

# SIGAR

**Special Inspector General for  
Afghanistan Reconstruction**

## OFFICE OF SPECIAL PROJECTS

**AFGHAN NATIONAL ARMY: DOD MAY HAVE  
SPENT UP TO \$28 MILLION MORE THAN  
NEEDED TO PROCURE CAMOUFLAGE  
UNIFORMS THAT MAY BE INAPPROPRIATE  
FOR THE AFGHAN ENVIRONMENT**



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**SIGAR**

Office of the Special Inspector General  
for Afghanistan Reconstruction

June 20, 2017

The Honorable Jim Mattis  
Secretary of Defense

General Joseph L. Votel  
Commander, U.S. Central Command

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

Major General Richard G. Kaiser  
Commander, Combined Security Transition Command–Afghanistan

This report discusses the results of SIGAR's review of DOD's procurement of uniforms for the Afghan National Army (ANA). The report determines (1) how and why the U.S. government generated the requirement for the use of a proprietary camouflage pattern for ANA uniforms, and (2) the resulting cost to the U.S. government of using a proprietary camouflage pattern for ANA uniforms from November 2008 through January 2017.

Uniforms, consisting of one shirt and one pair of pants, is one example of organizational clothing and individual equipment (OCIE) that DOD has purchased for Afghan National Defense and Security Forces personnel using the Afghanistan Security Forces Fund appropriation. As a general matter, uniforms may use camouflage patterns that are either proprietary or non-proprietary. Proprietary uniforms are made using camouflage patterns that are owned by another entity and may not be used, by DOD or anyone else, without the permission of the owner. Non-proprietary uniforms are made using camouflage patterns that are owned or available for use by DOD without the need for permission from another entity. In 2007, DOD chose to purchase uniforms for the ANA that incorporated a proprietary pattern owned by HyperStealth Biotechnology Corporation (HyperStealth) and was patterned after the U.S. Army's Combat Uniform which is more costly to produce and has different component specifications than the U.S. Army Battle Dress Uniform. That 2007 decision resulted in the purchase of 1,364,602 such uniforms through January 2017.

Our analysis found that DOD's decision to procure ANA uniforms using a proprietary camouflage pattern was not based on an evaluation of its appropriateness for the Afghan environment. We also found that the procurement costs to the U.S. government were 40–43 percent higher for an ANA uniform using proprietary camouflage and patterned after the U.S. Army's Combat Uniform than the costs for comparable Afghan National Police (ANP) uniforms that use a non-proprietary pattern and are patterned after the simpler U.S. Army Battle Dress Uniform. DOD has spent approximately \$93.81 million to procure uniforms for the ANA using a proprietary pattern since it made the decision approximately 10 years ago. Given our historical and expected future security assistance for the ANA, our analysis found that changing the ANA uniform to a non-proprietary camouflage pattern based on the U.S. Army's Battle Dress Uniform, similar to those procured for comparable ANP units, could save U.S. taxpayers between \$68.61 million and \$71.21 million over the next ten years.

The current ANA uniform specification still requires the use of a proprietary camouflage pattern. Given the lack of evidence showing that the proprietary pattern is more effective in Afghanistan than lower cost non-proprietary patterns, we suggest that a DOD organization with appropriate expertise in military uniforms conduct a cost-benefit analysis of the current ANA uniform specification to determine whether there is a more effective alternative, considering both operational environment and cost, available.



**SIGAR**

Office of the Special Inspector General  
for Afghanistan Reconstruction

We provided a draft of this report to DOD for comment on May 02, 2017. DOD provided technical comments on May 30, 2017. We incorporated DOD's technical comments in the report, as appropriate. In DOD's technical comments, as well as in subsequent correspondence and a meeting to discuss the draft on June 1, 2017, agency officials expressed general agreement with contents of the draft report. In its written comments, received on June 15, 2017, DOD concurred with our suggested action to conduct a cost-benefit analysis and stated that it "is working with the appropriate DOD Components and the Afghan Ministry of Defense to conduct this assessment." DOD also stated that it "is following up with the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics to ensure that current contracting practices for ANA uniforms as well as Afghan National Police (ANP) uniforms conform to all FAR requirements." DOD's comments are reproduced in appendix II.

We conducted our work in Kabul, Afghanistan; Army Contracting Command's office at Rock Island Arsenal, Illinois; The Natick Soldier Research, Development and Engineering Center in Natick, Massachusetts; and Washington, D.C. from April 2016 through April 2017, in accordance with SIGAR's quality control standards. These standards require that we carry out work with integrity, objectivity, and independence, and provide information that is factually accurate and reliable. For more information on the policies and procedures and quality control standards for conducting special project work, please see SIGAR's website ([www.SIGAR.mil](http://www.SIGAR.mil)) SIGAR performed this special project under the authority of Public Law No. 110-181 and the Inspector General Act of 1978, as amended. Should you or your staff have any questions about this project, please contact Mr. Matthew Dove, Director of Special Projects, at (703) 545-6051 or [matthew.d.dove.civ@mail.mil](mailto:matthew.d.dove.civ@mail.mil).

