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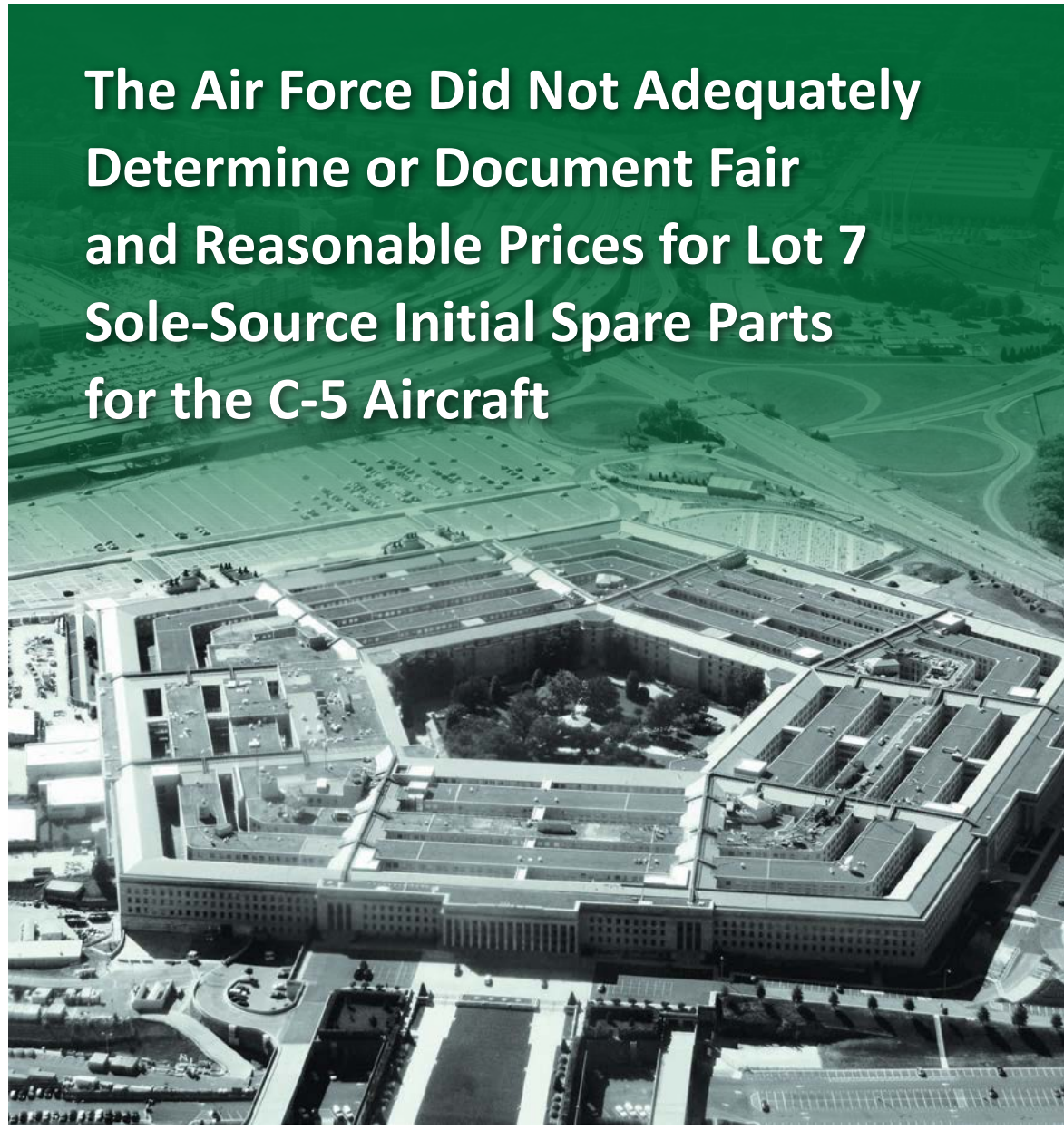
# INSPECTOR GENERAL

*U.S. Department of Defense*

FEBRUARY 7, 2017



## The Air Force Did Not Adequately Determine or Document Fair and Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C-5 Aircraft



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# Results in Brief

## *The Air Force Did Not Adequately Determine or Document Fair and Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C-5 Aircraft*

February 7, 2017

### Objective

We determined whether the Air Force Life Cycle Management Center (AFLCMC) purchased sole-source C-5 Reliability Enhancement and Re-Engining Program spare parts from Lockheed Martin Aeronautics Company (LM Aero) at fair and reasonable prices. Specifically, we evaluated whether the AFLCMC obtained fair and reasonable prices for Lot 7 initial spare parts.<sup>1</sup>

### Background

Lockheed designed and manufactured the C-5, one of the largest aircraft in the world and the largest cargo aircraft in the Air Force inventory. The Air Force invested in an Avionics Modernization Program and Reliability Enhancement and Re-Engining Program to reduce operating costs, improve reliability, upgrade communication and aircraft operating systems, and extend the C-5 service life until 2040.<sup>2</sup>

On April 30, 2007, the AFLCMC awarded LM Aero a sole-source, noncommercial contract for the C-5 Reliability Enhancement and Re-Engining Program. The contract

### Background (cont'd)

upgraded 49 aircraft through 7 lots. In Lot 7, the Air Force upgraded 11 aircraft at a cost of over \$1 billion, including the cost of spare parts.

We identified that AFLCMC awarded three contract modifications for Lot 7 spare parts. We nonstatistically selected 80 percent of the total dollar value of the three contract modifications, which represented 18 of 532 spare parts. All 18 sampled parts were included in one modification. The AFLCMC awarded this modification on May 2, 2014, for commercial and noncommercial Lot 7 initial spare parts, valued at \$91.9 million.

Our preliminary review found that of the 18 spare parts in our sample, 7 noncommercial spare parts, valued at \$8.9 million, were supported by required cost or pricing data. Specifically, for five of the noncommercial spare parts, the Lot 7 contract prices decreased from the previous contract prices. For the remaining two noncommercial spare parts, LM Aero performed a cost and price analysis of the subcontractor's prices that supported LM Aero's proposed prices. Because our preliminary review found that the seven noncommercial spare parts were supported by required cost or pricing data, we focused on the 11 commercial spare parts, valued at \$67 million.

### Findings

The AFLCMC contracting officer did not adequately determine fair and reasonable prices for the 11 commercial spare parts that we selected, which were purchased from LM Aero on Lot 7. This occurred because the contracting officer did not obtain sufficient commercial sales data for the commercial parts, in accordance with Federal and Defense acquisition guidance. As a result, the AFLCMC contracting officer may not have purchased the 11 commercial spare parts, valued at \$58.8 million, from LM Aero at fair and reasonable prices.<sup>3</sup>

<sup>1</sup> A lot is a quantity of material manufactured under identical conditions and assigned an identifying lot number. Initial spare parts are parts that support new weapon systems during the beginning phase of operation.

<sup>2</sup> The Avionics Modernization Program upgraded the electronic systems of the C-5, and the Reliability Enhancement and Re-Engining Program upgraded the engines of the C-5.

<sup>3</sup> The \$58.8 million includes only material costs.





# Results in Brief

## *The Air Force Did Not Adequately Determine or Document Fair and Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C-5 Aircraft*

### Findings (cont'd)

In addition, the AFLCMC contracting officer did not sufficiently document the fair and reasonable price determination for Lot 7 initial spare parts. Specifically, the contracting officer included inaccurate information in the price negotiation memorandum and did not maintain the price analysis in the contract file. This occurred because the AFLCMC did not have internal policy or controls to ensure the contracting officer reviewed the price negotiation memorandum for factual accuracy and followed the Federal requirement to maintain support for the price analysis in the contract file. As a result, AFLCMC contracting officials could not support their determination that Lot 7 initial spare part prices for the C-5 were fair and reasonable.

### Recommendations

We recommend the Commander, Air Force Life Cycle Management Center:

- require contracting officers to obtain sufficient commercial sales data when evaluating the prices of sole-source commercial items, and request other-than-certified cost or pricing data when commercial sales data are not sufficient, in accordance with the Federal Acquisition Regulation (FAR) and the Defense FAR Supplement Procedures, Guidance, and Information;
- require the contracting officer to assess and determine whether it is appropriate to request a \$5.3 million voluntary refund from LM Aero for potential excess payments on contract FA8625-07-C-6471, in accordance with the Defense FAR Supplement;

- establish policy and standard operating procedures to ensure that the contracting officer validates the accuracy of the price analysis documented in the price negotiation memorandum; and
- implement policy and procedures to ensure that the contracting officer follows the FAR to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.

### Management Comments and Our Response

The Commander, Air Force Life Cycle Management Center, as well as the Executive Program Officer and the Director of Contracting, disagreed with both findings but concurred with all recommendations. However, the Commander did not fully address the specifics of the recommendations because the management comments did not detail the:

- actions that the AFLCMC will take to require contracting officers to obtain sufficient commercial sales data and request other-than-certified cost or pricing data when commercial sales data are not sufficient;
- validity of the methodology the AFLCMC used to assess and determine whether it was appropriate to request a voluntary refund from LM Aero for potential excess payments on contract FA8625-07-C-6471;



# Results in Brief

## *The Air Force Did Not Adequately Determine or Document Fair and Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C-5 Aircraft*

### **Management Comments (cont'd)**

- policy and standard operating procedures that the AFLCMC will establish, or identify the AFLCMC existing policies and procedures and how it will use them to ensure that contracting officers validate the accuracy of the price analysis documented in the price negotiation memorandum; or
- policy and procedures that the AFLCMC will implement, or identify existing policies and procedures and how the AFLCMC will ensure that the contracting officer follows the FAR to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.

We request additional comments on the final report by March 9, 2017. We will close the recommendations once we analyze and determine whether or not the actions AFLCMC takes fully address them. Please see the Recommendations Table on the next page.

### ***Recommendations Table***

Management	Recommendations Requiring Comment	No Additional Comments Required
Commander, Air Force Life Cycle Management Center	A.1.a, A.1.b, B.1.a, and B.1.b	

Please provide Management Comments by March 9, 2017.



**INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
4800 MARK CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22350-1500**

February 7, 2017

**MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL MANAGEMENT  
AND COMPTROLLER)**

**SUBJECT: The Air Force Did Not Adequately Determine or Document Fair and Reasonable  
Prices for Lot 7 Sole-Source Initial Spare Parts for the C-5 Aircraft  
(Report. No. DODIG-2017-053)**

We are providing this report for review and comment. The Air Force Life Cycle Management Center did not adequately determine fair and reasonable prices for 11 nonstatistically selected C-5 commercial spare parts, valued at \$58.8 million, purchased from Lockheed Martin Aeronautics on Lot 7. Additionally, the Air Force Life Cycle Management Center contracting officer did not sufficiently document the fair and reasonable price determination for Lot 7 initial spare parts. Specifically, contracting officials could not support their determination that Lot 7 initial spare part prices for the C-5 were fair and reasonable. We conducted this audit in accordance with generally accepted government auditing standards.

