitor the implementation of its three-phase inspection process, and (2) conduct the 4- and 9-month warranty inspections of the first eight buildings transferred to Afghan authorities in 2014.

Most, but not all, of the Afghan Air Force University's buildings are being used, but the Afghan government has not properly maintained the buildings that USACE has transferred to it. SIGAR found that some bathroom buildings were only being partially used due to broken sinks, faucets, and water heaters. In addition, two of the renovated barracks buildings were not being used due to multiple problems, such as plumbing leaks and broken ceiling fans. SIGAR found other building problems, which could be mostly attributed to inadequate maintenance by the Afghan government, including mold growth, filthy bathrooms, broken door locks, and broken or missing plumbing fixtures.

USACE has developed a follow-on project to address a multitude of repairs needed in various buildings at the Afghan Air Force University complex. SIGAR's review of the project's draft requirements shows that it contains repair items for the 10 buildings transferred to Afghan authorities in April 2015 that appear to still be covered under the warranty for those buildings. For example, as part of the project, all new windows installed in two of the renovated barracks building under the original contract need to be cleaned and re-caulked with exterior-grade caulk, something which should have been

done when the new windows were installed. USACE indicated that any work identified in the draft requirements is not covered by the contract warranty; however, SIGAR contends that the project will include repairs covered by the warranty, and that repairing them without invoking the warranty will result in additional costs.

## WHAT SIGAR RECOMMENDS

SIGAR recommends that the Commanding General and Chief of Engineers, USACE take the following actions and report the results back to SIGAR within 90 days: (1) pursue all options available to have Technologists, Inc. correct the issues identified in this report involving non-compliance with the contract and poor workmanship, such as a lack of required plumbing insulation, missing ventilation fans, and inadequate ceramic tile work in some buildings that are still under warranty; (2) pursue all options available to recoup an estimated \$65,500 in charges associated with the lower-grade, lower-cost door hardware that Technologists, Inc. substituted without approval from USACE; (3) conduct a review of the follow-on repair project's draft Statement of Requirements to ensure that the U.S. government is not unnecessarily paying for items that appear to still be covered by the contract warranty; and (4) review the circumstances surrounding the contracting officer and contracting officer's representative's failure to fully document the three-phase inspection process and failure to exercise due diligence by conducting the 4- and 9-month warranty inspections of the first eight buildings transferred to the Afghan government, and determine what, if any, disciplinary action should be taken against the contracting officer and contracting officer's representative.

USACE provided written comments on a draft of this inspection report. USACE partially concurred with recommendations 1, 2, and 4, and fully concurred with recommendation 3. We revised our report, including the recommendations, as appropriate, in response to USACE's comments.



**SIGAR**

Office of the Special Inspector General  
for Afghanistan Reconstruction

March 30, 2016

The Honorable Ashton B. Carter  
Secretary of Defense

General Lloyd J. Austin III  
Commander, U.S. Central Command

General John W. Nicholson  
Commander, U.S. Forces–Afghanistan and  
Commander, Resolute Support

Lieutenant General Thomas P. Bostick  
Commanding General and Chief of Engineers,  
U.S. Army Corps of Engineers

Major General Gordon (Skip) B. Davis, Jr.  
Commander, Combined Security Transition Command–Afghanistan

This report discusses the results of SIGAR’s inspection of a U.S. Army Corps of Engineers (USACE) project to construct the facilities necessary to convert the National Military Academy of Afghanistan into the Afghan Air Force University. The university complex is located on the perimeter of Kabul International Airport. The contract originally required the construction of 8 new buildings and renovation of 24 existing buildings, but it was later modified, which decreased the project’s scope to the construction of 3 new buildings and the renovation of 15 existing buildings.

We recommend that the Commanding General and Chief of Engineers, USACE, take the following actions and report the results back to SIGAR within 90 days: (1) pursue all options available to have Technologists, Inc. correct the issues identified in this report involving non-compliance with the contract and poor workmanship, such as a lack of required plumbing insulation, missing ventilation fans, and inadequate ceramic tile work in some buildings that are still under warranty; (2) pursue all options available to recoup an estimated \$65,500 in charges associated with the lower-grade, lower-cost door hardware that Technologists, Inc. substituted without approval from USACE; (3) conduct a review of the follow-on repair project’s draft Statement of Requirements to ensure that the U.S. government is not unnecessarily paying for items that appear to still be covered by the contract warranty; and (4) review the circumstances surrounding the contracting officer and contracting officer’s representative’s failure to fully document the three-phase inspection process and failure to exercise due diligence by conducting the 4- and 9-month warranty inspections of the first eight buildings transferred to the Afghan government, and determine what, if any, disciplinary action should be taken against the contracting officer and contracting officer’s representative.

USACE provided written comments on a draft of this inspection report that are reproduced in appendix IV. USACE partially concurred with recommendations 1, 2, and 4, and fully concurred with recommendation 3. We revised our report, including the recommendations, as appropriate, in response to USACE’s comments.



**SIGAR**

Office of the Special Inspector General  
for Afghanistan Reconstruction

SIGAR conducted this inspection under the authority of Public Law No. 110-181, as amended, and the Inspector General Act of 1978, as amended; and in accordance with the Quality Standards for Inspection and Evaluation published by the Council of the Inspectors General on Integrity and Efficiency.