Sincerely,

John F. Sopko  
Special Inspector General  
for Afghanistan Reconstruction

A key objective of U.S. reconstruction efforts in Afghanistan is to bolster the Afghan government's capacity to provide for its own security by equipping and training the Afghan National Defense and Security Forces (ANDSF). The primary components of the ANDSF are the Afghan National Army (ANA) and Afghan National Police (ANP). As of March 31, 2017, Congress has appropriated \$66.02 billion to the Department of Defense (DOD) to train, equip, build infrastructure for, and sustain the ANDSF.<sup>1</sup> As we recently reported, between 2010 and 2014, DOD spent more than \$415 million on organizational clothing and individual equipment (OCIE) for ANDSF personnel, which includes items such as helmets, body armor, uniforms (shirts and pants), field jackets, caps, boots, and sleeping bags.<sup>2</sup>

Uniforms are one example of OCIE that DOD has purchased for ANDSF personnel. As a general matter, uniforms may use camouflage patterns that are proprietary or non-proprietary. Proprietary uniforms are made using camouflage patterns that are owned by another entity and may not be used, by DOD or anyone else, without the permission of the owner and, in many cases, permission from the owner to use the pattern is not granted until a fee is paid. Non-proprietary uniforms are made using camouflage patterns that are owned or available for use by DOD without the need for permission from another entity. In 2007, DOD chose to purchase uniforms for the ANA that incorporated a proprietary pattern owned by HyperStealth Biotechnology Corporation (HyperStealth). Because rights to the proprietary pattern could be obtained from only one source—HyperStealth—contractors interested in supplying ANA uniforms had to pay fees to HyperStealth, or an authorized licensee, in order to use the pattern.<sup>3</sup>

The objectives of this review were to determine (1) how and why the U.S. government generated the requirement for the use of a proprietary camouflage pattern for ANA uniforms, and (2) the cost to the U.S. government of using a proprietary camouflage pattern for ANA uniforms from November 2008 to January 2017.<sup>4</sup>

To accomplish these objectives, we reviewed relevant documents, including contracts, task orders, and Blanket Purchase Agreements (BPAs) containing a requirement for proprietary camouflage patterns for ANDSF uniforms. We obtained documents and emails, and interviewed officials from DOD, including officials at the Resolute Support Mission; the U.S. Combined Security Transition Command–Afghanistan (CSTC-A); the Defense Logistics Agency (DLA); Army Contracting Command; U.S. Army Research, Development and Engineering Command; and the Defense Security Cooperation Agency. We also obtained documents and emails from, and interviewed, the contractors involved, as well as former DOD officials and advisors who were responsible for ANDSF uniform acquisitions in the past but who no longer work in Afghanistan. We conducted our work in Kabul, Afghanistan; Army Contracting Command's office at Rock Island Arsenal, Illinois; The Natick Soldier Research, Development and Engineering Center in Natick, Massachusetts; and Washington, D.C. from April 2016 through April 2017, in accordance with SIGAR's quality control standards. These standards require that we carry out work with integrity, objectivity, and independence, and provide information that is factually accurate and reliable. Appendix I has details of our objectives, scope, and methodology.

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<sup>1</sup> SIGAR, *Quarterly Report to the United States Congress*, April 30, 2017, pp. 65–70.

<sup>2</sup> SIGAR, *Afghan National Defense and Security Forces: DOD Needs to Improve Management and Oversight of Uniforms and Equipment*, SIGAR 17-40 Audit Report, April 25, 2017. Despite multiple SIGAR requests, DOD did not provide amounts spent on OCIE in 2015 and 2016.

<sup>3</sup> HyperStealth Biotechnology Corporation is a Canada-based corporation founded in 1999 that develops military uniforms and camouflage patterns for military and police markets worldwide.

<sup>4</sup> We limited our review to uniforms, which we defined as being comprised of one shirt and one pair of pants. We did not include field jackets and caps—which may also be made for the ANA using proprietary-patterned material—in this review because the contracts and supporting documentation we reviewed did not include specifications for the manufacturing of these items, thus limiting our ability to compare their costs to those of comparable units using non-proprietary patterns. Similarly, the contracts and supporting documentation for the procurement of field jackets and caps that we reviewed for comparable units using non-proprietary patterns did not include specifications for the manufacturing of these items.

## BACKGROUND

Equipping the ANA and ANP involves numerous Afghan, U.S., and international organizations. The ANA is a subordinate component of the Afghan Ministry of Defense (MOD), and the ANP is a subordinate component of the Afghan Ministry of Interior and is comprised of the following police units that use a comparable uniform to that of the ANA with a non-proprietary camouflage pattern: the Afghan Uniform Police (AUP), the Afghan Border Police (ABP), and the Afghan Local Police (ALP).<sup>5</sup> Under the current Resolute Support mission and the International Security Assistance Force mission that preceded it, CSTC-A is the DOD organization that is responsible for the following: overseeing efforts to equip and train the ANA and ANP; validating requirements; validating existing supply levels; submitting requests to DOD components to contract for procurement of materiel for the ANDSF; and ensuring that the Afghan government appropriately uses and accounts for U.S. funds provided as direct contributions from the Afghanistan Security Forces Fund.

### Uniform Procurement Strategies

DOD has provided uniforms to the ANA and ANP using three procurement strategies: (1) Pseudo Foreign Military Sales (FMS),<sup>6</sup> under which DOD purchases new supplies from vendors for use by the Afghan government or transfers excess U.S. military items to the Afghan government; (2) local acquisitions under which uniforms are purchased from Afghan vendors through contracts awarded directly by the theater contingency contracting command; and (3) providing U.S. funds to the Afghan Ministries of Defense and Interior as direct assistance to enable the Afghan government to procure uniforms through its own contracts. CSTC-A and other coalition organizations provide the requirements that are executed through pseudo FMS and local acquisition contracts. Contract oversight is provided by the DOD component that awards the contract in coordination with CSTC-A. The Offices of the Undersecretaries of Defense for Policy, Comptroller, and Acquisition, Logistics and Technology provide oversight of the acquisition strategies and funding execution for the contracts through the Afghanistan Resources Oversight Council, which was established by statute in 2012. The Afghan Ministries of Defense and Interior are responsible for managing direct assistance in accordance with the stipulations contained in commitment letters between the Afghan government and CSTC-A.

Figure 1 illustrates the methods used by DOD to procure OCIE for the ANDSF.

**Figure 1 - DOD's Acquisition Methods for ANA Uniforms**



Source: SIGAR analysis

<sup>5</sup> The ANP also includes the Afghan National Civil Order Police, Afghan Anti-Crime Police, Afghan Protection Unit, and the Afghan Public Protection Force, which are not discussed in this report because they either also use a proprietary pattern or have dissimilar uniform requirements or specifications that would not be appropriate for comparison.