We considered management comments on a draft of this report when preparing the final report. DoD Instruction 7650.03 requires that recommendations be resolved promptly. The Commander did not address all specifics of the recommendations. Therefore, we request that the Commander provide additional comments by March 9, 2017.

Please send a PDF file containing your comments to [ASM@dodig.mil](mailto:ASM@dodig.mil). Copies of your comments must have the actual signature of the authorizing official for your organization. We cannot accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions to Mr. Patrick Nix at (703) 604-9332 (DSN 604-9332).

A handwritten signature in black ink, reading "Troy M. Meyer", is positioned above the typed name.

Troy M. Meyer  
Principal Assistant Inspector General  
for Audit

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# Introduction

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## Objective

We determined whether the Air Force Life Cycle Management Center (AFLCMC) purchased sole-source C-5 Reliability Enhancement and Re-Engining Program (RERP) spare parts from Lockheed Martin Aeronautics Company (LM Aero) at fair and reasonable prices. Specifically, we evaluated whether the AFLCMC obtained fair and reasonable prices for Lot 7 initial spare parts.<sup>4</sup> See Appendix A for a discussion of the scope and methodology, and Appendix B for prior audit coverage related to the objective.

## Background

In October 2012, the Air Force established the AFLCMC, a component of the Air Force Materiel Command. The AFLCMC, headquartered at Wright-Patterson Air Force Base, Ohio, executes contracting, source-selection assistance, engine acquisition, and product support. According to the AFLCMC, it is responsible for total life-cycle management for all aircraft, engines, munitions, and electronics. The goal of the AFLCMC is:

- to improve weapon system acquisition and product support;
- simplify and reduce overhead structure; and
- eliminate redundancies by consolidating staff functions and processes.

## *Lockheed Martin*

LM Aero is a core business area of the Lockheed Martin Corporation, headquartered in Bethesda, Maryland. The corporation's core business areas include:

- Aeronautics;
- Information Systems and Global Solutions;
- Missiles and Fire Control;
- Mission Systems and Training; and
- Space Systems.

LM Aero, headquartered in Fort Worth, Texas, has additional production and operation facilities, including one in Marietta, Georgia. According to LM Aero, it is an industry leader in design, development, production, and support of advanced military aircraft for the United States and its allies around the world.

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<sup>4</sup> A lot is a quantity of material that was manufactured under identical conditions and assigned an identifying lot number. Initial spare parts are parts that support new weapon systems during the beginning phase of operation.

## ***C-5 Galaxy***

Lockheed designed and manufactured the C-5 Galaxy (C-5) cargo aircraft and delivered the first aircraft to the Air Force in June 1970. According to the Air Force, the C-5 is one of the largest aircraft in the world and is the largest cargo aircraft in the Air Force inventory. The C-5 can haul twice as much cargo as any other U.S. Air Force cargo aircraft. For example, the C-5 can carry a payload of 6 Mine Resistant Ambush Protected vehicles, up to 5 helicopters, or 36 standard pallets. While transporting cargo, the C-5 can also carry 81 military members. Ground crews can load and offload the C-5 simultaneously through the front and rear cargo openings, reducing cargo transfer times. See Figure 1 for pictures of the C-5 Galaxy.



## ***Reliability Enhancement Re-Engining Program (RERP)***

Since the 1970s, the C-5 has experienced maintenance issues, cost overruns, and excessive sustainment<sup>5</sup> costs. According to the Air Force, it invested an estimated \$6.2 billion in the Avionics Modernization Program and the RERP to reduce operating costs, improve reliability, and extend the C-5 service life until 2040. The Avionics Modernization Program improved fleet reliability through upgrades to communication, navigation, and the air traffic management systems. The RERP upgraded the C-5 with new commercial engines, pylons, thrust reversers, wing attachment fittings, and digital engine control. The RERP upgrades also included the hydraulic, fuel, fire suppression, and pressurization subsystems, as well as auxiliary power units (APU), air conditioning systems, and landing gear.

<sup>5</sup> Sustainment is the act of providing logistics and personnel services needed to maintain and prolong operations.

## RERP Contract

On April 30, 2007, the AFLCMC awarded LM Aero a sole-source, noncommercial contract<sup>6</sup> for the C-5 RERP. The production<sup>7</sup> contract upgraded 49 aircraft across 7 lots,<sup>8</sup> with each lot upgrading a specific number of C-5 aircraft. Each lot included contractor advanced procurement,<sup>9</sup> material and fabrication, installation, initial spare parts, and support equipment. In Lot 7, the Air Force upgraded 11 aircraft, originally at a cost of over \$1 billion, including \$102.2 million for spare parts. See Table 1 for a breakdown of the total original Lot 7 costs.

(FOUO) Table 1. Lot 7 Originally Awarded Contract Value Breakdown of Costs (in [REDACTED])

(FOUO) Spare Parts	Material and Fabrication	Installation	Support Equipment	Advanced Procurement	Original Lot 7 Total
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED] (FOUO)

## Lot 7 Initial Spare Parts Contract

On May 2, 2014, the AFLCMC awarded LM Aero a firm-fixed-price contract modification to the RERP contract for the Lot 7 initial spare parts, valued at \$91.9 million.<sup>10</sup> The Lot 7 initial spare parts included 496 different commercial and noncommercial spare parts, delivered from 66 subcontractors. Our report discusses the Lot 7 initial spare parts contract modification.

## Audit Sample

We identified that AFLCMC awarded three contract modifications for Lot 7 spare parts. We nonstatistically selected 80 percent of the total dollar value, which represented 18 of 532 Lot 7 spare parts. Specifically, 11 of 18 parts, valued at \$67.0 million, were commercial, requiring other-than-certified cost and pricing data. Seven of 18 parts, valued at \$8.9 million, were noncommercial, requiring certified cost or pricing data when valued over the Truth in Negotiations Act threshold,<sup>11</sup> and other-than-certified cost or pricing data when valued under the

<sup>6</sup> Contract FA8625-07-C-6471.

<sup>7</sup> A production contract is a contract for the production and deployment of a major system that is intended to achieve an operational capability that meets the mission's needs.

<sup>8</sup> Lot 1 upgraded 1 aircraft, Lot 2 upgraded 3 aircraft, Lot 3 upgraded 5 aircraft, Lot 4 upgraded 7 aircraft, and Lots 5 through 7 upgraded 11 aircraft each.

<sup>9</sup> Advanced procurements may include materials, parts, components, and effort that must be funded in advance due to long lead times.

<sup>10</sup> AFLCMC subsequently reduced the Lot 7 initial spare parts value to [REDACTED]

<sup>11</sup> The Truth in Negotiations Act requires contractors to submit certified cost or pricing data before the award of a contract when the procurement is expected to exceed the threshold. The threshold at the time of negotiation and contract award was \$700,000.

same threshold. The seven noncommercial spare parts reviewed were supported by the required cost or pricing data. In addition, the Lot 7 contract prices for five of the noncommercial spare parts decreased from the previous contract prices. For the remaining two noncommercial spare parts, LM Aero provided a cost and price analysis of the subcontractor's prices that supported LM Aero's proposed prices. Because the team's preliminary review of the seven noncommercial spare parts did not identify an issue, we focused on the 11 commercial spare parts. See Appendix C, Table 9, for more information about the seven noncommercial spare parts we reviewed.

## Review of Internal Controls

DoD Instruction 5010.40 requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls.<sup>12</sup> We identified an internal control weakness associated with the AFLCMC's purchase of Lot 7 initial spare parts for commercial C-5 sole-source spare parts from LM Aero. The AFLCMC contracting officer did not obtain sufficient commercial sales data for commercial items in accordance with Federal and Defense acquisition guidance. We also identified internal control weaknesses associated with the AFLCMC's documentation of fair and reasonable prices for Lot 7 initial spare parts. Specifically, the AFLCMC did not have internal policy or controls to ensure that the contracting officer reviewed the price negotiation memorandum for factual accuracy or followed the Federal Acquisition Regulation (FAR) requirement to maintain support for the price analysis in the contract file. We will provide a copy of the report to the senior officials responsible for internal controls at the AFLCMC.

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<sup>12</sup> DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013.

## Finding A

### AFLCMC Did Not Adequately Determine Fair and Reasonable Prices

The AFLCMC contracting officer did not adequately determine fair and reasonable prices for 11 nonstatistically selected commercial spare parts purchased from LM Aero on Lot 7. This occurred because the contracting officer did not obtain sufficient commercial sales data for the commercial parts in accordance with Federal and Defense acquisition guidance. As a result, the AFLCMC contracting officer may not have purchased the 11 commercial spare parts, valued at \$58.8 million, from LM Aero at fair and reasonable prices.<sup>13</sup>

### Contracting Officer Did Not Adequately Determine Fair and Reasonable Prices

The contracting officer did not adequately determine fair and reasonable prices for 11 nonstatistically selected commercial spare parts purchased from LM Aero on Lot 7. AFLCMC contracting officials stated that they did not evaluate prices for individual Lot 7 initial spare parts. During negotiations, AFLCMC contracting officials stated that their focus was on negotiating the total price for Lot 7 initial spare parts, and not on evaluating prices for individual spare parts. The FAR requires contracting officers to award contracts at fair and reasonable prices.<sup>14</sup> The FAR also states that the contracting officer's primary concern is the overall price the Government will actually pay.<sup>15</sup> Additionally, for commercial items, the FAR requires contracting officers to obtain other-than-certified cost or pricing data, which may include a history of commercial and Government sales or cost data.

Defense Federal Acquisition Regulation Supplement (DFARS) Procedures, Guidance, and Information (PGI) further requires contracting officers to obtain sufficient data, which may include commercial sales data, to support the prices of commercial items, especially in sole-source environments.<sup>16</sup> Sufficient sales data include data showing the previous prices paid by commercial and Government customers for the same or similar items, sold in comparable quantities. DFARS also states that if the sales data for items sold in similar quantities are not sufficient to support a fair and reasonable price determination, the contracting officer must obtain additional

<sup>13</sup> The \$58.8 million includes only material costs.

<sup>14</sup> FAR Part 15, "Contracting by Negotiation," Subpart 15.4, "Contract Pricing," 15.402(a), "Pricing Policy."

<sup>15</sup> FAR 15.405(b), "Price Negotiation."

<sup>16</sup> DFARS PGI 215, "Contracting by Negotiation," Subpart PGI 215.4, "Contract Pricing," PGI 215.402, "Pricing Policy."



data, which could include cost data, if necessary.<sup>17</sup> Additionally, the Director of Defense Pricing reminded contracting officials that contractors should be in the best position to substantiate why the DoD should pay offered prices.<sup>18</sup> Even though AFLCMC officials stated that they focused on the total contract price, they reviewed individual spare parts for each subcontractor to support negotiations and AFLCMC's price reasonableness determination. However, our review of the AFLCMC contract file and LM Aero data identified that neither the AFLCMC nor LM Aero had sufficient data to support the prices of the 11 commercial spare parts we selected.