John F. Sopko  
Special Inspector General  
for Afghanistan Reconstruction

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## ABBREVIATIONS

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CSTC-A	Combined Security Transition Command–Afghanistan
NATO	North Atlantic Treaty Organization
TAAC-Air	Train, Advise, Assist Command–Air
USACE	U.S. Army Corps of Engineers

On January 22, 2012, the U.S. Army Corps of Engineers (USACE) awarded a nearly \$10 million fixed-price, design/build contract—number W5J9JE-12-C-0001—to Technologists, Inc., a U.S. company, to construct the facilities necessary to convert a complex housing the National Military Academy of Afghanistan into one housing the Afghan Air Force University.<sup>1</sup> The university, called Pohantoon-e-Hawaee by the Afghans, is located on the perimeter of Kabul International Airport and is designed to house and train 1,200 air force cadets with 400 support personnel. The contract called for the construction of 8 new buildings and the renovation of 24 existing buildings.<sup>2</sup> A Notice to Proceed, dated March 29, 2012, gave Technologists, Inc. until March 9, 2014, to complete the project. Due in part to delays in National Military Academy of Afghanistan personnel vacating the site, as well as problems related to site access and subcontractor performance, the contract completion date was extended to December 27, 2014.

Beginning in November 2012, a series of contract modifications decreased the project's scope to the construction of 3 new buildings and the renovation of 15 existing buildings. These scope changes also reduced the contract price to approximately \$6.7 million.<sup>3</sup> The new buildings were a kitchen/cold storage area; an entry control point; and a depot for petroleum, oil, and lubricants, while the 15 renovated buildings included 4 barracks, 4 bathroom buildings, 3 dining facilities, a training center, and 3 support structures. The building renovations largely consisted of replacing doors, windows, carpeting, tiles, bathroom fixtures, and fans, as well as patching and painting, depending on the building.

On April 14, 2014, USACE and the Train, Advise, Assist Command–Air (TAAC-Air),<sup>4</sup> transferred 8 of the 15 renovated buildings to Afghan authorities as part of a two-phased turnover strategy. The 1-year warranty for these eight buildings began on April 14, 2014. On April 4, 2015, USACE and TAAC-Air transferred the remaining 10 buildings—3 new buildings and the remaining 7 renovated buildings—to Afghan authorities. The 1-year warranty for these buildings began on February 9, 2015, the same date that USACE issued a notice of substantial completion for the buildings. Table 1 shows the new and renovated buildings, by building type and number, which were transferred to Afghan authorities in Phases I and II.

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<sup>1</sup> The North Atlantic Treaty Organization (NATO) Training Mission–Afghanistan funded the contract, but the Combined Security Transition Command–Afghanistan (CSTC-A) replaced it in October 2013 and assumed responsibility for the contract.

<sup>2</sup> Throughout this report, we use the term “buildings” to collectively refer to the structures involving new construction and renovation work done at the Afghan Air Force University complex.

<sup>3</sup> Scope changes were made in response to CSTC-A's goal to complete the project and avoid any oversight requirements after NATO and the United States' planned military departure from Afghanistan, which, in 2013, was expected to be December 31, 2014.

<sup>4</sup> TAAC-Air is a Coalition group mentoring the Afghan Air Force that interfaces with CSTC-A. TAAC-Air falls under the NATO Air Command–Afghanistan.



**Table 1 - New and Renovated Buildings, by Type and Building Number, Transferred to Afghan Authorities in Phase I and Phase II**

PHASE I-APRIL 14, 2014		
Type	Description	Building Number
Renovated	Barracks	2
		3
	Dining Facility	6
	Bathroom	7
		7a
		8
	8a	
Professional Military Education Center	17	
PHASE II-APRIL 4, 2015		
Type	Description	Building Number
Renovated	Barracks	1
		4
	Dining Facility	6a
		6d
New	Kitchen and Cold Storage Area	6g
	Entry Control Point	12
Renovated	Security Forces Building	14
	Education Center	15
	Combat Support/Army Training Center	16
New	Petroleum, Oil, and Lubricant Depot	45

Source: SIGAR analysis based on USACE data

We conducted our work in Kabul, Afghanistan, including at the Afghan Air Force University, from December 2014 through March 2016, in accordance with the *Quality Standards for Inspection and Evaluation*, published by the Council of the Inspectors General on Integrity and Efficiency. The engineering assessment was conducted by our professional engineer in accordance with the National Society of Professional Engineer’s *Code of Ethics for Engineers*. Appendix I contains a more detailed discussion of our scope and methodology.

## CONSTRUCTION GENERALLY MET CONTRACT REQUIREMENTS, BUT SIGAR FOUND SOME INSTANCES OF NON-COMPLIANCE AND POOR WORKMANSHIP

We inspected the Afghan Air Force University complex on March 9, 2015, and found that the new construction and renovation work was largely completed in accordance with contract requirements. For example, in each of the eight renovated buildings transferred to Afghan authorities in April 2014, Technologists, Inc. generally completed the work according to the contract. This work included installing new doors and windows, new plumbing fixtures and overhead lighting, fresh paint, and tile work. Similarly, in each of the 10 buildings (3 new and 7 renovated) transferred to Afghan authorities in April 2015, Technologists, Inc. generally completed the work according to the contract. For example, the new construction included a kitchen with multiple ranges, food preparation areas, and a series of walk-in cold storage areas that were all successfully completed. However, during our inspection, we found some instances of non-compliance with contract requirements, as

Agency officials noted that USACE’s contract was not intended to provide complete renovation of every building to as-new condition.<sup>5</sup> Instead, the contract was intended to address new requirements associated with the Afghan Air Force’s use of the former National Military Academy of Afghanistan complex, and to make a few repairs to various systems. The contract’s technical appendix included a detailed listing specifying the percentage of “general works” and “mechanical, engineering, and plumbing” requirements that the contractor needed to complete for each building. In some cases, the contract required 100 percent renovation or replacement. In other cases, a lower percentage of renovation or replacement was required. For example, the technical appendix noted that only 25 percent of the faucets needed replacement in one of the bathroom buildings.