<sup>6</sup> DOD uses the FMS system to provide security assistance to other countries. Typically, traditional FMS cases are funded by either the host nation or by State Department Title 22 Foreign Military Financing, and the host nation is responsible for developing and validating requirements and may choose to do so with the assistance of US Embassy elements. Pseudo FMS, in contrast, are typically funded with DOD Title 10 security assistance funding, and DOD organizations may determine and validate requirements and optionally may seek host nation input. Other elements of DOD refer to pseudo FMS as the "Building Partnership Capacity" program, but we use pseudo FMS because that is how CSTC-A referred to these acquisitions.

## Development of a New Uniform for the ANA

From 2002 to 2007, the ANA relied on a “hodgepodge” of donated uniforms from several nations with little standardization. By 2007, CSTC-A and the Afghan government had achieved some standardization in the ANA uniform, through the procurement of a uniform that was a nearly identical variant of the U.S. Army’s Woodland Battle Dress Uniform (BDU). However, according to CSTC-A documentation establishing the requirement for a new ANA uniform, the BDU’s “prevalence in the region and non-unique nature...allowed enemy forces to copy or obtain excess quantities of the uniform. As a result, Enemy forces can easily infiltrate into or around ANA forces.”<sup>7</sup>

By early 2007, the Afghan MOD had determined that it required a new and distinctive uniform to separate the ANA as armed forces of a sovereign government. At that time, the Minister of Defense, with endorsement from the President of Afghanistan, requested the development of a new ANA uniform. CSTC-A, responsible for reviewing, validating, and funding all ANA OCIE requirements, supported the Afghan government’s decision to field a distinctive uniform.

By May 2007, the Afghan MOD in coordination with CSTC-A had selected HyperStealth’s Spec4ce Forest camouflage pattern for ANA conventional force uniforms moving forward. The ANA Commando and Special Forces Units continue to wear the Woodland Battle Dress Uniform. Photo 1 depicts the Spec4ce Forest camouflage pattern. Photo 2 depicts ANA Commandos wearing the Woodland Battle Dress Uniform.

**Photo 1 - ANA Spec4ce Forest Camouflage Pattern**



Source: HyperStealth, “Afghan National Army is transitioning to the HyperStealth Spec4ce Afghan Forest Pattern,” February 15, 2010, <http://www.hyperstealth.com/Afghanistan/index.html>, accessed May 1, 2017.

**Photo 2 - ANA Commandos Wearing the Woodland Battle Dress Uniform**



Source: DOD photo.

On November 25, 2007, CSTC-A and the Afghan MOD approved new specifications for the ANA combat uniform. According to the specifications, the goal of the new design was to provide a unique ANA uniform that used a pattern that would be difficult to duplicate. CSTC-A developed the specifications in coordination with ANA senior leaders and contractors. The specifications included significant design cues from the U.S. Army Combat Uniform and required the use of a proprietary camouflage pattern—Spec4ce Forest—developed by HyperStealth. The design features taken from the U.S. Army Combat Uniform—including zippers instead of buttons for the blouses; use of hook and loop fasteners; and more pockets—resulted in a uniform that was more difficult and costly to produce than the Battle Dress Uniforms that are used by Afghan Commandos and Police.

<sup>7</sup> CSTC-A, *Afghanistan National Army Uniform Specification*, November 25, 2007.

## CSTC-A'S DECISION TO PROCURE ANA UNIFORMS USING A PROPRIETARY CAMOUFLAGE PATTERN WAS NOT BASED ON ITS APPROPRIATENESS FOR THE AFGHAN ENVIRONMENT AND APPEARS TO HAVE COST UP TO \$28 MILLION MORE THAN BUYING SIMILAR UNIFORMS USING A NON-PROPRIETARY CAMOUFLAGE PATTERN

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Between November 2008 and January 2017, DOD spent approximately \$93.81 million for 1,364,602 uniforms (we define a uniform as 1 shirt and 1 pair of pants) and 88,010 extra pairs of pants for the ANA that were made using a proprietary camouflage pattern. This amount includes both local acquisitions and pseudo FMS contracts, task orders, and BPAs.<sup>8</sup> The decision to select the proprietary camouflage was made without testing its effectiveness for use in Afghanistan compared to other available camouflage patterns. Additionally, we found the proprietary-patterned uniforms were up to 43 percent more expensive than similar non-proprietary patterned uniforms used by the ANP, which potentially added between \$26.65 million and \$28.23 million to the costs of the ANA uniform procurements since 2008.

### DOD Procured ANA Uniforms Using the Spec4ce Forest Camouflage Pattern without Determining the Pattern's Effectiveness in Afghanistan

Determining the effectiveness of an existing uniform pattern for a specific environment requires formal testing and evaluation. Similar testing and evaluation is required when developing a new camouflage pattern for a specific environment. This is a difficult and complex process. According to Dr. Timothy O'Neill, founder of West Point's (the U.S. Military Academy's) Engineering Psychology program and creator of the camouflage pattern which served as the basis for the Army Combat Uniform, "evaluation of camouflage designs is an extremely fussy and demanding experimental design problem."<sup>9</sup> Dr. O'Neill describes camouflage as a "vision science, which includes visual psychophysics and biophysics, optics, and sensory neuroscience, colorimetry and photonics, environmental surveys, mathematics of spatial patterns, dye and coating chemistry, and very rigorous test design."<sup>10</sup>

A technical paper prepared for the U.S. Marine Corps and the U.S. Army concludes that the most effective way to design camouflage is through the "quantitative definition of tactical environments using spatial and colorimetric analysis"—in other words, it is best to tailor the spatial characteristics and color palette of a camouflage pattern to the specific environment and tactical position where those using the camouflage would be inclined to hide.<sup>11</sup> According to the report, matching a camouflage pattern "with background texture, color,

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<sup>8</sup> SIGAR found that the Afghan government could not track clothing and equipment purchased using direct assistance from 2012 to 2013. Because CSTC-A did not enforce the conditions established in commitment letters requiring the Ministries of Defense and Interior to use electronic systems to track clothing and equipment purchases, the command cannot say how much clothing and equipment the ministries bought with U.S. money. CSTC-A officials said they chose not to enforce these requirements because the mission to fully equip the ANDSF superseded their mission to improve the ministries' financial reporting practices. As a result, CSTC-A did not properly oversee the money given to the Afghan government for clothing and equipment (see SIGAR, *Afghan National Defense and Security Forces: DOD Needs to Improve Management and Oversight of Uniforms and Equipment*, SIGAR 17-40-AR, April 25, 2017).