## Contracting Officer Did Not Obtain Sufficient Data for Commercial Parts

The contracting officer did not obtain sufficient commercial sales data for commercial parts to support the proposed prices for subcontracted parts. The FAR states that when a contract includes subcontractors, prime contractors must obtain sufficient data from subcontractors to support prices, conduct appropriate cost or price analysis to establish the reasonableness of proposed prices, and provide the results as part of the proposal.<sup>19</sup> Although prime contractors are required to obtain sufficient data from subcontractors, the FAR and DFARS permit subcontractors to provide data directly to the Government, instead of to the prime contractor.<sup>20</sup>



AFLCMC relied on commercial catalogs, excerpts of LM Aero's price agreements, and sales data that did not justify the proposed prices.

To determine fair and reasonable prices, the AFLCMC relied on commercial catalogs, excerpts of LM Aero's price agreements, and sales data that did not justify the proposed prices. LM Aero officials stated that some subcontractors would not provide commercial sales data to support their prices. AFLCMC contracting officials asked LM Aero for data to support the proposed prices and contacted LM Aero's subcontractors when necessary. However, AFLCMC contracting officials eventually accepted LM Aero's subcontractor prices even though they did not obtain the required commercial sales data.

<sup>17</sup> DFARS PGI 215.403-3, "Requiring Data Other Than Certified Cost or Pricing Data."

<sup>18</sup> Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics Memorandum, "Commercial Items and the Determination of Reasonableness of Price for Commercial Items," February 4, 2015.

<sup>19</sup> FAR 15.404-3, "Subcontract Pricing Considerations."

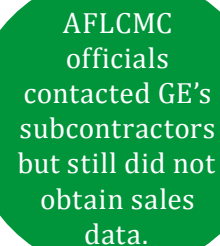
<sup>20</sup> FAR 15.404-3(c), and DFARS PGI 215.404-3(a), "Subcontract Pricing Considerations."

### ***AFLCMC Relied on Commercial Catalogs to Support Prices***

AFLCMC officials relied on commercial catalogs to support the contract prices for 4 of the 11 commercial spare parts reviewed, valued at \$13.5 million. For commercial items, the FAR specifically states that the fact that a price is in a catalog does not by itself make the price fair and reasonable.<sup>21</sup> LM Aero provided only commercial catalogs to support the prices for four General Electric Aviation (GE) subcontracted parts. AFLCMC officials questioned LM Aero about the prices of the GE parts because LM Aero did not provide commercial sales data to support the prices. LM Aero officials stated that GE refused to provide commercial sales data and offered only catalog prices. Therefore, LM Aero accepted GE's catalog prices as fair and reasonable, relying on the catalog to support the prices.

AFLCMC officials contacted GE directly to request additional data.

GE officials informed AFLCMC officials that GE does not make the spare parts and does not sell the parts commercially. Therefore, GE officials provided points of contact at their subcontractors to assist the AFLCMC in obtaining sales data. AFLCMC officials contacted GE's subcontractors but still did not obtain sales data. Instead, GE's subcontractors provided their catalogs or prices from their catalogs.



AFLCMC officials contacted GE's subcontractors but still did not obtain sales data.

AFLCMC officials accepted LM Aero's prices, which were based on GE's catalog prices plus 3 percent inflation. See Appendix C, Table 6, for more information about the four GE commercial parts we reviewed.

### ***AFLCMC Relied on Price Agreements to Support Prices***

AFLCMC contracting officials relied on a price agreement between LM Aero and two subcontractors for 4 of 11 commercial spare parts reviewed, valued at \$36.1 million. Specifically, AFLCMC contracting officials based the price for the ready-for-install engines on a negotiated agreement between LM Aero and GE.<sup>22</sup> Even though the AFLCMC officials obtained the agreement, they did not obtain sufficient commercial sales data to support the proposed price. For Lot 6, AFLCMC officials requested that GE provide commercial sales data. However, AFLCMC officials stated that GE required them to review the invoices and pricing data at GE's office and to sign a nondisclosure agreement.

<sup>21</sup> FAR 15.403-3(c), "Commercial Items."

<sup>22</sup> GE's ready-for-install engine consisted of the engine and additional equipment. The agreement between LM Aero and GE stated that the price of the additional equipment shall equal the vendor catalog price of the parts at the time of the delivery, plus GE's mark up. According to the AFLCMC, the negotiated additional equipment totaled \$14.7 million.

In addition, LM Aero provided only a one-page excerpt of its price agreement with the other subcontractor, Honeywell Torrance. The one-page excerpt was a spreadsheet for Lot 6 and Lot 7 initial spare parts, and included the part names, numbers, and prices for 23 Honeywell parts.<sup>23</sup> The spreadsheet did not include any elements that indicated it was part of a price agreement, such as a cover sheet, signature page, or terms and conditions. In addition, LM Aero officials did not provide commercial sales data used to determine that the prices were fair and reasonable, or any other data to support the price agreement. LM Aero officials stated that they do not normally provide supporting documentation for price agreements with their contract proposals. However, LM Aero officials stated that they would have provided the supporting documentation if the Government had requested it.



LM Aero officials stated that they do not normally provide supporting documentation for price agreements with their contract proposals.

AFLCMC officials questioned the Honeywell Torrance prices because LM Aero did not provide adequate commercial sales data. However, instead of providing data to the AFLCMC to support Honeywell Torrance prices, LM Aero renegotiated with Honeywell Torrance to obtain lower prices. AFLCMC officials accepted the renegotiated lower prices, even though AFLCMC still did not obtain sales data. See Appendix C, Table 7, for the GE ready-for-install engine and the three Honeywell Torrance commercial parts we reviewed.

### ***AFLCMC Relied on Sales Data That Did Not Justify Prices***

The commercial sales data that AFLCMC contracting officials relied on for the spare parts subcontracted to Honeywell Tempe and Hamilton Sundstrand San Diego (HSSD) did not justify the contract prices for 3 of the 11 commercial spare parts reviewed, valued at \$9.2 million.

(FOUO) For example, the AFLCMC obtained commercial sales data from Honeywell Tempe for the air turbine motor during a previous negotiation; however, the Lot 7 proposed price was significantly different from the price shown in the commercial sales data. Honeywell Tempe also provided the cost to manufacture the air turbine motor. AFLCMC officials questioned LM Aero's Lot 7 proposed price of [REDACTED] because the price significantly exceeded Honeywell Tempe's manufacturing cost of [REDACTED]. As a result, the AFLCMC and Honeywell Tempe negotiated and reduced the air turbine motor price by \$31,856. However, the price was not justified by the sales and cost data obtained by the AFLCMC.

<sup>23</sup> Our sample included 3 of the 23 Honeywell parts listed in the one page agreement between LM Aero and Honeywell.

(FOUO) Furthermore, the commercial sales data obtained by AFLCMC for two HSSD parts reviewed, the auxiliary power unit (APU) bare<sup>24</sup> and the regulator-control, either did not support the contract price or were outdated. AFLCMC officials obtained one invoice for each part during negotiations for a previous lot; however, the invoices were not current and dated back to 2007. Without sufficient sales data, AFLCMC officials questioned the HSSD prices. HSSD officials provided additional sales data only for the APU bare, but the sales data did not justify the price increase from the Lot 6 contract price to the Lot 7 proposed price. The Lot 6 contract price was [REDACTED]<sup>25</sup> for [REDACTED] APU bare, but LM Aero's proposal for Lot 7 included [REDACTED] APU bares at [REDACTED] each. The additional sales data that HSSD provided showed that commercial customers paid between [REDACTED] and [REDACTED] for the APU bare, and did not support the price increase from Lot 6 to Lot 7. HSSD reduced the price of the APU bare to [REDACTED], which the AFLCMC accepted. In addition, without any additional supporting sales data for the regulator-control, AFLCMC officials accepted HSSD's proposed price. See Appendix C, Table 8, for the one Honeywell Tempe part and two HSSD commercial parts we reviewed.

### ***AFLCMC Reduced LM Aero's Profit***

(FOUO) According to an AFLCMC official, AFLCMC reduced LM Aero's profit by [REDACTED] because LM Aero did not provide sufficient data to help support its subcontractor prices. Air Force informational guidance states that it may be necessary to reduce a prime contractor's profit to mitigate the risk of not obtaining a prime contractor's price or cost analysis to substantiate prices.<sup>26</sup> Although AFLCMC officials reduced LM Aero's overall profit by [REDACTED], saving AFLCMC [REDACTED], they did not comply with Federal and Defense acquisition guidance to obtain sufficient data to determine fair and reasonable prices. Therefore, the Commander, AFLCMC, should require contracting officers to obtain sufficient commercial sales data when evaluating the prices of sole-source commercial items, and request other-than-certified cost or pricing data when commercial sales data are not sufficient, in accordance with the FAR 15.402(a), 15.403-3(c), 15.404-3, and DFARS PGI 215.402.

(FOUO)  
Although  
AFLCMC officials  
reduced LM Aero's  
overall profit by [REDACTED],  
saving AFLCMC [REDACTED],  
they did not comply with  
Federal and Defense  
acquisition  
guidance.

<sup>24</sup> The APU system includes the APU, an electronic control unit, and various mounting systems and ducts. The only difference between the full APU and APU bare is the addition of a generator and mounting plate.

<sup>25</sup> (FOUO) Although the Lot 6 contract price was [REDACTED] LM Aero proposed a price of [REDACTED]. LM Aero stated that the contract price of [REDACTED] was an error.

<sup>26</sup> Air Force FAR Supplement Informational Guidance 5315.404-3, "Subcontract Pricing Considerations."

Prices May Not Be Fair and Reasonable

The AFLCMC contracting officer may not have purchased the 11 commercial spare parts reviewed, valued at \$58.8 million, from LM Aero at fair and reasonable prices. We identified significant increases in Lot 7 prices for 4 of the 11 commercial spare parts, valued at \$5.3 million, without adequate supporting commercial sales data to justify the increases. In addition, the unsupported increased prices could lead to the Government paying excessive prices for C-5 spare parts in the future. Therefore, the Commander, AFLCMC should require the contracting officer to assess and determine whether it is appropriate to request a \$5.3 million voluntary refund from LM Aero for potential excess payments on contract FA8625-07-C-6471, in accordance with the DEFARS.

Prices Significantly Increased Without Adequate Sales Data

(FOUO) The prices of four spare parts increased significantly without adequate supporting sales data to justify the increases. For example, LM Aero provided redacted invoices from HSSD to its customers to support the price of the APU bare. However, the sales data did not justify the price increase from the Lot 6 contract price to the Lot 7 proposed price. The Lot 6 spare part contract price for [REDACTED] HSSD APU bare was [REDACTED], and the Lot 7 initial spare part price for [REDACTED] APU bares was [REDACTED] each, an increase of 82.6 percent, costing the AFLCMC an additional \$2.6 million. Since the AFLCMC did not obtain sufficient supporting data to justify the price increase, the AFLCMC may not have awarded a fair and reasonable contract price for the APU bares. See Table 2 for the APU bare price increase from Lot 6 to Lot 7.