The objectives of this inspection were to determine whether (1) construction was completed in accordance with contract requirements and applicable construction standards, and (2) the new and renovated buildings were being used as intended and maintained.

<sup>5</sup> We collectively refer to CSTC-A, USACE, and TAAC-Air staff as “agency officials” in this report.

well as some instances of poor workmanship. These problems can largely be attributable to USACE's failure to (1) require that the contractor fully document its implementation of the three-phase inspection process, and (2) conduct the required 4- and 9-month warranty inspections of the eight buildings transferred to Afghan authorities in April 2014.

## Several Instances of Non-Compliance with Contract Terms and Poor Workmanship Need to Be Addressed

During our on-site inspection, we found five instances of non-compliance with contract terms which involved various buildings transferred to Afghan authorities in 2014 and 2015. Specifically, we found:

- **Lack of Plumbing Insulation:** The contract required that exposed plumbing be wrapped with insulation. Plumbing work done in renovated bathrooms (building Nos. 7, 7a, 8, and 8a) and the new kitchen/cold storage area (building No. 6g) did not include the required insulation. A lack of plumbing insulation will increase energy loss in the cooling system, increasing the power bills.
- **Unapproved Product Substitution:** The contract specified the grade of product that was required for such items as door handles and locks, plumbing fixtures, paint, and exhaust fans. During our inspection, we found that Technologists, Inc. used lower-grade, lower-cost door handles in 14 buildings and used lower-grade, lower-cost faucets in 7 buildings. In both cases, the contractor did not install the brand parts specified in the product substitution request reviewed by USACE. With regard to the substituted door handles and sink faucets, we estimate that use of lower grade products resulted in a savings to Technologists, Inc. of approximately \$80,000, consisting of \$65,500 for substituted door handles and \$14,500 for substituted sink faucets. We asked for, but USACE could not provide, any documentation showing that it had modified the contract to account for the lower-cost items. Appendix II provides details on the product substitution cases that we identified and the estimated cost savings associated with them. With regard to the substituted sink faucets, USACE noted in its response to a draft of this report that the contract specifications for sink faucets was defective and that no recoupment action could be taken. We agree with this conclusion and revised our related recommendation accordingly.
- **Missing Ventilation Fans:** The project design drawings called for ventilation fans to be installed in the first and second floor bathrooms of barracks No. 1. Ventilation fans are designed to draw moisture out of bathrooms. However, during our inspection, we did not find any ventilation fans in those bathrooms.<sup>6</sup> Further, although barracks Nos. 2, 3, and 4 are identical to barracks No. 1, the design drawings for those buildings did not call for ventilation fans. The lack of ventilation fans could result in future problems, such as mold growth.
- **Missing Protective "Nosing" on Stairways:** The contract required Technologists, Inc. to install stair nosing on each renovated stair landing. The stair nosing protects the leading edge of the concrete landing from chipping. During our inspection, we found that the stair nosing was not installed in barracks No. 3. We do not know if this problem extended to other barracks, which we were not able to inspect due to time constraints.

During our on-site visit, we also found poor workmanship in the 8 renovated buildings transferred to Afghan authorities in April 2014, and the 10 buildings transferred in April 2015. Specifically, we found:

- **Inadequate ceramic tile installation:** We found poor tile work in four barracks buildings, one dining facility, and the new kitchen/cold storage area. For example, we found irregularly shaped tiles and

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<sup>6</sup> USACE noted that the "pre-punch list" inspection report, dated November 30, 2014, did not list missing vent fans in barracks No. 1, indicating that the fans were in place at the time of the inspection. USACE said it was confident that the quality assurance inspectors would have identified missing fans during final inspections. Therefore, USACE believes the fans were removed after final inspection and transfer of the building.

wide gaps between tiles in these buildings, as well as 90-degree angled surfaces without rounded tiles, which were supposed to be installed for appearance and to help prevent damage to corners.

## **Some Required Building Inspections Were Not Conducted, Leading to Some Needed Repairs Not Being Made**

USACE acknowledged that two of its required inspections at the Afghan Air Force University complex were never conducted. According to the contract, USACE should have conducted warranty inspections at the 4- and 9-month marks following the transfer of buildings to Afghan authorities. However, USACE officials stated the required warranty inspections for the eight buildings transferred in April 2014, which are no longer under warranty, were not conducted due to a lack of quality assurance staff. As a result, certain problems, such as the instances of product substitution discussed above, were not identified and remedied during the warranty period. With regard to the 10 buildings transferred in April 2015, which are still under warranty, USACE completed a 4-month warranty inspection on July 5, 2015, and found 17 deficiencies, which USACE told us the contractor remedied and USACE accepted. USACE conducted the 9-month warranty inspection from November 16 to 18, 2015, and found six additional deficiencies, which USACE said the contractor is currently addressing. For example, one of the deficiencies involved ceiling lights that were not functioning.

Technologists, Inc.'s failure to identify and correct problems with its work may also be due to its failure to follow and fully document required quality control steps. For example, USACE's three-phase inspection system requires that contractors identify "definable features of work" that will be inspected and documented at the preparatory, initial, and final stages of construction. Examples of definable features of work for this project included ceramic and terrazzo tile, plumbing fixtures and accessories, and roofing installation. We determined that the first step in the process was properly completed when Technologists, Inc. and USACE agreed on a list of definable features of work for the project. However, Technologists, Inc. did not fully document the completion of required inspections and tests for each phase of the process and for each definable feature of work. Missing documentation included required checklists, such as the preparatory and initial checklists, meeting minutes, shop drawings, material submissions, and test results linked to each definable features of work. USACE, in turn, failed to adequately monitor and insist that the contractor fully document its implementation of the three-phase inspection process. Appendix III contains examples of SIGAR's requests for three-phase inspection documentation and USACE's responses. In four of the seven examples listed in the appendix, USACE simply responded that the required documentation could not be located.