<sup>9</sup> Dr. Timothy O'Neill, email to SIGAR, October 31, 2016.

<sup>10</sup> Ibid.

<sup>11</sup> Timothy O'Neill, "Innovative camouflage measures for the United States Marine Corps" (technical paper prepared for MARCORSYSCOM under Sverdrup Technology Agreement Number 0965-36-01-C1), p. 36.

and contrast is essential to all levels of visual processing.”<sup>12</sup> Additionally, the contrast used in a particular camouflage’s color scheme should match as closely as possible the environment in which it will be used.

CSTC-A, however, made the decision to procure 1,364,602 ANA uniforms and 88,010 extra pairs of ANA pants—totaling approximately \$94 million—using HyperStealth’s Spec4ce Forest camouflage pattern without conducting any formal testing or evaluation to determine the pattern’s effectiveness for use in Afghanistan. In February 2007, CSTC-A personnel responsible for assisting the Afghan MOD to identify or develop a new uniform specification found, through internet searches, the HyperStealth website. In email correspondence from February 2007, those responsible DOD officials stated that they “ran across [HyperStealth’s] web site and the Minister [then Minister of Defense Wardak] liked what he saw. He [the Minister] liked the woodland, urban, and temperate patterns.”<sup>13</sup> CSTC-A personnel then requested that HyperStealth provide several camouflage examples with varying color schemes from which the Afghan MOD could select. By May 2007, the Afghan MOD had settled on the Spec4ce Forest camouflage pattern, and CSTC-A began to move forward with the acquisition process. Photo 2 shows the Spec4ce camouflage pattern in six different color schemes.

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### Photo 3 - Spec4ce Camouflage Pattern Options



Source: DOD and HyperStealth documentation

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CSTC-A, in consultation with the Afghan MOD, decided to adopt the camouflage pattern containing a “forest” color scheme for ANA uniforms, despite the fact that forests cover only 2.1 percent of Afghanistan’s total land area.<sup>14</sup> In addition, the National Oceanic and Atmospheric Administration’s National Climatic Data Center characterizes Afghanistan as “a mountainous country in a dry part of the world which experiences extremes of climate and weather. Winters are cold and snowy, and summers hot and dry...the country on the whole is dry, falling within the Desert or Desert Steppe climate classification.”<sup>15</sup> According to a 2010 U.S. Government Accountability Office audit, camouflage patterns are characterized as environment-specific or universal. Environment-specific patterns, such as woodland [or forest] and desert patterns, are expected to perform best

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<sup>12</sup> Ibid.

<sup>13</sup> CSTC-A officials, email to HyperStealth, February, 25, 2007.

<sup>14</sup> The World Bank, “Forest Area (% Land Area),” <http://data.worldbank.org/indicator/AG.LND.FRST.ZS?end=2015&locations=AF&start=2015&view=map>, accessed March 2, 2017.

<sup>15</sup> National Climatic Data Center, “Climate of Afghanistan,” <https://www.ncdc.noaa.gov/oa/climate/afghan/afghan-narrative.html>, accessed March 3, 2017.

in the specific environment.<sup>16</sup> Similarly, according to Dr. Timothy O’Neill, in areas with wide seasonal variations in color (temperate regions), one-pattern camouflage solutions should be avoided. Dr. O’Neill stated, “For this reason the Marines chose a two-pattern family [sic] (desert and woodland); both performed very well in their proper environments, but...desert designs don’t work well in woodland areas and woodland patterns perform poorly in the desert.”<sup>17</sup>

To procure the new ANA uniforms, CSTC-A officials recommended that the command pursue a sole-source award to HyperStealth for the camouflage license and uniform design. CSTC-A officials at the time stated that a sole-source acquisition strategy best met Afghan President Karzai and Minister of Defense Wardak’s intent and was most likely to achieve the desired delivery milestones.<sup>18</sup> The plan to use a sole-source award, however, met resistance from the responsible DOD contracting office which made it clear that a sole source award to HyperStealth for the uniform pattern might not have been possible. The DOD contracting office believed that, because there were so many available camouflage patterns in the world that a sole-source award would be hard to justify. For example, aside from the many patterns available from commercial sources other than HyperStealth, the U.S. government already had rights to multiple uniform patterns that were not in use by U.S. forces that could have been used by the ANA and may have been equally effective in the Afghan environment. Upon hearing the concerns of the contracting officials, one CSTC-A Senior Afghan MOD Mentor stated in an email to his colleagues that “they [the ANA] have already chosen the pattern they want. We cannot and will not pick for them.”<sup>19</sup> While Afghan government input to a decision by CSTC-A for an ASFF funded procurement may be desirable, it is not required under pseudo-FMS processes. Photo 3 shows twelve of the U.S. government-owned camouflage patterns available at the time. Furthermore, in addition to U.S. government owned patterns, it is possible that camouflage patterns used by other coalition partners could have been made available for use by the ANA.

**Photo 4 - A Selection of the U.S. Government-Owned Camouflage Patterns Available at the Time**



Source: U.S. Army Natick Soldier Research, Development and Engineering Center

<sup>16</sup> U.S. Government Accountability Office, *Warfighter Support: Observations on DOD’s Ground Combat Uniforms*, GAO-10-669R, May 28, 2010.