(FOUO) Table 2. APU Bare Price Increase From Lot 6 to Lot 7

(FOUO) Lot 6 Contract Unit Price	Lot 7 Unit Price	Cost Increase Per Unit	Quantity Purchased on Lot 7	Total Cost Increase <sup>1</sup>
[REDACTED] <sup>2</sup>	[REDACTED]	[REDACTED]	[REDACTED]	\$2,584,203 (FOUO)

<sup>1</sup> Total does not equal the actual sum because of rounding.

<sup>2</sup> (FOUO) The Lot 6 contract purchased [REDACTED] APU bare.



(FOUO) In addition, LM Aero provided only commercial catalogs to support the increased prices of two GE commercial parts, even though the FAR specifically states that a price in a catalog does not by itself make the price fair and reasonable.<sup>27</sup> Specifically, LM Aero increased the unit cost of [REDACTED] turbine engine main fuel controls<sup>28</sup> from [REDACTED] each to [REDACTED] each, a 344.7 percent increase, costing the AFLCMC an additional \$2.1 million. Additionally, LM Aero increased the unit cost for [REDACTED] jet engine fuel pumps, from [REDACTED] each to [REDACTED] each, a 559.1 percent increase, costing the AFLCMC an additional \$253,153. Without sufficient supporting data to justify the increased prices, AFLCMC contracting officials may not have awarded a fair and reasonable contract price for the turbine engine main fuel controls and the jet engine fuel pumps.

(FOUO) Finally, LM Aero did not provide any supporting documentation for the price increase of the air cycle machine, produced by Honeywell Torrance. LM Aero officials justified the increase by stating that LM Aero mistakenly priced the air cycle machine as a refurbished system for the previous six lots, instead of pricing a new air cycle machine system. However, LM Aero officials could not provide any data to AFLCMC to prove the prices were for an incorrect system. LM Aero officials proposed a price of [REDACTED] each for [REDACTED] air cycle machines, which was consistent with the previous price paid.<sup>29</sup> However, at the completion of negotiations, LM Aero increased the price of the air cycle machine from [REDACTED] to [REDACTED] each,<sup>30</sup> a 171.3 percent increase, costing the AFLCMC an additional \$359,425. Without sufficient supporting data to justify the increased price, AFLCMC contracting officials may not have awarded a fair and reasonable contract price for the air cycle machine. See Table 3 for a summary of the price increases without adequate sales data.

<sup>27</sup> FAR 15.403-3(c).

<sup>28</sup> LM Aero noted that the part number for the turbine engine main fuel control changed when the price changed.

<sup>29</sup> (FOUO) On October 21, 2011, the AFLCMC paid [REDACTED] for [REDACTED] air cycle machines, and on October 19, 2012, the AFLCMC paid [REDACTED] for [REDACTED] air cycle machines.

<sup>30</sup> (FOUO) LM Aero increased the price to [REDACTED], then added profit and labor to arrive at the contract price of [REDACTED].

~~(FOUO)~~ Table 3. Summary of Price Increases Without Adequate Sales Data

<del>(FOUO)</del>						
Vendor	Part	Quantity	Lowest Proposed Unit Cost	Final Proposed Unit Cost	Total Cost Increase <sup>1</sup>	Percentage Increase
GE	Turbine engine main fuel control	1	██████	██████	\$2,114,323	344.7
GE	Jet engine fuel pump	1	██████	██████	253,153	559.1
Honeywell Torrance	Air cycle machine	1	██████	██████	359,425	171.3
<b>Total</b>			██████	██████	<b>\$2,726,901</b>	<del>(FOUO)</del>

<sup>1</sup> Total does not equal the actual sum because of rounding.

### ***Lack of Support May Lead to Future Excessive Prices***

The increased prices for 4 of the 11 commercial spare parts reviewed could lead to the Government paying excessive prices for C-5 spare parts in the future. The National Defense Authorization Act for FY 2016 allows contractors to support commercial prices with evidence of previous prices paid by the Government.<sup>31</sup> Specifically, it requires that a contracting officer consider the evidence provided by the contractor for recent Government purchase prices when establishing price reasonableness for a subsequent contract if the contracting officer is satisfied that the previous prices paid remain valid for comparison, considering time elapsed, quantities, and terms and conditions. The Air Force updated the C-5 to extend its service life until 2040. By accepting unsupported prices that may not be fair and reasonable for the RERP contract, the Government increased its risk of accepting future unsupported, excessive prices to sustain the C-5 through 2040.


### **Conclusion**

~~(FOUO)~~ AFLCMC officials did not obtain sufficient data required by the FAR to support the prices of the Lot 7 commercial spare parts, valued at \$58.8 million.<sup>32</sup> Obtaining sufficient data is essential when purchasing sole-source commercial items, and required by both Federal and Defense acquisition guidance. However, contracting officials were not able to substantiate why offered prices were paid. Although AFLCMC contracting officials reduced LM Aero's profit by ██████, saving ██████, AFLCMC agreed on prices without sufficient commercial sales

<sup>31</sup> Public Law 114-92, National Defense Authorization Act for Fiscal Year 2016, Section 853, enacted November 25, 2015, amended section 2306a(b), title 10, United States Code.

<sup>32</sup> FAR 15.402(a).

(FOUO) data to validate that the offered prices were fair and reasonable. As a result, the prices for 4 of the 11 spare parts we reviewed, valued at \$5.3 million, increased significantly without sufficient supporting data to justify the increases. Without sufficient sales data, the AFLCMC may have negotiated inflated prices that were not fair and reasonable. The increased prices could also lead to the Government paying excessive prices to sustain the C-5 in the future.



The prices for 4 ... spare parts ... valued at \$5.3 million, increased significantly without sufficient supporting data to justify the increases.

## Management Comments on the Finding and Our Response

The AFLCMC Commander, in conjunction with the Program Executive Officer and the Director of Contracting, did not agree that the contracting officer did not adequately determine fair and reasonable prices for the 11 nonstatistically selected spare parts purchased from LM Aero on Lot 7 and provided the following comments on the Finding.

### *AFLCMC Comments on the Fair and Reasonableness Determination*

The AFLCMC Commander stated that the Air Force negotiated one firm-fixed-price amount of \$91.1 million for one lot of 496 unique commercial and noncommercial spare parts. The AFLCMC Commander stated that the Air Force used a variety of cost and price analysis techniques to reach its fair and reasonable price determination. Specifically, the Air Force's evaluation focused on the parts that contributed to the highest percentage of the overall cost and used sampling to evaluate the remaining parts. The Commander explained that agreements were not reached on individual part prices, but that negotiations culminated in "one" agreed-to price for the entire lot of spare parts. The Commander further stated that the strategy was discussed and approved by senior AFLCMC officials and was consistent with the strategy used for previous RERP lots. The Commander also stated that the approved strategy was an accepted methodology for procuring spare parts and had been used on other programs.

### *Our Response*

Although the Air Force may not have reached price agreements for each individual part, the AFLCMC contracting officer relied on analysis of proposed prices for individual parts and used that analysis to support the determination that the agreed-to total price for the entire lot of C-5 RERP spares was fair and reasonable. While AFLCMC's negotiation strategy may have been approved by senior AFLCMC

officials, an analysis of the proposed prices for individual spare parts is necessary to make a price reasonableness determination, regardless of whether negotiations culminated in “one” agreed-to price for the entire lot of spare parts. As noted in the report, we identified a number of shortcomings in the pricing data on which the Air Force based its price reasonableness determination, and we continue to assert that the Air Force lacked sufficient pricing information to conclude that the prices it agreed to pay were fair and reasonable.

### *AFLCMC Comments on Sufficiency of Data Used to Support the Price Reasonableness Determination*

The AFLCMC Commander stated that DFARS PGI stresses that contracting officers must obtain sufficient data to determine price reasonableness;<sup>33</sup> however, the level of data considered necessary or sufficient is subjective in nature. The AFLCMC Commander stated that the Air Force negotiation team met all FAR and DFARS requirements and used commonly accepted business practices during the proposal analysis and negotiation phases, resulting in documented fair and reasonable prices.

Specifically, the AFLCMC Commander stated that the Air Force negotiation team compared proposed prices to historical prices paid for the same or similar items and received and evaluated sales data and catalog pricing to develop the “Government Objective” and “Considered Negotiated” amounts. While the AFLCMC Commander acknowledged that the proposed subcontractor costs for some parts had increased during negotiations, the AFLCMC Commander stated that data were received and discussions were held with the prime contractor and subcontractors to better understand the rationale for the cost increases.

The AFLCMC Commander also stated that some subcontractors allowed the AFLCMC to review sales data at the subcontractor’s facility, but AFLCMC officials were not permitted to retain the data and had to sign a nondisclosure agreement. The AFLCMC Commander stated that the practice of viewing but not retaining data pertaining to commercial items in order to protect commercial trade secrets was not unique to the C-5 program. The AFLCMC Commander stated that this was a widely used practice and has been determined to be acceptable when procuring commercial items.

### *Our Response*

We agree that the FAR allows the Government to use various price analysis techniques and procedures to ensure it receives a fair and reasonable price.<sup>34</sup> However, the FAR requires contracting officers to obtain appropriate data on the

<sup>33</sup> DFARS PGI 215.402.

<sup>34</sup> FAR 15.404-1(b).

prices at which the same or similar items have previously been sold and determine if the data are adequate for evaluating the reasonableness of the price.<sup>35</sup> Our review also focused on the parts that collectively represented the majority of the overall contract cost. Based on our analysis, we determined that the AFLCMC lacked sufficient data to support its fair and reasonableness price determination.

AFLCMC officials obtained commercial catalogs, excerpts of LM Aero's price agreements and sales data that did not justify the proposed individual commercial spare part prices. For example, the AFLCMC obtained commercial sales data from Honeywell Tempe for the air turbine motor during a previous negotiation; however, the Lot 7 proposed price was significantly different from the price shown in the commercial sales data.

Additionally, the AFLCMC Commander stated that some subcontractors allowed AFLCMC officials to review sales data at their facility, but would not permit the AFLCMC officials to retain the data. However, the AFLCMC Commander did not identify under what authority a subcontractor can require AFLCMC officials to sign a nondisclosure agreement and not be permitted to retain data. Furthermore, this AFLCMC practice of obtaining but not retaining data is inconsistent with the FAR requirement that contracting officers obtain sufficient data, which may include commercial sales data, to support the prices of commercial items.<sup>36</sup>

In addition, a contractor requiring signing of a nondisclosure agreement is not required by the AFLCMC, because the FAR requires the protection of the contractor bid, proposal, or source selection information to prevent unauthorized disclosure in accordance with applicable law and agency regulations by the agency contracting officer who receives such information.<sup>37</sup> Additionally, unless AFLCMC retains the information used to support its pricing decisions in the contract file, the validity of the pricing decisions cannot be assessed by senior AFLCMC officials during their review and approval process, nor can the AFLCMC support its price determination when externally audited.