## **MOST AFGHAN AIR FORCE UNIVERSITY COMPLEX BUILDINGS ARE BEING USED, BUT SOME ARE NOT BEING WELL MAINTAINED**

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At the time of our March 2015 site visit, we found that the four bathroom buildings transferred to Afghan authorities in April 2014 were not being used. However, according to USACE officials, these four buildings are now being used by Afghan students and staff, despite the fact that a number of sinks and faucets are broken, some light bulbs are burned out, and the water heaters are not functioning.

We also found that 2 of the 10 buildings that USACE transferred to Afghan authorities in April 2015 were not being used. Agency officials explained that no furniture had been moved into barracks Nos. 1 and 4 because Afghan authorities discovered multiple problems, including plumbing leaks in the bathrooms, broken sinks and fixtures, and non-functioning ceiling fans. In addition, during our inspection, we found other problems with various buildings that can mostly be attributable to inadequate maintenance by the Afghan government, including mold growth, filthy bathroom conditions, broken door locks, and broken or missing plumbing fixtures. Photos 1 and 2 show examples of mold and poorly maintained bathrooms, respectively.

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**Photo 1 - Mold Growth in Bathroom Building 7a**



Source: SIGAR, March 2015

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**Photo 2 - Poorly Maintained Facilities in Bathroom Building 7**



Source: SIGAR, March 2015

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Because USACE did not conduct some of the required 4- and 9-month warranty inspections called for under the contract, it has missed the opportunity for the contractor to repair items which normally would be identified during those inspections. The contractor's warranty for the eight buildings transferred to Afghan authorities in April 2014 has expired. If the contractor can no longer be held liable for repairing items, someone else—the U.S. government or the Afghan government—will have to pay for them. USACE officials told us that the Afghan government has a central operations and maintenance budget to maintain facilities that the officials said should be sufficient for the government to perform routine maintenance and make repairs to Afghan Air Force University buildings. However, we did not examine the sufficiency of this budget or the extent to which the repair and maintenance issues that we identified can be attributed to shortcomings in the Afghan's operations and maintenance program.

Agency officials told us that they have developed a follow-on project to address a multitude of repairs needed in various buildings at the Afghan Air Force University complex. These repairs are documented in a draft Statement of Requirements prepared by USACE. As noted earlier in the report, Technologists, Inc.'s contract did not include the total renovation of all buildings, and, as a result, certain items within some buildings were not required to be repaired under the contract. However, our review of the follow-on project's Statement of Requirements, dated August 2, 2015, shows that it contains repair items for the 10 buildings transferred to Afghan authorities in April 2015 that should be covered under the original contract's warranty, which was in effect through February 2016.<sup>7,8</sup> For example, the Statement of Requirements notes that all new windows installed in barracks Nos. 1 and 4 under the original contract need to be cleaned and re-caulked with exterior-grade caulk, work which should have been done when the new windows were installed. In another example, the Statement of Requirements notes that new wall and floor tiles should be installed in the 12 bathrooms in barracks Nos. 1 and 4, work that was also supposed to be performed under the original contract.

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<sup>7</sup> Afghan authorities reviewed and concurred with the Statement of Requirements prior to its submission to CSTC-A for approval and funding. USACE anticipated a contract award date of January 30, 2016, and an award amount of \$500,000.

<sup>8</sup> Although the contractor's warranty expired in February 2016, USACE's agreement with our recommendation to review the Statement of Requirements suggests that the agency intends to treat any previously contracted work as still under warranty.

## CONCLUSION

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The Afghan Air Force University's complex, consisting of 3 newly constructed buildings and 15 renovated buildings, was mostly constructed according to contract specifications. For the most part, contractor Technologists, Inc. followed contract requirements, and cadets are using most buildings in the complex for housing and training purposes. However, we did find some instances of contractor non-compliance and poor workmanship that should have been readily correctable. Also, there were some instances in which substitute construction materials were used without proper approval, resulting in at least \$80,000 in potentially inappropriate cost saving for Technologists, Inc.

More troubling, however, is that USACE missed an opportunity to correct problems with the work that was supposed to be completed under the contract. First, USACE never conducted warranty inspections for some buildings. Had USACE conducted those warranty inspections, it could have uncovered and corrected items in barracks and bathrooms needing repair. We also found that the Afghan government has not maintained the eight buildings USACE turned over to it in April 2014. These buildings show not only signs of neglect, but some also exhibit mold growth and unsanitary bathrooms. If maintenance does not improve, conditions will worsen and could affect not only the future use of the facility but also cadet morale, and could ultimately result in the waste of the funds spend on this project. Finally, agency officials told us that they have developed a follow-on project to address a multitude of needed repairs. We believe the Statement of Requirements for this project includes work that should fall under the original contract's warranty and be repaired at no additional cost to the U.S. government.