<sup>17</sup> Dr. Timothy O’Neill, email to SIGAR, October 31, 2016.

<sup>18</sup> CSTC-A, *New ANA Combat Uniform, Acquisition Strategies and Other Considerations*, May 13, 2007.

<sup>19</sup> Internal CSTC-A email correspondence, May 19, 2007.

Had CSTC-A decided in early 2007 to use a non-proprietary pattern available to them at the time or to develop a new pattern for the ANA, the Natick Soldier Research, Development and Engineering Center estimated that it would have taken 22 weeks and cost \$156,400 to test the utility of a pre-selected textile pattern for use in Afghanistan; or 26 weeks and \$228,400 to compare the advantages and disadvantages of several pre-selected patterns for use in Afghanistan; or 14 months and \$420,400 to independently develop a textile pattern appropriate for use in Afghanistan.<sup>20</sup>

Notwithstanding the lack of testing of the Spec4ce Forest pattern for Afghanistan, and concerns from the responsible DOD contracting office that choosing such a pattern would be hard to justify given the availability of other patterns (including U.S. government-owned patterns that would not require the payment of a licensing fee or royalty), CSTCA officials pushed forward with the ANA uniform procurement. Instead of issuing a sole-source contract to HyperStealth for the Spec4ce Forest camouflage license and uniform design, DOD issued a local acquisition solicitation in June 2008 that included the requirement that the uniforms use the Spec4ce Forest camouflage pattern. This requirement meant that whichever vendor was awarded a contract to provide ANA uniforms would effectively be required to purchase pre-patterned material or obtain the rights to use the proprietary pattern from either HyperStealth or an authorized licensee.<sup>21</sup>

CSTC-A is responsible for validating ANA uniform requirements, budgeting funds from the Afghanistan Security Forces Fund to procure ANA uniforms, and placing orders to be fulfilled by other U.S. agencies that either contract for new procurements or provide items as sales from existing stocks. As part of this obligation, DOD is required to ensure that requirements meet the Federal Acquisition Regulation. According to Federal Acquisition Regulation Section 11.105-- *Items Particular to One Manufacturer*:

Agency requirements shall not be written so as to require a particular brand name, product, or a feature of a product, peculiar to one manufacturer, thereby precluding consideration of a product manufactured by another company, unless – (a)(1) the particular brand name, product, or feature is essential to the Government’s requirements, and market research indicated other companies’ similar products, or products lack the particular feature, do not meet, or cannot be modified to meet, the agency’s needs; (2)(i) The authority to contract without providing for full and open competition is supported by the required justification and approvals; or (ii) The basis for not providing for maximum practicable competition is documented in the file (see 13.106-1(b)) or justified (see 13.501) when the acquisition is awarded using simplified acquisition procedures. (3) The documentation or justification is posted for acquisitions over \$25,000....<sup>22</sup>

DOD was unable to provide us with documentation demonstrating that the Spec4ce Forest specification was essential to the U.S. government’s requirement, and unable to provide market research indicating that other companies’ similar products were inadequate to meet DOD’s requirements for ANA uniforms. DOD was also unable to provide documentation justifying or approving the Spec4ce Forest requirement in the ANA uniform specification. As a result, neither DOD nor the Afghan government could demonstrate the appropriateness of the ANA uniform for the Afghan environment, or show that the new camouflage pattern did not hinder ANA operations by providing a more clearly visible target to the enemy.<sup>23</sup>

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<sup>20</sup> According to the U.S. Army’s Natick Soldier Research, Development and Engineering Center, CSTC-A never requested that the Center test non-proprietary patterns available to them at the time or develop a new pattern for the ANA. At our request, the Center provided these time and cost estimates in January 2017.

<sup>21</sup> In January 2008, HyperStealth and ADS Tactical signed an exclusive license agreement for the Spec4ce Forest camouflage pattern

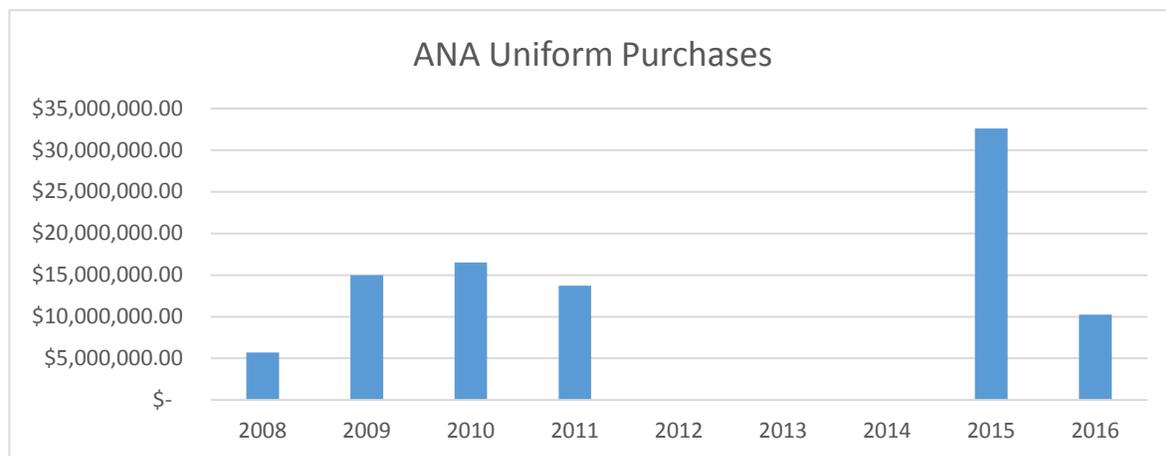
<sup>22</sup> Federal Acquisition Regulation 11.105.

<sup>23</sup> In the course of our review, we found questionable contracting practices regarding the use of other than full and open competition. We will continue to investigate this issue further.