### *AFLCMC Comments on the Contractor Spare Parts Price List*

The AFLCMC Commander stated that after completion of negotiations, the prime contractor provided a parts list with allocated unit prices for each part. The AFLCMC Commander stated that the exhibit was used to facilitate the

<sup>35</sup> Pursuant to FAR 15.404-1(b), when determining the type of data to obtain to conduct a price analysis, the contracting officer is required to obtain appropriate uncensored data on prices of the same or similar items unless an exception applies under FAR 15.403-1(b)(1) and (2).

<sup>36</sup> FAR 15.402(a)(2)(ii).

<sup>37</sup> FAR Part 3, "Improper Business Practices and Personal Conflicts of Interest," Subpart 3.1, "Safeguards," 3.104, "Procurement Integrity," 3.104-4(a) and (b), "Disclosure, Protection, and Marking of Contractor Bid or Proposal Information and Source Selection Information."



timely delivery and invoicing of parts during contract execution. The AFLCMC Commander further stated that while the contracting officer verified that the total price in the exhibit matched the agreed to price of \$91.1 million<sup>38</sup> for the lot of spare parts, the contracting officer did not validate the individual part unit prices because they were not individually agreed to by both parties.

### *Our Response*

Although the AFLCMC Commander stated that neither party agreed to the unit prices for each individual part, the individual spare part prices provided in the exhibit were included in the awarded contract and a part of a mutually binding agreement. In addition, the AFLCMC did not include a statement in the contract or contract file that indicated the spare parts exhibit was strictly for timely delivery and invoicing of parts. Because the individual spare part prices were not negotiated as fair and reasonable, the AFLCMC should not have incorporated the individual spare part prices into the contract. Rather, the AFLCMC should have created other means to monitor the delivery of parts and to invoice the parts, such as making progress payments during contract execution. As a result of the AFLCMC incorporating the individual spare part price exhibit into the contract without disclosure that the allocated unit prices were “not individually agreed to,” the Government may use inappropriately contractor-determined prices to support future C-5 part pricing decisions.

## **Recommendations, Management Comments, and Our Response**

### ***Recommendation A.1***

**We recommend that the Commander, Air Force Life Cycle Management Center:**

- a. require contracting officers to obtain sufficient commercial sales data when evaluating the prices of sole-source commercial items, and request other-than-certified cost or pricing data when commercial sales data are not sufficient, in accordance with the Federal Acquisition Regulation 15.402(a), 15.403-3(c), 15.404-3, and Defense Federal Acquisition Regulation Supplement Procedures, Guidance, and Information 215.402.**

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<sup>38</sup> Though the AFLCMC comments stated that the agreed-to price was \$91.1 million, the total price for the Lot 7 initial spares, according to the contract, was \$91.4 million.

### *Air Force Life Cycle Management Center Comments*

The AFLCMC Commander, as well as the Program Executive Officer and the Director of Contracting, agreed with the recommendation. Specifically, the AFLCMC Commander agreed that the contracting officer must follow all FAR and DFARS requirements and stated that the Air Force negotiating team for Lot 7 spare parts did follow the FAR and DFARS in making its fair and reasonable price determination. The AFLCMC Commander also stated that the AFLCMC Director of Contracting would continue to emphasize FAR and DFARS requirements to the contracting workforce.

### *Our Response*

Comments from the AFLCMC Commander, as well as the Program Executive Officer and the Director of Contracting, partially addressed the recommendation. We disagree that the AFLCMC complied with all FAR and DFARS requirements. The FAR requires contracting officers to obtain other-than-certified-cost or pricing data as necessary, which may include history of commercial and Government sales or cost data, to establish the reasonableness of offered prices.<sup>39</sup> As noted in the report, we identified numerous shortcomings in the data that AFLCMC officials relied on in making their Lot 7 spare parts price reasonableness determination.

(FOUO) For example, AFLCMC officials relied on catalog prices not supported by commercial sales data to justify the reasonableness of the part prices evaluated. Specifically, LM Aero officials stated that GE refused to provide commercial sales data and offered only its catalog prices. Therefore, LM Aero lacked the information needed to effectively evaluate the proposed prices and accepted GE's catalog prices as justification. While we acknowledge that AFLCMC officials attempted to obtain data to support the prices, ultimately those officials did not obtain sales data, and they accepted GE's catalog prices plus 3 percent inflation. In addition, although AFLCMC reduced LM Aero's overall profit on the contract by [REDACTED] because LM Aero did not provide sufficient data, AFLCMC officials did not comply with Federal and Defense acquisition guidance to obtain sufficient commercial sales data to support their Lot 7 spare parts price reasonableness determination.

Therefore, we request that the AFLCMC Commander provide additional comments in response to the final report that detail the specific actions that the AFLCMC will take to require contracting officers to obtain sufficient commercial sales data and request other-than-certified cost or pricing data when commercial sales data are not sufficient. We will close the recommendation once we analyze and determine whether or not the information provided and actions AFLCMC takes fully address it.

<sup>39</sup> FAR 15.402(a).

- b. require the contracting officer to assess and determine whether it is appropriate to request a \$5.3 million voluntary refund from Lockheed Martin Aeronautics Company for potential excess payments on contract FA8625-07-C-6471, in accordance with Defense Federal Acquisition Regulation Supplement Subpart 242.71.**

*Air Force Life Cycle Management Center Comments*

The AFLCMC Commander, as well as the Executive Program Officer and the Director of Contracting, agreed with the recommendation. The Commander stated that the Air Force negotiation team for Lot 7 spare parts negotiated one price for one lot of spares consisting of 496 commercial and noncommercial parts. The AFLCMC Commander stated that price agreements were not reached for individual parts. As a result, reopening negotiations for the four parts would reopen negotiations for the entire lot of spares, which the AFLCMC Commander stated may not be in the Government's best interest as the contractor may have cost overruns for some parts. However, the AFLCMC Commander stated that the AFLCMC conducted an assessment to determine if it was in the C-5 program's best interest to request a voluntary refund for the four parts questioned in the audit report.

The Commander stated that the AFLCMC's analysis focused on a comparison of the Lot 6 and Lot 7 considered negotiated costs. In addition, the Commander stated that the AFLCMC requested the Defense Contract Audit Agency and Defense Contract Management Agency to provide actual costs incurred by the prime contractor during contract execution. The AFLCMC Commander stated that the analysis confirmed that requesting the voluntary refund was not appropriate.

*Our Response*

While the AFLCMC Commander agreed with the recommendation and assessed whether a voluntary refund was appropriate, we question the methodology of the AFLCMC's assessment. The assessment included a review of the actual contractor costs incurred and a comparison of Lot 6 negotiated costs with Lot 7 negotiated costs. However, according to the AFLCMC Commander, the Air Force did not reach price agreements for each individual part. In addition, the price negotiation memorandum for Lot 7 did not document individual negotiated costs for the air cycle machine, jet engine fuel pump, and turbine engine main fuel control. Therefore, AFLCMC does not have Lot 7 negotiated costs for these individual spare parts to perform its stated analysis. The AFLCMC analysis does not support its conclusion that a voluntary refund is not appropriate.

Therefore, we request that the AFLCMC Commander reassess and provide additional comments in response to the final report to clarify how the approach used supports that it is inappropriate to request a voluntary refund from LM Aero. We will close the recommendation once we analyze and determine whether or not the information provided and actions AFLCMC takes fully address it.

## Finding B

### AFLCMC Did Not Sufficiently Document Fair and Reasonable Prices for C-5 Initial Spare Parts

The AFLCMC contracting officer did not sufficiently document the fair and reasonable price determination for Lot 7 initial spare parts. Specifically, the contracting officer included inaccurate information in the price negotiation memorandum (PNM)<sup>40</sup> and did not maintain the price analysis in the contract file. This occurred because the AFLCMC contracting office did not have internal policy and controls to ensure the contracting officer reviewed the PNM for factual accuracy and followed the FAR requirement to maintain support for the price analysis in the contract file. As a result, AFLCMC contracting officials could not support their determination that Lot 7 initial spare part prices for the C-5 were fair and reasonable.

### Contracting Officer Did Not Sufficiently Document Price Reasonableness

The AFLCMC contracting officer did not sufficiently document the fair and reasonable price determination for Lot 7 initial spare parts. Specifically, the contracting officer included inaccurate information in the PNM and did not maintain the price analysis in the contract file.

#### ***PNM Included Inaccurate Information***

The contracting officer included inaccurate information in the PNM for Lot 7 initial spare parts. Specifically, the PNM included inaccurate information about how the AFLCMC contracting officer and pricing division officials negotiated and determined fair and reasonable prices. The FAR requires the contracting officer to document the principle elements of the negotiated agreement in the PNM.<sup>41</sup> The FAR further states that the documentation must contain critical facts or considerations guiding the establishment of the negotiated agreement. AFLCMC officials stated that the contracting officer and pricing division officials wrote the PNM collectively. The contracting officer stated that he signed the PNM after obtaining an understanding of the price analysis, verifying the PNM had no errors,

The PNM included inaccurate information about how the AFLCMC contracting officer and pricing division officials negotiated and determined fair and reasonable prices.

<sup>40</sup> The PNM is the document in the contract file that describes the principal elements of the negotiation agreement.

<sup>41</sup> FAR 15.406-3, "Documenting the Negotiations."



and obtaining fair and reasonable prices during negotiations. However, the PNM inaccurately stated that no spare part prices had increased more than 25 percent in the past year, and that spare part prices on Lot 7 were similar to prices on previous lots. Additionally, we identified a spare part price that increased on the contract without discussion in the PNM.

### *Spare Part Price Increased More Than 25 Percent*

(FOUO) The Lot 7 initial spare parts PNM stated that spare parts did not increase more than 25 percent over the prior 12-month period. DFARS requires analysis of spare part proposals for items with a price increase of 25 percent or more from the lowest price the Government paid within the last 12 months.<sup>42</sup> However, we identified that the price of the APU bare increased more than 25 percent over the prior 12-month period. Specifically, the previous contract price for the APU bare, supplied by HSSD, was [REDACTED]<sup>43</sup> each in Lot 6. However, the Lot 7 proposal price was [REDACTED] each, which was 68.5 percent higher than the previous price paid less than 5 months<sup>44</sup> earlier. See Table 4 for the APU bare price that increased more than 25 percent for Lot 7.

The Lot 7 proposal price was 68.5 percent higher than the previous price paid less than 5 months earlier.

(FOUO) Table 4. APU Bare Price Increased From Lot 6 to Lot 7

(FOUO) Supplier	Lot 6 Contract Price	Lot 7 Proposal Price	Percentage of Price Increase
HSSD	[REDACTED]	[REDACTED]	68.5 (FOUO)

### *Spare Part Prices Were Not Similar to Previous Prices*

The Lot 7 PNM contained identical wording from the previous lot's PNM for the APU bare, but the wording was inaccurate in the Lot 7 PNM. Specifically, the Lot 7 PNM stated that the proposed price for the APU bare was similar to a previous contract price. However, the Lot 7 proposed price stated in the PNM was at least \$226,341 higher than the Lot 5 and Lot 6 contract prices negotiated. See Table 5 for the APU bare pricing for the previous lots.