## RECOMMENDATIONS

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To help protect the U.S. taxpayers' investment in the Afghan Air Force University complex, we recommend that the Commanding General and Chief of Engineers, USACE take the following actions and report the results back to SIGAR within 90 days:

- 1. Pursue all options available to have Technologists, Inc. correct the issues identified in this report involving non-compliance with the contract and poor workmanship, such as a lack of required plumbing insulation, missing ventilation fans, and inadequate ceramic tile work in some buildings that are still under warranty.**
- 2. Pursue all options available to recoup an estimated \$65,500 in charges associated with the lower-grade, lower-cost door hardware that Technologists, Inc. substituted without approval from USACE.**
- 3. Conduct a review of the follow-on repair project's draft Statement of Requirements to ensure that the U.S. government is not unnecessarily paying for items that appear to still be covered by the contract warranty.**
- 4. Review the circumstances surrounding the contracting officer and contracting officer's representative's failure to fully document the three-phase inspection process and failure to exercise due diligence by conducting the 4- and 9-month warranty inspections of the first eight buildings transferred to the Afghan government, and determine what, if any, disciplinary action should be taken against the contracting officer and contracting officer's representative.**

## AGENCY COMMENTS

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USACE provided written comments on a draft of this report that are reproduced in appendix IV. We revised our report, including the recommendations, as appropriate, in response to USACE's comments. USACE partially concurred with recommendations 1, 2, and 4, and fully concurred with recommendation 3.

USACE partially concurred with recommendation 1, noting that it agreed there was a need to re-assess the number of ventilation fans required to properly ventilate the building. However, USACE disagreed with SIGAR's other findings as they relate to recommendation 1. Specifically,

- USACE believes that both the duct wrap and plumbing insulation met contract specifications. We re-examined the duct wrap specification cited by USACE and agree that the contractor met the specification. As a result of USACE's comments, we deleted this discussion from our final report and modified our recommendation. However, we disagree with USACE's position that insulation was not required for exposed interior plumbing. We note that section 22 07 19.00 40 of the contract provides specific instructions for piping insulation that is exposed to view, and we found no exception to omit such insulation for exposed plumbing piping.
- USACE noted that all ceramic tile work met contract specifications. We disagree with this conclusion. Section 09 30 00, Sub-section 3.2 of the contract calls for the use of "special" tile "shapes as required for sills, jambs, recesses, offsets, external corners, and other conditions to provide a complete and neatly finished installation." As discussed in our report, we found instances where this requirement was not met. For example, we noted cases where 90-degree angled surfaces did not have rounded tiles to help prevent damage to corners.
- USACE noted that it did find not any evidence of poor ground compaction or soil grading during warranty inspections held at 4- and 9-month intervals. Based on these comments and a review of both warranty inspection reports, we deleted this finding from our report and revised our recommendation.

USACE did not concur with recommendation 1b, which was included in the draft of this report that the agency reviewed. We had recommended that USACE authorize additional roof assessments, as required by the contract. In its comments, USACE noted that only building 14 was required to have a roof inspection per the "General Works" matrix included in the contract. Based on a re-examination of the contract and a review of the roof assessment for building 14 that USACE later provided, we removed this finding from our report and revised our recommendation.

USACE partially concurred with recommendation 2, noting it agreed to pursue an adjustment to the contract if it can confirm that the contractor installed non-compliant hardware. USACE explained that the contract specifications for sink faucets were defective and that no recoupment action would be taken. We agree with this conclusion and revised our recommendation to include the estimated amount the government may be able to recoup for the improperly substituted door hardware.

USACE concurred with recommendation 3 and stated that it intended to conduct a review of the Statement of Requirements for the proposed follow-on repair contract to ensure that it does not include items that are still under warranty.

USACE partially concurred with recommendation 4 by acknowledging the contracting officer and contracting officer's representative "did not exercise due diligence" with regard to required warranty inspections. USACE disagreed with our finding that it failed to properly implement the three-phase inspection process, noting that the contractor is responsible for that process. We agree that the contractor is responsible for establishing a three-phase inspection process and for preparing and submitting all required paperwork to USACE officials. However, we still maintain that USACE is responsible for providing adequate oversight of this process as part of its quality assurance efforts. To that extent, USACE officials are responsible for ensuring that each phase is properly executed and documented by the contractor. We revised our report to make this point clearer.

## APPENDIX I - SCOPE AND METHODOLOGY

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This report provides the results of SIGAR's inspection of the construction and renovation work completed at the Afghan Air Force University complex, referred to locally as Pohantoon-e-Hawae, located on the perimeter of Kabul International Airport. To determine whether work was completed in accordance with contract requirements and applicable construction standards, and the buildings were being used as intended and maintained, we:

- reviewed contract documents, design submittals, site visit reports, and other relevant project documentation;
- conducted an engineering assessment of the project drawings and construction methods used;
- interviewed U.S. government officials concerning the project's construction; and
- conducted a site inspection on March 9, 2015.

We did not rely on computer-processed data in conducting this inspection. However, we considered the impact of compliance with laws and fraud risk.

We conducted our audit work in Kabul, Afghanistan, from December 2014 through March 2016. This work was conducted in accordance with the *Quality Standards for Inspection and Evaluation*, published by the Council of the Inspectors General on Integrity and Efficiency. The engineering assessment was conducted by our professional engineer in accordance with the National Society of Professional Engineers' *Code of Ethics for Engineers*. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our inspection objectives. We conducted this inspection under the authority of Public Law No. 110-181, as amended, and the Inspector General Act of 1978, as amended.