## DOD Spent Approximately \$94 Million to Procure ANA Uniforms Using a Proprietary Camouflage Pattern, but the Preference for a Proprietary Pattern Camouflage and Switching from the Battle Dress Uniform Design to the Army Combat Uniform Design Appears to Have Resulted in Up to \$28 Million in Excess Costs

Between November 2008 and January 2017, DOD spent approximately \$93.81 million to procure 1,364,602 uniforms and 88,010 extra pairs of pants for the ANA made using a proprietary pattern.<sup>24</sup> Between November 28, 2008, and August 31, 2011, DOD issued eight task orders through three local acquisition contracts and three BPAs for ANA uniforms that included a requirement for uniforms with the Spec4ce Forest camouflage pattern and features of the U.S. Army Combat Uniform. These local acquisition contracts, task orders, and BPAs represent approximately \$50.95 million in expenditures for 870,447 ANA uniforms. From February 27, 2015, to January 8, 2017,<sup>25</sup> DLA issued 17 pseudo FMS task orders under four contracts for ANA uniforms that included a requirement for the Spec4ce Forest camouflage pattern. These pseudo FMS task orders represent approximately \$42.85 million in expenditures for 494,155 uniforms and 88,010 extra pants for the ANA.<sup>26</sup> Figure 2 shows the amount spent on ANA uniforms made with the Spec4ce Forest camouflage pattern by year.

**Figure 2 - Amount Spent on ANA Uniforms Made with the Spec4ce Forest Camouflage Pattern by Year**



Source: SIGAR analysis of local acquisition and pseudo FMS procurements

Notes: SIGAR found that the Afghan government could not track clothing purchased using direct assistance from 2012 to 2013. Issues related to the use of direct assistance in 2012–2013 continued or intensified through 2014, and data provided by DLA showed no purchases of ANA uniforms in 2014.

<sup>24</sup> DOD spent more than \$154.53 million for 4,139,786 proprietary shirts, pants, field jackets, and caps for the ANA between 2008 and 2016. This total includes \$93.81 million for 1,364,602 uniforms and 88,010 extra pairs of pants; \$54.39 million for 471,547 field jackets; and \$6.33 million for 851,024 caps.

<sup>25</sup> The data we received from DLA regarding pseudo FMS contracts for proprietary uniforms, field jackets, and caps for the ANA was current as of January 8, 2017. Some of the contracts and task orders included in this data were ongoing and may have accrued additional costs after we received the information.

<sup>26</sup> In addition to these procurements, in September 2016, DOD awarded a \$7.8 million firm-fixed-price, sole-source contract to Atlantic Diving Supply Inc. for the production of fabric printed with the Spec4ce Forest uniform pattern necessary for the assembly of an additional 195,000 ANA uniforms. This procurement was not included in the \$93.81 million total for proprietary patterned ANA uniforms because it does not include the total cost of the uniforms.

## ANA Uniforms Made with the Spec4ce Forest Camouflage Pattern Cost an Average of 40–43 Percent More than Similar ANP Uniforms Made with Non-Proprietary Camouflage Patterns

We found that ANA uniforms made with the Spec4ce Forest camouflage pattern cost an average of 40–43 percent more than comparable ANP uniforms made with non-proprietary camouflage patterns. Some of the difference in price between proprietary patterned ANA uniforms and non-proprietary patterned ANP uniforms may be attributable to the licensing fee, paid as a defined percentage of fabric sales, to secure the rights to use the Spec4ce Forest pattern from HyperStealth.<sup>27</sup> We also reviewed the uniform specifications for the different uniform types (ANA and ANP components) and found them to be similar, with the primary difference being that the ANA Spec4ce Forest camouflage uniform included design features from the U.S. Army’s Combat Uniform.<sup>28</sup> These design features and the required use of the proprietary pattern for the ANA uniform both increased uniform costs. To determine the premium paid for ANA uniforms, we used DLA-provided data (which covered only pseudo FMS procurements from February 2015 through January 2017) to calculate the average unit price per uniform for both ANA (proprietary) and ANP (non-proprietary) components. The calculation resulted in the following average unit prices per uniform: ANA, \$79.14; ABP, \$56.65; ALP, \$53.47; and AUP, \$55.32.<sup>29</sup> Table 1 shows the average unit price for uniforms by ANDSF component and the premium paid for ANA uniforms per unit as a percentage of uniform unit price for ANP components. Since the ANA uniforms were the most expensive per unit, we calculated the premium paid for ANA uniforms per unit as a percentage of uniform unit prices for the ANP components. This calculation showed that ANA uniforms were approximately 40 percent more expensive than ABP uniforms per unit, 43 percent more expensive than ALP uniforms per unit, and 43 percent more expensive than AUP uniforms per unit—a range of 40–43 percent.

**Table 1 - Proprietary ANA Uniforms Cost 40%–43% More Than Non-Proprietary ANDSF Uniforms**

	Uniform Unit Price	ANA Uniform Premium (%)
ANA	\$79.14	n/a
ABP	\$56.65	40%
ALP	\$55.47	43%
AUP	\$55.32	43%

Source: SIGAR analysis of DLA data

### Proprietary ANA Uniforms Cost Significantly More Than CSTC-A Initially Estimated

In mid-2007, CSTC-A initially estimated that the new ANA uniform, which would use a yet-to-be determined unique camouflage pattern, would cost \$25–\$30 per set. In 2007, ANA BDUs were either contracted for locally or procured via pseudo FMS programs. BDU sets contracted locally were priced at \$15–\$20. BDU sets procured through FMS in fiscal years 2006 and 2007 were \$57 a set.<sup>30</sup>

<sup>27</sup> We are not disclosing the amount of the licensing fee to protect information that may be procurement sensitive and could influence other acquisitions.

<sup>28</sup> Besides small variations in button/Velcro use, we found the following differences in textile requirements: the textile specification for ANA uniforms required a cotton/nylon blend, whereas ANP uniforms required a 50% nylon and 50% cotton/polyester blend; ANA uniforms required a breaking strength filling of 125 pounds, whereas ANP uniforms required a breaking strength filling of 130 pounds; ANP uniform specifications included a “rip-stop” requirement, whereas the ANA uniform specifications included no such requirement.