<sup>42</sup> DFARS 215.404-1(2), "Proposal Analysis Techniques."

<sup>43</sup> The Lot 6 contract price for the APU bare included costs other than the material cost, such as general and administrative, labor and profit.

<sup>44</sup> The AFLCMC awarded Lot 6 on October 19, 2012, and LM Aero submitted the Lot 7 initial spare part proposal on February 28, 2013.

~~(FOUO)~~ Table 5. Auxiliary Power Unit Bare Pricing for Lots 5 Through 7

<del>(FOUO)</del> Lot 5 Contract Price	Lot 6 Contract Price	Lot 7 Proposed Price
██████████	██████████	██████████ <del>(FOUO)</del>

### *Spare Part Price Increased on the Contract Without Discussion in the PNM*

~~(FOUO)~~ LM Aero's final certified proposal for material<sup>45</sup> contained a significantly increased price for the air cycle machine. However, the PNM did not discuss LM Aero's final review of data or the price increases that resulted from the final certified proposal for material. The AFLCMC negotiated spare part prices with LM Aero by subcontractor, not by individual spare parts. Specifically, AFLCMC contracting officials negotiated a ██████████ total price for Honeywell Torrance commercial spare parts, including the air cycle machine. An AFLCMC official stated that the pricing branch chief told him that he could consider the prices fair and reasonable if he could negotiate the total Honeywell Torrance commercial spare part prices below ██████████. However, LM Aero's final certified proposal for material stated that the price of the air cycle machine had increased. Therefore, LM Aero increased the final contract price for the air cycle machine from ██████████ to ██████████ each. AFLCMC officials purchased ██████ air cycle machines, resulting in a total increase of \$359,425 over a month timeframe for Lot 7.<sup>46</sup> As a result, the Honeywell Torrance total commercial spare parts cost increased from ██████████ to ██████████.

### **Price Analysis Not Maintained in Contract File**

The contracting officer did not maintain the price analysis in the contract file to support the fair and reasonable price determination for Lot 7 initial spare parts. The FAR states that the contracting officer's determination of a fair and reasonable price, including the price analysis, is normally included in the contract file, if applicable.<sup>47</sup>

Additionally, the FAR states that the contracting officer may request the advice and assistance of other experts to ensure that appropriate price analysis is performed.<sup>48</sup> The AFLCMC contracting officer requested assistance from the AFLCMC pricing division to perform price analysis. The AFLCMC pricing division official stated that he completed a price analysis of the Lot 7 initial spare parts. However, the

<sup>45</sup> DFARS PGI 215.402 requires contractors to submit certified cost or pricing data to the contracting officer if a procurement exceeds a dollar threshold and none of the exceptions apply. The data provided must be accurate, complete, and current in order for the contracting officer to establish a fair and reasonable price.

<sup>46</sup> ~~(FOUO)~~ LM Aero submitted a price of ██████████ for an air cycle machine on February 21, 2014, then submitted a certified proposal for material price of ██████████ each on March 27, 2014.

<sup>47</sup> FAR Part 4, "Administrative Matters," Subpart 4.8, "Government Contract Files," 4.803(a), "Contents of Contract Files."

<sup>48</sup> FAR 15.404-1(a)(5).

contracting officer did not maintain the price analysis in the contract file, and the pricing division official could not locate his price analysis. The AFLCMC pricing division official stated that he documents his price analysis in the PNM, which is the final record of negotiation, but does not maintain the supporting documents for the analysis with the PNM. The FAR states that the results and supporting rationale reported by experts providing assistance must be included in the contract file.<sup>49</sup>

## Policy for Reviewing and Supporting PNM Needs Improvement

The AFLCMC lacked internal policy and controls for contracting officials to validate the factual accuracy of price negotiation documentation. Additionally, AFLCMC did not have internal policy and controls to ensure contracting officials followed the FAR requirement to maintain support for the price analysis in the contract file.<sup>50</sup>

### ***PNM Not Reviewed for Factual Accuracy***

The AFLCMC did not have internal policy and controls to ensure that the contracting officer reviewed the PNM for factual accuracy. AFLCMC officials stated that the PNM goes through several reviews.

(FOUO) For the Lot 7 initial spare parts, the contracting officer and the AFLCMC pricing branch chief did not validate the accuracy of the PNM.

Specifically, the contracting officer for Lot 7 initial spare parts stated that he performed a high-level review of the PNM to gain an understanding of the negotiations but did not check for accuracy.

Additionally, the pricing branch chief stated that he did not validate the accuracy of the PNM for the Lot 7 initial spare parts.

The AFLCMC pricing branch chief stated that he reviews the PNM based on risk and materiality. Specifically, he stated that because the Lot 7 initial spare parts were valued at about [REDACTED],

they were not material when compared to the total Lot 7 value of approximately [REDACTED]. The pricing branch chief stated because the Lot 7 initial spare parts were not material, he reviewed the PNM only to ensure the written explanations were clear and grammatically correct.

The pricing branch chief stated that he did not validate the accuracy of the PNM.

<sup>49</sup> FAR 15.404-2, "Data to Support Proposal Analysis."

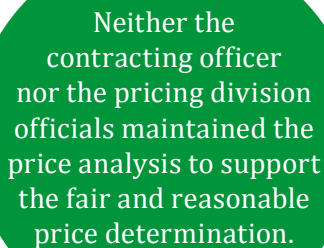
<sup>50</sup> FAR 4.803(a), and FAR 15.404.

The AFLCMC did not establish policy that designated responsibility to an individual to oversee the accuracy of work performed by price division officials. Therefore, the Commander, Air Force Life Cycle Management Center, should establish policy and standard operating procedures to ensure that the contracting officer validates the accuracy of the price analysis documented in the PNM.

### ***Support for Price Analysis Not Kept in the Contract File***

AFLCMC did not have internal policy or controls to ensure that the contracting officer followed the FAR, which requires that support for the price analysis be maintained in the contract file.<sup>51</sup> While AFLCMC officials stated that contracting officers follow a PNM checklist when creating the PNM, the checklist did not require that the contracting officer keep supporting documentation for the price analysis in the contract file. According to pricing division officials, pricing officials document their analysis in the PNM, but do not maintain the supporting documentation for the analysis with the PNM.

AFLCMC contracting officials stated that the price analysis documentation supporting the PNM is not a part of the contract file. The contracting officer stated that the pricing division official who completes the price analysis maintains the supporting documentation. However, the pricing division officials did not always maintain the supporting documentation for their price analysis. Specifically, the pricing division official for Lot 7 initial spare parts could not locate his price analysis for Lot 7. In addition, another AFLCMC contracting official for C-5 spare parts stated that the supporting documentation for the price analysis was destroyed after negotiations.



Neither the contracting officer nor the pricing division officials maintained the price analysis to support the fair and reasonable price determination.

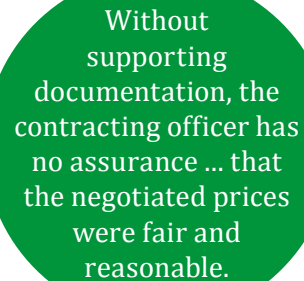
Neither the contracting officer nor the pricing division officials maintained the price analysis to support the fair and reasonable price determination for Lot 7. Therefore, the Commander, Air Force Life Cycle Management Center, should implement policy and procedures to ensure that the contracting officer follows FAR 4.803(a) and 15.404 requirements to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.

<sup>51</sup> FAR 4.803(a), and FAR 15.404.

## Fair and Reasonable Price Determination Not Supported

AFLCMC contracting officials could not support their determination that Lot 7 initial spare parts prices for the C-5 were fair and reasonable.

The contracting officer documented that the negotiated prices were fair and reasonable in the PNM. However, contracting officials could not provide the supporting documentation used to determine that negotiated prices were fair and reasonable. Additionally, without supporting documentation, the contracting officer has no assurance that the required price analysis was completed and that the negotiated prices were fair and reasonable. Properly preparing and adequately supporting contract documentation, including PNMs, is critical to validating that the final agreed-upon price is fair and reasonable.



Without supporting documentation, the contracting officer has no assurance ... that the negotiated prices were fair and reasonable.

## Management Comments on the Finding and Our Response

The AFLCMC Commander, in conjunction with the Program Executive Officer and the Director of Contracting, did not agree that the contracting officer did not sufficiently document the fair and reasonable price determination for Lot 7 initial spare parts and provided the following comments on the Finding.

### *AFLCMC Comments on Inaccurate Statements in the PNM*

The AFLCMC Commander stated that the AFLCMC has robust internal policy and controls in place to ensure that PNMs accurately document acquisition details, including ensuring that sufficient details of the price analysis are included. The AFLCMC Commander stated that the information in the PNM that we identified as inaccurate resulted from the negotiated agreement being made at the total price level for the entire lot of spares and the resulting write-up addressed the total cost element summary level. While the AFLCMC Commander stated that the PNM statement could have been better clarified to indicate that it applied to the total cost element summary level, the Commander maintains that the statement itself was not inaccurate. Finally, the AFLCMC Commander stated that this one instance does not indicate a systemic problem with the accuracy of PNMs throughout the AFLCMC and should not be the reason for developing new policy or procedures.

### *Our Response*

Although the AFLCMC Commander stated that the AFLCMC has robust internal policies and controls in place to ensure the PNM is accurate, those policies and controls allowed inaccurate statements to remain in the PNM, as noted in the report. DFARS requires analysis of spare part proposals for items with a price increase of 25 percent or more from the lowest price the Government paid within the last 12 months.<sup>52</sup> The PNM stated that the AFLCMC compared the bill of material to the bill of material for the previous lot to determine if any spare part prices had increased more than 25 percent, and indicated that no items exceeded that threshold. However, we determined that the price of the APU bare increased 68.5 percent over the previous lot's price. While we recognize that the problems we identified with the PNM for C-5 RERP Lot 7 spare parts do not in themselves indicate a systemic problem with the accuracy of PNMs throughout the AFLCMC, the problems show that the controls are not achieving the intended result. These problems should prompt a review to determine why the PNM included inaccurate information and correct this from reoccurring.

### *AFLCMC Comments on Maintaining the Price Analysis in the Contract File*

The AFLCMC Commander stated that the PNM for Lot 7 spare parts sufficiently documented the details of the price analysis at the total cost element summary level. The AFLCMC Commander stated that the "price analysis" mentioned in the report actually refers to the price analyst's "working papers." The AFLCMC Commander further stated that those working papers are not and were never intended to be part of the official contract file.