## APPENDIX II - SIGAR-IDENTIFIED INSTANCES OF PRODUCT SUBSTITUTION

**Table 2 - SIGAR-identified Instances of Product Substitution**

Item Description	Contract Required	What Was Installed	SIGAR Observation
Door handles and locks	Mortise locksets conforming to the American National Standards Institute/Builders Hardware Manufacturers Association, Series 1000, Grade 1 standard.	Hardware of a lower grade used in building Nos. 6, 6a, 6d, 15, 16, and 17; barracks Nos. 1, 2, 3, and 4; bathroom Nos. 7, 7a, 8, and 8a.	<p>The contractor filed a product submittal, which a U.S. Army Corps of Engineers (USACE) staff member reviewed on January 18, 2014. This reviewer rejected the submittal, noting that a re-submission was required since no product data was provided that would give a basis for determining compliance with contract specifications. The contractor re-submitted on February 16, 2014, with product data showing the proposed use of a door handle and lock set manufactured by Lares Canada Inc. that, according to the technical data provided, met contract standards. The USACE staff member approved the contractor's re-submittal on February 20, 2014.</p> <p>During our inspection, we noted that the approved door handle and lock set were not installed in the areas we visited. Rather, door handles and locks of lower quality was installed. Our engineers noted that these parts likely came from the local market, where they can be purchased for \$11 each versus the \$248 price quoted online for the Grade 1 locks called for by the contract and approved in the submittal filed with USACE. We estimate that the contractor saved \$65,565 by substituting the lower quality handle and lock set assembly. We found no evidence to suggest that USACE modified the contract price to account for these lower quality materials.</p>
Plumbing hardware	Sink faucets: Zurn Model No. Z841M1 specified.  Shower valves/head assembly: Chicago Faucet Model No. CP 752 specified.	Local hardware of a lower grade used in building Nos. 1, 2, 3, 4, 7, 7a, and 8.	<p>With regard to the sink faucets, we found the contractor filed a product substitution submittal with USACE on April 16, 2013. USACE did not provide any information to show whether this submittal was approved. Furthermore, we noted that the contractor failed to install the RAK Ceramics sink faucet specified in its submittal. Rather, the contractor installed "gooseneck" style faucets (explicitly prohibited by the contract) manufactured by Faisal Sanitary Fitting Industry that did</p>



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not meet the minimum standards specified in the contract. We estimate that this substitution saved the contractor approximately \$14,555. We found no evidence to suggest that USACE modified the contract price to account for these lower quality materials.

With regards to the shower valves and head assemblies, the contractor provided USACE with a submittal indicating that it wanted to substitute the use of a particular model shower assembly made by Faisal Sanitary Fittings Industries (no cost data provided) in lieu of the Chicago Faucet shower assembly model (catalogue price is \$448) referenced in the contract specifications. The form showed a USACE approval code but did not include the approving official's name or signature, or the approval date. In addition, we noted that the contractor did not install the specific Faisal model referenced in its submittal, substituting a different model produced by the same company. We were able to price the cost of the particular model, which is available at the local market, at \$55 a unit. This meant the contractor realized a savings of approximately \$39,693 compared to the price of the Chicago Faucet shower assembly. We searched Faisal's product catalog and did not find the type of shower valve and head fixture that was installed on site to determine whether or to what extent the Faisal part—regardless of its actual cost—met the same technical specifications as the Chicago Faucet shower assembly. For this reason, we are not including this amount in the refund due to the U.S. government.

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Source: SIGAR analysis based on USACE data

## APPENDIX III - U.S. ARMY CORPS OF ENGINEERS THREE-PHASE INSPECTION RECORDS

**Table 3 - Examples of SIGAR-requested Three-phase Inspection Documentation and the U.S. Army Corps of Engineers' (USACE) Response**

SIGAR Request	USACE Response
List of definable features of work	Definable features of work were incorporated into the contractor's quality control plan and agreed to by USACE.
Copies of the preparatory phase checklist and initial phase checklists required by the contractor's quality control plan for a sample of six definable features of work—that is, reinforced concrete, cement plastering and stucco, ceramic and terrazzo tiles, bathroom fixtures and accessories installation, plumbing fixtures and accessories installation, and door knob installation	USACE's written response noted that "... hard copies of actual preparatory and initial checklist are not available. The contractor was contacted to obtain these checklists. However, the contractor was unresponsive to the subject request. The USACE Resident Management System does not contain the electronic copies of these checklists."
For eight specified Definable Features of Work, provide the Resident Management System checklist, meeting minutes, and any associated documentation for the preparatory phase inspection as described on electronic page 4 in USACE's quality assurance plan for this project	With the exception of some blank preparatory worksheets, the requested documentation could not be located.
Documentation showing that required testing, as detailed in the contractor's quality control plan, was performed	USACE provided evidence that some testing was performed for 1 of the 27 categories of testing listed in the contractor's quality control plan.
Copy of the "test sheet" called for in the contractor's quality control plan	Requested documentation could not be located.
Copy of deficiency tracking forms called for in the contractor's quality control plan	Requested documentation could not be located.
Copy of the "master deficiency tracking log" called for in the contractor's quality control plan	Requested documents could not be located.
Copies of the pre-final inspection (and associated punch list) and final inspection (and associated punch list) of completed work for both the 8 buildings transferred on April 14, 2014, and separate documentation relating to the 10 buildings transferred on April 4, 2015	Requested documents could not be located. Although the specific "Master Deficiency Tracking Log" referenced in contractor's quality control plan could not be located, USACE did provide a copy of the overall deficiency tracking document titled "Deficiency Items Issued by QA/QC," which USACE maintains and includes deficiencies identified by both the contractor's Quality Control and government's Quality Assurance personnel. The status of the correction of these deficiencies is also indicated on this document.