<sup>29</sup> ABP, ALP, and AUP units did not use a proprietary pattern for their uniforms. To determine the uniform cost per unit for the ANA and ANP components, we divided the sum of the total cost of shirts and pants procured for each unit by the total number of shirts and pants procured.

<sup>30</sup> Both these prices were for summer, rather than winter, BDUs. Summer BDUs would generally be cheaper than winter BDUs.

As discussed above, CSTC-A also supported—and continues to support—the ANP and provides their OCIE. For comparison, in 2007 ANP’s uniforms were manufactured locally at a cost of \$18 (summer) and \$25 (winter) per set. The ANA requested both a summer and winter weight for their new uniform. Based on the ANA BDU and ANP uniform costs, CSTC-A anticipated the ANA’s new uniform using a unique pattern would cost slightly more than the ANA BDUs and ANP uniforms, and estimated a cost of \$25 per set for the summer-weight and \$30 per set for winter-weight uniforms. These estimates were significantly lower than the actual cost per ANA uniform containing the new requirement, which ranged from \$45.42–\$80.39 per set, depending on the contractor and procurement method.

## CONCLUSION

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DOD procured ANA uniforms using a proprietary camouflage pattern without determining the pattern’s effectiveness in Afghanistan compared to other available patterns. As a result, neither DOD nor the Afghan government knows whether the ANA uniform is appropriate to the Afghan environment, or whether it actually hinders their operations by providing a more clearly visible target to the enemy. While we understand the importance of providing the ANA with a unique uniform that distinguishes it from its allies and other ANDSF components, we are concerned with the way in which DOD approached requirement generation, validation, and procurement with respect to ANA uniforms. Furthermore, DOD’s lack of due diligence and its decision to purchase ANA uniforms using a proprietary camouflage pattern appear to have resulted in unit costs that are significantly higher than those for similar non-proprietary camouflaged uniforms, potentially costing the U.S. taxpayers an additional \$26.65 million–\$28.23 million since 2008. Moreover, given our historical and pledged commitments supporting the continued development of the ANA, our analysis found that changing the ANA uniform to a non-proprietary camouflage pattern, similar to those procured for comparable ANP units, could save U.S. taxpayers between \$68.61 million and \$72.21 million over the next ten years. As a result, we suggest that a DOD organization with appropriate expertise in military uniforms conduct a cost-benefit analysis of the current ANA uniform specification to determine whether there is a more effective alternative, considering both operational environment and cost, available to the ANA. Such an analysis should include, at a minimum, establishing the efficacy of the existing pattern against other alternatives (both proprietary and non-proprietary patterns), a consideration of transitioning the ANA uniforms to a pattern owned by the United States, using existing excess inventory where available, and acquiring the rights to the Spec4ce Forest pattern.

## AGENCY COMMENTS

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We provided a draft of this report to DOD for comment on May 02, 2017. DOD provided technical comments on May 30, 2017. We incorporated DOD’s technical comments in the report, as appropriate. In DOD’s technical comments, as well as in subsequent correspondence and a meeting to discuss the draft on June 1, 2017, agency officials expressed general agreement with contents of the draft report. In its written comments, received on June 15, 2017, DOD concurred with our suggested action to conduct a cost-benefit analysis and stated that it “is working with the appropriate DOD Components and the Afghan Ministry of Defense to conduct this assessment.” DOD also stated that it “is following up with the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics to ensure that current contracting practices for ANA uniforms as well as Afghan National Police (ANP) uniforms conform to all FAR requirements.” DOD’s comments are reproduced in appendix II.

## APPENDIX I - SCOPE AND METHODOLOGY

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This report examined the Department of Defense's (DOD) procurement of uniforms for the Afghan National Army (ANA) using a proprietary camouflage pattern. We define a uniform as one shirt and one pair of pants. The report focuses on the requirement-generation process for the ANA uniform and procurements of the uniform between November 2008 and January 2017. Our objectives were to determine (1) how and why the U.S. government generated the requirement for the use of a proprietary camouflage pattern for ANA uniforms; and (2) the cost to the U.S. government of using a proprietary camouflage pattern for ANA uniforms.

To determine how and why the U.S. government generated the requirement for the use of a proprietary camouflage pattern for ANA uniforms, we reviewed relevant documents, including the U.S. Combined Security Transition Command–Afghanistan (CSTC-A) standard operating procedures and decision papers, DOD's *Security Assistance Management Manual*, technical papers related to camouflage evaluation, and the Federal Acquisition Regulation. We obtained documents and emails, and interviewed officials from DOD, including officials at the Resolute Support Mission; CSTC-A; the Defense Logistics Agency (DLA); Army Contracting Command; the U.S. Army Research, Development and Engineering Command; and the Defense Security Cooperation Agency. We also obtained documents and emails from, and interviewed, the contractors involved as well as former DOD officials and advisors who were responsible for Afghanistan National Defense and Security Forces uniform acquisitions in the past but no longer work in Afghanistan.