### *Our Response*

The AFLCMC contracting officer relied on analysis of the proposed prices for individual parts and used that analysis to support the determination that the agreed-to total price for the entire lot of C-5 RERP spares was fair and reasonable. Therefore, it was imperative that the analysis of the proposed prices for the spare parts that comprised the highest percentage of overall cost be accurate and sufficiently described to support the price reasonableness determination. As noted in the report, we identified a number of shortcomings in the pricing analysis documented in the PNM, which caused us to question the validity of the PNM. In addition, while the AFLCMC Commander considers the price analysis to be a working paper and not something required to be maintained in the contract file, the FAR requires the supporting rationale reported by experts providing pricing

<sup>52</sup> DFARS 215.404-1(2).



assistance be incorporated in the contract file.<sup>53</sup> Without such documentation, the AFLCMC cannot effectively validate the appropriateness of its pricing decisions, nor can it support its price determinations when externally audited.

## Recommendations, Management Comments, and Our Response

### Recommendation B.1

We recommend that the Commander, Air Force Life Cycle Management Center:

- a. **establish policy and standard operating procedures to ensure that the contracting officer validates the accuracy of the price analysis documented in the price negotiation memorandum.**

#### *Air Force Life Cycle Management Center Comments*

The AFLCMC Commander, as well as the Executive Program Officer and the Director of Contracting, agreed with the recommendation. The AFLCMC Commander stated that the AFLCMC had robust policies and standard operating procedures to ensure that contracting officers validate the accuracy of PNM statements. The AFLCMC Commander further stated that when pricing support is provided by the AFLCMC pricing division, the PNMs are reviewed by numerous individuals before receiving Contract Clearance approval. The AFLCMC Commander stated that the calculations within the document are also verified as part of those reviews. The AFLCMC Commander stated that the review process was used for the Lot 7 PNM before final signature. The AFLCMC Commander also stated that the importance of ensuring PNMs accurately reflect the basis for the negotiated agreement will continue to be stressed during existing contracting officer training, and no new policies or standard operating procedures are needed.

#### *Our Response*

Comments from the AFLCMC Commander partially addressed the recommendation. Although AFLCMC currently uses policies and standard operating procedures to ensure the PNM is accurate, we identified inaccurate information in the C-5 RERP Lot 7 initial spare parts PNM. In addition, during the audit several AFLCMC officials stated that the Lot 7 PNM received only a high-level review that did not check accuracy. As noted earlier, we recognize that the problems we identified with the PNM for C-5 RERP Lot 7 spare parts do not in themselves indicate a

<sup>53</sup> FAR 15.404, "Data to Support Proposal Analysis."

systemic problem with the accuracy of PNMs throughout AFLCMC; however, the problems show that the controls are not achieving the intended result. These problems should prompt a review to determine and correct their cause.

Therefore, we request that the AFLCMC Commander provide additional comments in response to the final report that address the policy and standard operating procedures that the AFLCMC will establish or identify the AFLCMC existing policies and procedures and how it will use them to ensure that contracting officers validate the accuracy of the price analysis documented in the PNM. We will close the recommendation once we analyze and determine whether or not the information provided and actions AFLCMC takes fully address it.

- b. implement policy and procedures to ensure that the contracting officer follows Federal Acquisition Regulation 4.803(a) and 15.404 to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.**

#### *Air Force Life Cycle Management Center Comments*

The AFLCMC Commander, as well as the Executive Program Officer and the Director of Contracting, agreed with the recommendation. The AFLCMC Commander stated that the AFLCMC already had robust policies and standard operating procedures to ensure contracting officers followed FAR documentation requirements and maintained price analysis results and the supporting rationale for a fair and reasonable price determination in the contract file. The AFLCMC Commander stated that the Lot 7 price analysis details were sufficiently documented at the total cost element summary level in the PNM. The AFLCMC Commander also stated that the requirement to ensure that the price analysis results are sufficiently documented will continue to be stressed during existing contracting officer training.

#### *Our Response*

Comments from the AFLCMC Commander partially addressed the recommendation. The AFLCMC Commander did not identify or provide the specific AFLCMC policy and procedures in place to ensure that contracting officers followed the FAR to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.<sup>54</sup>

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<sup>54</sup> FAR 4.803(a) and FAR 15.404.

We disagree that the supporting rationale for the AFLCMC price analysis for the C-5 RERP Lot 7 does not need to be incorporated into the contract file because the FAR requires the supporting rationale reported by experts providing pricing assistance be incorporated in the contract file.<sup>55</sup> The AFLCMC contracting officer relied on that analysis of proposed prices for individual parts and used that analysis to support the determination that the agreed-to total price for the entire lot of C-5 RERP spares was fair and reasonable.

Additionally, while we recognize that the price analysis results were documented in the PNM, which is the final record of negotiation, the PNM contained inaccuracies and the supporting rationale for the price analysis was lost because it was not retained in the contract file. As a result, Air Force officials could not provide the supporting documents for the audit team to conduct its review.

Therefore, we request that the AFLCMC Commander provide additional comments on its policies and standard operating procedures in response to the final report. The comments should address the policy and procedures the AFLCMC will implement or identify existing policies and procedures and detail how it will ensure that the contracting officers follow FAR 4.803(a) and 15.404 to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file. We will close the recommendation once we analyze and determine whether or not the information provided and actions AFLCMC takes fully address it.

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<sup>55</sup> FAR 15.404.

## Appendix A

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### Scope and Methodology

We conducted this performance audit from March 2016 through November 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

### *Interviews and Documentation*

We interviewed AFLCMC and LM Aero officials to help determine whether the AFLCMC purchased sole-source C-5 RERP spare parts from LM Aero at fair and reasonable prices. We also interviewed these officials to understand their roles and responsibilities for contract FA8625-07-C-6471. Specifically, we met with AFLCMC officials at Wright-Patterson Air Force Base, Ohio to discuss the contract, negotiations, evaluation of prices, and determination of price reasonableness. We interviewed LM Aero officials in Marietta, Georgia, to discuss the data requested from subcontractors, evaluation of subcontractor prices, process for obtaining fair and reasonable prices, and how the bills of material were created. We shared portions of the report with LM Aero officials, considered their comments, and made changes to the report where appropriate. We discussed AFLCMC policy with Air Force Materiel Command and Assistant Secretary of the Air Force (Acquisition) officials. We also reviewed AFLCMC and LM Aero contract documentation. Specifically, we reviewed the:

- contract;
- modifications;
- price negotiation memorandums;
- contractor's proposal; and
- bills of material.

In addition, we reviewed applicable regulations and guidance on contract pricing and price reasonableness, including, but not limited to:

- Section 2306a, title 10, United States Code, "Cost or Pricing Data: Truth in Negotiations," 2011;
- Public Law 114-92, "National Defense Authorization Act for Fiscal Year 2016," November 25, 2015;

- FAR Part 2, “Definitions of Words and Terms,” Subpart 2.1, “Definitions”;
- FAR Part 4, “Administrative Matters,” Subpart 4.8, “Government Contract Files”;
- FAR Part 15, “Contracting by Negotiation,” Subpart 15.4, “Contract Pricing”;
- DFARS Part 215, “Contracting by Negotiation,” Subpart 215.4, “Contract Pricing”; and
- DFARS PGI 215, “Contracting by Negotiation,” Subpart PGI 215.4, “Contract Pricing.”

### ***Nonstatistical Audit Sample of C-5 Spare Parts***

(FOUO) We reviewed AFLCMC noncommercial, firm-fixed-price contract FA8625-07-C-6471 awarded to LM Aero to identify C-5 RERP spare parts. We used the Electronic Document Access (EDA) database to identify contract FA8625-07-C-6471 modifications awarded for Lot 7 spare parts. We identified that AFLCMC awarded three contract modifications for Lot 7 spare parts, which included 532 parts, valued at [REDACTED]. We nonstatistically selected 80 percent of the total dollar value, which represented 18 spare parts, valued at [REDACTED], for review. The three modifications consisted of:

- (FOUO) modification P00199, amended by modifications P00317 and P00328, for initial spare parts, valued at [REDACTED];
- (FOUO) modification P00257, for readiness spare parts, valued at [REDACTED]; and
- (FOUO) modification P00312, for readiness spare parts, valued at [REDACTED].

(FOUO) During the audit, the team focused on modification P00199, amended by modifications P00317 and P00328, which included all 18 spare parts in our sample, valued at \$75.8 million. Modification P00199 consisted of 496 parts, valued at [REDACTED].

LM Aero purchased the spare parts from subcontractors as commercial and noncommercial items. Specifically, for these 18 spare parts:

- 11 spare parts, valued at \$67.0 million, were commercial items, which required other-than-certified cost or pricing data; and
- 7 spare parts, valued at \$8.9 million, were noncommercial items, which required certified cost or pricing data when valued over the Truth in Negotiations Act threshold and other-than-certified cost and pricing data when valued under the Truth in Negotiations Act threshold.

The seven noncommercial spare parts reviewed were supported by the required cost or pricing data. In addition, the Lot 7 contract prices for five of the noncommercial spare parts decreased from the previous contract prices. For the remaining two noncommercial spare parts, LM Aero provided a cost and price analysis of the subcontractor's prices that supported LM Aero's proposed prices. Since the team's preliminary review of the 7 noncommercial spare parts did not identify an issue, we focused on the 11 commercial spare parts.

## **Methodology**

We requested and reviewed pricing data from the AFLCMC and LM Aero, which included data from LM Aero's subcontractors, in determining whether the contracting officer negotiated fair and reasonable prices. LM Aero's subcontractors consisted of GE, HSSD, Goodrich Aerostructures, Honeywell Tempe, Honeywell Torrance, Thomas Instrument and Machine Company, and Woodward MPC, Inc. Specifically, we reviewed commercial and Government sales, certificates of current cost or pricing data, field pricing assistance reports, price agreements between LM Aero and its subcontractors and contractor pricing proposals. We compared the previous contract prices to the proposed bills of material. We also compared the differences between the lowest proposed material cost and the final proposed material cost.

## **Use of Computer-Processed Data**

We obtained computer-processed data from EDA and Contract Business Analysis Repository to obtain contract and price negotiation data. EDA is a web-based system that provides secure access and storage of contracts and contract modifications to users throughout the DoD. We obtained and analyzed the contract and modifications for contract FA8625-07-C-6471 from EDA. We used the contract modifications to identify the universe of spare parts to select our nonstatistical sample. We obtained price negotiation documentation from the Contract Business Analysis Repository, another web-based application, established to assist the procurement contracting officers with access to timely and comprehensive contractor information to support effective price negotiations. We compared data



from the EDA and Contract Business Analysis Repository systems with documents from the AFLCMC contract file and determined the data were sufficiently reliable for the purposes of our audit.

We also obtained computer-processed data from LM Aero in the form of previous sales and certified cost or pricing data. On May 3, 2013, the Defense Contract Management Agency completed a Contractor Purchasing System Review of LM Aero's electronic purchase system and determined that the system was adequate. Specifically, the Defense Contract Management Agency review indicated LM Aero's system was operating effectively and efficiently. Therefore, we relied on the Defense Contract Management Agency's approval of the system that validated that the data were reasonably accurate.

## **Use of Technical Assistance**

We consulted with the DoD Office of Inspector General Quantitative Methods Division on the selection of our nonstatistical sample.