Source: SIGAR analysis based on USACE data

## APPENDIX IV - COMMENTS FROM THE U.S. ARMY CORPS OF ENGINEERS

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DEPARTMENT OF THE ARMY  
UNITED STATES ARMY CORPS OF ENGINEERS  
TRANSATLANTIC DIVISION  
201 PRINCE FREDERICK DRIVE  
WINCHESTER, VIRGINIA 22602-4373

24 FEB 2016

Mr. John F. Sopko  
Special Inspector General for Afghanistan Reconstruction  
1550 Crystal Drive, Suite 900  
Arlington, VA 22202

Dear Mr. Sopko:

Enclosed is the United States Army Corps of Engineers (USACE) Transatlantic Division's response to Special Inspector General for Afghanistan Reconstruction (SIGAR) Draft Audit Report, "Afghan Air Force University: Contract Requirements Were Generally Met, but Instances of Non-Compliance, Poor Workmanship, and Inadequate Maintenance Need to Be Addressed."

Based on the results of the audit, SIGAR's report developed four recommendations. USACE partially concurs with SIGAR's recommendations 1a, 2, and 4; non-concurs with recommendation 1b; and concurs with recommendation 3.

Based on your audit's recommendations our Transatlantic Afghanistan District conducted a detailed review, including contract documents and photo documentation, of completed work, and determined there are items that may require adjustments.

We will continue to review and closely monitor warranty items to make sure that items still under warranty do not show on the Statement of Requirements list and the Government unnecessarily pays for them. We agree that our Contracting Officer and/or the Contracting Officer's Representative did not timely conduct the warranty inspections of the first eight buildings transferred to the Afghan government and are considering what actions, if any, to take.

Additional details are provided in the enclosure. My point of contact for this response is Mr. Mike Hatchett, Internal Review Auditor. He may be reached by e-mail at [REDACTED], or by telephone at [REDACTED].

Sincerely,

Handwritten signature of Christopher A. Hussin in cursive.

Christopher A. Hussin  
Colonel, U.S. Army  
Chief of Staff

Enclosure

**U.S. Army Corps of Engineers, Transatlantic Division, Response to the Recommendations of the Special Inspector General for Afghanistan Reconstruction Draft Audit Report, "Afghan Air Force University: Contract Requirements Were Generally Met, but Instances of Non-Compliance, Poor Workmanship, and Inadequate Maintenance Need to Be Addressed."**

Following is the Transatlantic Division's (TAD) response to the report recommendations.

**Recommendations:**

**1. Pursue all options available to have Technologists, Inc.**

**a. Correct the issues identified in this report involving non-compliance with the contract and poor workmanship, such as a lack of required duct wrap and plumbing insulation, missing ventilation fans, inadequate ceramic tile work in some buildings, and two instances of poor ground compaction and soil grading, that are still under warranty, and**

**b. Conduct roof inspections as required under the contract and make all needed repairs.**

**USACE Response:**

**a. Partially Concur.**

Duct wrap: - We determined that the Contractor met the requirements as specified in the contract; the specific contract requirement (located at contract Specification Section 1015, Paragraph 6.7, see enclosure, page 4 below) provides that ductwork in a conditioned space (i.e. spaces that are heated or air conditioned) do not require duct wrap. The specification only applies to supply or return air ducts. The exposed ductwork cited by the SIGAR inspector is not considered supply or return air ductwork; therefore, no duct wrap insulation is required.

Plumbing insulation: The contract specification (Section 01015, Paragraph 6.18), requires insulation shall be provided to control sweating of pipes or to provide protection from freezing. Piping insulation inside the buildings (bathrooms and wet spaces) was not necessary and we believe contractor performance was compliant.

Missing ventilation fans: Your inspector addresses a conflict between the drawings and specifications (Section 01010, Paragraph 2.9.7 and Matrix M-1 Mechanical, Electrical & Plumbing (MEP) and Communication Works). Bathroom ventilation is not required as long as there are operable windows; however, we do realize that at least 6 -10 air change exchanges may be required and we will re-asses if the existing ventilation is adequate and review this with the customer. We are concerned about the growth of mold shown in the inspector's photographs. We will work with our customer to address this issue as required.

Inadequate ceramic tile work in some buildings: The accepted work is within the specification. There is no evidence of non-compliance with the contract.

Poor ground compaction and soil grading: The accepted work is within the specification. We did not find any evidence of poor ground compaction or soil grading during warranty inspections held at the 4 and 9 month intervals.

**b. Non-concur.**

We non-concur with your recommendation as we found the contractor met all contractual requirements with respect to roof inspections and repairs. After conducting a detailed review, we found only Building 14 was required to have a roof inspection in accordance with Section 01010, Paragraph 2.9.7 and matrix M-1 General Works. The Contractor prepared a Roof Assessment Plan (Transmittal 01010-5) dated 23 Feb 14. This Roof Assessment Plan included Building 14 and included a corrective action plan. Based upon review of photo documentation, we validated that roof repairs occurred in accordance with the Contractor's Roof Assessment Plan.

The water leak in building 6 was corrected by the Contractor under the provisions of the warranty. The Contractor was notified of a warranty call on 12 October 2015 and it was repaired. We determined the completion after conducting a warranty inspection on 16 November 2015.

**2. Pursue all options available to recoup \$80,000 in charges associated with the lower-grade, lower-cost items that Technologists, Inc. substituted without approval from USACE.**

**USACE Response: Partially Concur.**

The report mentions two substitutions:

Door Handles and Locks: We have notified the Contractor of this potential issue and currently it is an open item. However we cannot determine to what extent and whether the accepted product is non-compliant with the contract. USACE will pursue an adjustment to the contract if in fact we determine the Contractor installed non-compliant door hardware.