To determine the cost to the U.S. government of using a proprietary camouflage pattern for ANA uniforms, we reviewed relevant local acquisition and pseudo Foreign Military Sales (FMS) contracts, task orders, and Blanket Purchase Agreements containing a requirement for proprietary camouflage patterns for ANSF uniforms, and obtained documents and emails, and interviewed officials from DOD, including officials at CSTC-A, DLA, Army Contracting Command, and the Defense Security Cooperation Agency. DLA provided analysis of pseudo FMS contracts for ANA and Afghan National Police (ANP) uniform purchases, which covered purchases for uniforms made with proprietary and non-proprietary uniform patterns. The ANP units covered in our review include the Afghan Uniform Police (AUP), Afghan Border Police (ABP), and Afghan Local Police (ALP), which are issued uniforms made with a non-proprietary camouflage pattern. Using DLA-provided data (which covered only pseudo FMS procurements) we calculated the average unit price per uniform for both ANA (proprietary) and ANP (non-proprietary) components. The results of this calculation resulted in the following average unit prices per uniform: ANA, \$79.14; AUP, \$55.32, ABP, \$56.65; and ALP, \$55.47. Since the ANA uniforms were the most expensive per unit, we calculated the premium paid for ANA uniforms per unit as a percentage of uniform unit prices for the ANP components. This calculation showed that per unit ANA uniforms were 43.1 percent more expensive than AUP uniforms, 39.7 percent more expensive than ABP uniforms, and 42.7 percent more expensive than ALP uniforms—a range of 40–43 percent. To calculate additional costs associated with DOD's decision to procure ANA uniforms using Spec4ce Forest camouflage pattern, we divided the total cost of proprietary-patterned ANA uniforms (\$93,807,019) by one plus the low ( $1 + 0.4$ ) and high ( $1 + 0.43$ ) premiums paid for each uniform over non-proprietary patterned uniforms. We then subtracted the result \$67,156,301 and \$65,575,298 from the total cost of proprietary-patterned ANA uniforms to get the additional cost range of \$26.65 million–\$28.23 million. Similarly, to project the amount that will be spent on ANA uniforms made with the Spec4ce Forest camouflage pattern over the next ten years we assumed that the following remained constant: a projected ANA force strength of 195,000 based on the current fiscal year (2017) budget request for the Afghanistan Security Forces Fund; an ANA attrition rate of 26 percent annually, based on the 3-year historical monthly attrition rate average of 2.2 percent per month; and an average ANA uniform unit price of \$79.14. Additionally, we assumed that newly recruited ANA soldiers replacing those lost to attrition will receive four new uniforms upon their entrance into the ANA and that 25 percent of the total projected ANA force strength will receive two replacement uniforms per year (both assumptions based on a CSTC-A acquisition plan for uniforms). Given these assumptions, we calculated a projected total expenditure on ANA uniforms of \$240,126,588 over the next 10 years. As noted above, we estimated that ANA uniforms made using the

Spec4ce Forest pattern are 40–43 percent more expensive than ANP uniforms not using a proprietary-patterned uniform. This means that over the next 10 years DOD could potentially spend \$68,607,597 – \$72,205,897 more to procure ANA uniforms than it would have spent to procure a comparable uniform using a non-proprietary pattern similar to those used by several ANP units  $\$240,126,588 - (\$240,126,588 / (1 - 0.40)) = \$68,607,597$  and  $\$240,126,588 - (\$240,126,588 / (1 - 0.43)) = \$72,205,897$ .

## APPENDIX II – AGENCY COMMENTS

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ASIAN AND PACIFIC  
SECURITY AFFAIRS

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE  
2700 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-2700

The Honorable John Sopko  
Special Inspector General for Afghanistan Reconstruction (SIGAR)  
1550 Crystal Drive, 9<sup>th</sup> Floor  
Arlington, VA 22202

June 14, 2017

Dear Mr. Sopko:

I appreciate the opportunity to comment on the May 2017 draft report titled, "Afghan National Army: DoD May Have Spent Up To \$28 Million More Than Needed to Procure Camouflage Uniforms That May Be Inappropriate for the Afghan Environment." This draft report reinforces that the Department of Defense (DoD) must have the right organizations with the right expertise making critical decisions involving the use of the Afghanistan Security Forces Fund (ASFF) to fulfill the requirements of the Afghan National Defense and Security Forces (ANDSF).

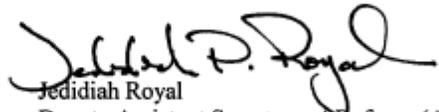
DoD concurs in the suggestion contained in this report that a DoD organization with expertise in military uniforms should conduct a cost-benefit analysis of the current Afghan National Army (ANA) uniform specifications to determine whether there is a more effective alternative, considering both operational environment and cost. My office is working with appropriate DoD Components and the Afghan Ministry of Defense to conduct this assessment, and we will provide SIGAR with a copy of the review once it is completed.

The draft report suggests that there may have been a violation of the Federal Acquisition Regulation (FAR) in the initial contracting for ANA uniforms with the Spec4ce Camouflage Pattern. My office is following up with the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics to ensure that current contracting practices for ANA uniforms as well as Afghan National Police (ANP) uniforms conform to all FAR requirements.

The draft report also states that SIGAR was unable to determine the number of ANA uniforms purchased using direct assistance. This lack of accountability is troubling and is one of the reasons why DoD is of the view that executing ASFF through DoD contracts is the best way to address this problem. In fact, in 2015, DoD transitioned the primary means of procuring uniforms for the ANA and ANP to the DoD Foreign Military Sales process executed through Defense Logistics Agency contracts with U.S. manufacturers. This approach not only ensures accountability of ASFF expenditures but also provides quality assurance, ensures compliance with the Berry Amendment and other U.S. laws.



I appreciate your efforts to ensure that DoD is wisely spending funds provided by Congress to support the sustainment of the Afghan National Defense and Security Forces and your continued commitment to the success of the mission in Afghanistan. Please feel free to contact my staff or me should you have any additional questions concerning this subject or any other matter that you are reviewing.

  
Jedidiah Royal  
Deputy Assistant Secretary of Defense (Acting)  
for Afghanistan, Pakistan, and Central Asia

This special project was  
conducted  
under project code  
SIGAR-SP-131.

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- 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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- Phone International: +1-866-329-8893
- Phone DSN International: 312-664-0378
- U.S. fax: +1-703-601-4065

## Public Affairs

Public Affairs Officer

- Phone: 703-545-5974
- Email: [sigar.pentagon.ccr.mbx.public-affairs@mail.mil](mailto:sigar.pentagon.ccr.mbx.public-affairs@mail.mil)
- Mail: SIGAR Public Affairs  
2530 Crystal Drive  
Arlington, VA 22202