Sink Faucets: The specification is defective and the contract documents are inconsistent; therefore, no recoupment actions should be taken. It is acknowledged that the contract specification (Paragraph 6.18 Plumbing Requirements, Section 1015) clearly specifies that Zurn faucets are the basis for design. However, an error occurred by specifically naming only one type of fixture (a service sink faucet) as the basis as opposed to numerous types of faucets as the DFAC, barracks, and ablution rooms all have different requirements. We also note there are some conflicts in our specification that may have mislead the contractor. An inconsistency was found within the contract

documents where "goose-neck" is strictly prohibited in Paragraph 6.18 yet it stated in M-1 matrix for building 8a "replace 10 low lavatory faucets with goose neck type faucets.

**3. Conduct a review of the follow-on repair project's draft Statement of Requirements to ensure that the U.S. government is not unnecessarily paying for items that appear to still be covered by the contract warranty.**

**USACE Response: Concur.**

We conducted a review and will ensure that items still under warranty do not appear on the Statement of Requirements list. To note, the Statement of Requirements includes non-warranty mold remediation which is due to leaking supply and drain pipes in the barracks buildings and a lack of maintenance in these buildings.

**4. Review the circumstances surrounding the contracting officer and contracting officer's representative's failure to fully document the three-phase inspection process and failure to exercise due diligence by conducting the 4- and 9-month warranty inspections of the first eight buildings transferred to the Afghan government, and determine what, if any, disciplinary action should be taken against the contracting officer and contracting officer's representative.**

**USACE Response: Partially Concur.**

The three-phase inspection process is a USACE contract requirement, which is the responsibility of the contractor; that is, not of the Contracting Officer or the Contracting Officer's Representative. The Government's role of quality assurance does not include preparing the preparatory or initial inspection forms for the Contractor's Quality Control Manager. It is acknowledged the Contractor failed to do this in accordance with the contract. As a result, the Contractor was issued an interim unsatisfactory performance rating, and it is documented that quality control documentation (Prep and Initial inspections) in particular was unsatisfactory. We concur the Contracting Officer and/or the Contracting Officer's Representative did not exercise due diligence by conducting the 4- and 9-month warranty inspections of the first eight buildings transferred to the Afghan government. We are considering what actions, if any, to take with respect to the relevant Contracting Officers and the Contracting Officer Representatives.

## 6.7 DUCTWORK

### GENERAL

Air shall be distributed from central Air Handling Units (AHUs) to achieve proper airflow throughout the facility by means of air distribution ductwork. Air distribution system shall be comprised of supply and return ductwork, fittings, manual volume control dampers, grilles, registers, and/or diffusers. Ductwork shall be constructed of galvanized steel or aluminum sheets and installed as per SMACNA "HVAC Duct Construction Standards (Metal and Flexible)." Flexible non-metallic duct may be used for final unit/diffuser connection in ceiling plenums. These flexible duct run-outs shall be limited to 3 meters in length.

### DUCT INSULATION

Duct insulation shall be provided for all supply ductwork that is not located in the conditioned space and for return ductwork not located within the conditioned space. All ductwork exterior to the building shall be insulated with a minimum RSI=0.88 (R5). In general interior ducts shall be exposed to the rooms and will not be insulated. The heat lost or gained from the un-insulated ducts shall be considered as part of the heating or cooling of the conditioned space.

### DIFFUSERS, REGISTERS & GRILLS

Diffusers, registers and grilles shall be factory fabricated of steel or aluminum and distribute the specified air quantity evenly over the space intended. The devices shall be round, half round, square, rectangular, linear, or with perforated face as determined by the design. Units will be mounted in ceilings, high sidewalls, or directly to ductwork and shall be sized for the airflow to be delivered with a maximum NC rating of 35. Pressure loss through the diffuser shall be considered in sizing the duct system and the system static pressure calculations.

### BRANCH TAKE-OFFS

Air extractors or 45° entry corners shall be provided at all branch duct take-offs. Manual volume control dampers shall be included at the branch duct take-offs and where required to facilitate air balancing and shall be shown on the design drawings.

## APPENDIX V - ACKNOWLEDGMENTS

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Daniel Domke, Senior Inspection Manager

Michael ten Kate, Inspector-in-Charge

Ahmad Javed Khairandish, Engineer

Melissa McAllister, Professional Engineer

Abdul Rahim Rashidi, Program Analyst

Aziz Rahman Zaki, Engineer

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This inspection was conducted  
under project code SIGAR-I-026.

## SIGAR's Mission

The mission of the Special Inspector General for Afghanistan Reconstruction (SIGAR) is to enhance oversight of programs for the reconstruction of Afghanistan by conducting independent and objective audits, inspections, and investigations on the use of taxpayer dollars and related funds. SIGAR works to provide accurate and balanced information, evaluations, analysis, and recommendations to help the U.S. Congress, U.S. agencies, and other decision-makers to make informed oversight, policy, and funding decisions to:

- improve effectiveness of the overall reconstruction strategy and its component programs;
- improve management and accountability over funds administered by U.S. and Afghan agencies and their contractors;
- improve contracting and contract management processes;
- prevent fraud, waste, and abuse; and
- advance U.S. interests in reconstructing Afghanistan.

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To help prevent fraud, waste, and abuse by reporting allegations of fraud, waste, abuse, mismanagement, and reprisal, contact SIGAR's hotline:

- Web: [www.sigar.mil/fraud](http://www.sigar.mil/fraud)
- Email: [sigar.pentagon.inv.mbx.hotline@mail.mil](mailto:sigar.pentagon.inv.mbx.hotline@mail.mil)
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