## Appendix B

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### Prior Coverage

During the last 5 years, the Department of Defense Office of Inspector General (DoD OIG) issued 15 reports discussing spare parts pricing issues. Unrestricted DoD OIG reports can be accessed at <http://www.dodig.mil/pubs/index.cfm>.

#### **DoD OIG**

DoD OIG Report No. DODIG-2016-093, “The Naval Air System Command Did Not Obtain Fair and Reasonable Prices on ScanEagle Spare Parts,” May 31, 2016

Contracting officials did not obtain fair and reasonable prices on spare parts because they did not substantiate the analysis used to determine price reasonableness and did not take advantage of quantity discounts when determining fair and reasonable prices. As a result, the Naval Air System Command overpaid on 207 spare parts by \$2.1 million and will continue to overpay on the ScanEagle contract, which has \$42.6 million remaining for spare parts, if contracting officials continue using the current negotiated spare part prices.

DoD OIG Report No. DODIG-2016-080, “Army’s Management of Gray Eagle Spare Parts Needs Improvement,” April 29, 2016

(FOUO) Contracting officers did not receive fair and reasonable prices for 31 of 37 nonstatistically sampled spare parts, valued at [REDACTED], on the full production contract. As a result, Army officials potentially paid [REDACTED] in excess of fair and reasonable prices on the full production contract.

DoD OIG Report No. DODIG-2016-074, “Army Contracting Officials Could Have Purchased Husky Mounted Detection System Spare Parts at Lower Prices,” March 31, 2016

Contracting officials at Army Contracting Command–Aberdeen Proving Ground generally obtained fair and reasonable prices from NIITEK for 13 sole-source parts reviewed, valued at \$209 million. However, contracting officials established the minimum quantity for the contract as a dollar value, instead of a number of spare parts, which limited the Government’s effectiveness in obtaining lower prices. As a result, contracting officials likely paid NIITEK \$27 million more than they would have paid if the contract minimum was based on a number of spare parts, instead of a dollar value.

DoD OIG Report No. DODIG-2016-047, "Defense Logistics Agency Did Not Appropriately Determine Fair and Reasonable Prices for F108 Engine Sole-Source Commercial Parts," February 16, 2016

(~~FOUO~~) A Defense Logistics Agency Aviation contracting officer did not appropriately determine fair and reasonable prices for sole-source commercial spare parts purchased from CFM International. The contacting officer did not conduct a sufficient price analysis, accepted commercial off-the-shelf classification for parts with no commercial sales, and did not require CFM International to comply with a contract requirement to submit negotiation documentation within stated timelines. As a result, the contracting officer did not request or obtain additional data necessary to determine if the maximum value contract price of [REDACTED] was fair and reasonable.

DoD OIG Report No. DODIG-2015-120, "Defense Logistics Agency Did Not Obtain Fair and Reasonable Prices From Meggitt Aircraft Braking Systems for Sole-Source Commercial Spare Parts," May 8, 2015

A Defense Logistics Agency Aviation contracting officer did not obtain fair and reasonable prices for 51 of 54 statistically sampled sole-source commercial spare parts procured from the Meggitt Aircraft Braking Systems companies. The contracting officer did not sufficiently conduct a price analysis in accordance with Federal and Defense acquisition regulations, obtain cost data, or perform cost analysis on parts with prices not supported by commercial sales data. As a result, DLA potentially overpaid \$8.5 million for 32 sole-source commercial spare parts reviewed.

DoD OIG Report No. DODIG-2015-103, "Summary of DoD Office of Inspector General Spare-Parts Pricing Audits: Additional Guidance is Needed," March 31, 2015

The DoD did not have adequate processes to obtain fair and reasonable prices for spare parts, and it did not perform adequate cost or price analysis when it purchased commercial and noncommercial spare parts. As a result, DoD overspent \$154.9 million for numerous spare parts.

DoD OIG Report No. DODIG-2015-058, "U.S. Air Force May Be Paying Too Much for the F117 Engine Sustainment," December 22, 2014

(~~FOUO~~) The U.S. Air Force has spent billions on sustainment services for the F117 engine without obtaining sufficient market, sales, or cost data for these services. Without that data, the Air Force does not know whether the [REDACTED] already spent on the Globemaster III Integrated Sustainment Program contract or the estimated [REDACTED] intended to be spent over 7 years is fair and reasonable.

DoD OIG Report No. DODIG-2015-053, "Naval Supply Systems Command Needs to Improve Cost Effectiveness of Purchases for the Phalanx Close-In Weapon System," December 19, 2014

Contracting officers at Naval Supply Systems Command Weapon Systems Support may not have received fair and reasonable prices from Raytheon Missile Systems Company because they did not perform adequate price-reasonableness analysis when determining the ceiling prices for the third performance-based logistics contract. As a result, Naval Supply Systems Command Weapon Systems Support may be overpaying Raytheon and cannot quantify the work Raytheon performed for the \$69.6 million already spent.

DoD OIG Report No. DODIG-2015-039, "C-5 Reliability Enhancement and Re-Engining Program Hotline Evaluation," November 18, 2014

The Government failed to discourage repeated tender of nonconforming components; delegated inherently Government functions to Lockheed Martin; and accepted nonconformances that were corrected at an additional cost to the Government. In addition, the Defense Contract Management Agency failed to comply with Defense Contract Management Agency Instruction for the corrective action process. As a result, the Government failed to establish an environment and an expectation to decrease the number of nonconformances on delivered aircraft; cannot fulfill its responsibility to manage the risks associated with the acceptance of nonconformances; and assumed the additional cost to correct nonconformances of components produced by Lockheed Martin. In addition, Lockheed Martin continued to have nonconformances at an additional cost to the Government.

DoD OIG Report No. DODIG-2014-110, "Ontic Engineering and Manufacturing Overcharged the Defense Logistics Agency for Sole-Source Spare Parts," September 15, 2014

(~~FOUO~~) Defense Logistics Agency contracting officials did not obtain fair and reasonable prices for sole-source spare parts purchased from Ontic for 21 parts valued at [REDACTED]. Also, the Defense Logistics Agency did not conduct sufficient analysis to establish the reasonableness of Ontic's proposed prices. As a result, Defense Logistics Agency paid approximately [REDACTED] more than fair and reasonable for 21 sole-source parts, valued at [REDACTED].

DoD OIG Report No. DODIG-2014-038, "Air Force Life Cycle Management Center Could Not Identify Actual Cost of F119 Engine Spare Parts Purchased from Pratt and Whitney," February 10, 2014

(FOUO) Contracting officers awarded about [REDACTED] for F119-PW-100 Turbofan engine sustainment but did not validate actual unit costs of engine spare parts. As a result, AFLCMC did not know whether it received fair and reasonable prices.

DoD OIG Report No. DODIG-2013-123, "Army Needs to Improve Mi-17 Overhaul Management and Contract Administration," August 30, 2013

(FOUO) Army Contracting Command-Redstone contracting officers did not determine fair and reasonable prices for the [REDACTED] Mi-17 parts. Specifically, the contracting officer did not require subcontractor competition, obtain cost or pricing data, document price reasonableness determination, conduct negotiations, or perform cost analysis on proposed Mi-17 parts. As a result, the Army did not obtain the benefits of either competition or negotiation based on price and costing data for the Mi-17 parts inventory and, therefore, overspent \$1.3 million for parts and storage costs.

DoD OIG Report No. DODIG-2012-135, "Mi-17 Overhauls Had Significant Cost Overruns and Schedule Delays," September 27, 2012

(FOUO) Contracting officers at the Army Space and Missile Defense Command Contracting and Acquisition Management Office did not adequately perform pricing and negotiations for contract modifications. Specifically, contracting officers did not obtain cost and pricing data or perform analysis for six of nine contract modifications and accepted the price of contractor proposals without negotiations for seven of nine contract modifications. As a result, the contracting officers did not adequately justify that prices for [REDACTED] for the overhaul of Mi-17 helicopters were fair and reasonable.

DoD OIG Report No. D-2011-104, "Pricing and Escalation Issues Weaken the Effectiveness of the Army Contract with Sikorsky to Support the Corpus Christi Army Depot," September 8, 2011

The Army Aviation and Missile Life Cycle Management Command did not effectively negotiate fair and reasonable prices for noncompetitive spare parts because neither Sikorsky nor Aviation and Missile Life Cycle Management Command officials performed adequate cost or price analysis of the proposed subcontractor prices that were used to support negotiated prices. As a result, Sikorsky charged the Army \$11.8 million more than fair and reasonable prices for 28 parts.

DoD OIG Report No. D-2011-061, "Excess Inventory and Contract Pricing Problems Jeopardize the Army Contract with Boeing to Support the Corpus Christi Army Depot," May 3, 2011

The Aviation and Missile Life Cycle Management Command did not negotiate fair and reasonable prices for noncompetitive spare parts acquired from Boeing. Furthermore, neither the Army nor Boeing officials performed adequate cost or price analysis to establish the reasonableness of the proposed subcontract prices that were used to support negotiated prices. As a result, Boeing charged the Army about \$13 million more than fair and reasonable prices for the 18 parts.



## Appendix C

### Audit Sample Reviewed

The following tables identify the 18 C-5 initial spare parts from Lot 7.

*Table 6. AFLCMC Relied on Commercial Catalogs to Support Prices for Four Spare Parts*

Part Name	Part Number	Subcontractor	Type
Inlet cowl assembly	255-2101-501	GE	Commercial
Electronic engine control	737L806G07	GE	Commercial
Turbine engine main fuel control	2042M93P04	GE	Commercial
Jet engine fuel pump	9355M33P13	GE	Commercial

*Table 7. AFLCMC Relied on Price Agreements to Support Prices for Four Spare Parts*

Part Name	Part Number	Subcontractor	Type
Ready-for-install engine	4P39030-101A	GE	Commercial
Environment controller	4A99049-125B	Honeywell Torrance	Commercial
Air cycle machine	4A99049-129A	Honeywell Torrance	Commercial
Air press controller	4A99051-103A	Honeywell Torrance	Commercial

*Table 8. AFLCMC Relied on Sales Data That Did Not Justify Prices for Three Spare Parts*

Part Name	Part Number	Subcontractor	Type
Air turbine drive unit	4P94750-103A	Honeywell Tempe	Commercial
Auxiliary power unit bare	4P99010-105A	HSSD	Commercial
Regulator-control	4P99010-103A	HSSD	Commercial

*Table 9. Seven Noncommercial Spare Parts Were Supported by Cost or Pricing Data*

Part Name	Part Number	Subcontractor	Type
Inboard pylon	4P50350-137A	Goodrich Aerostructures	Noncommercial
Outboard pylon	4P50350-139A	Goodrich Aerostructures	Noncommercial
Access aircraft door	4A90111-109B	Honeywell Torrance	Noncommercial
Access aircraft door	4A90111-110B	Honeywell Torrance	Noncommercial
Hydro servomechanism	4C95000-105K	Thomas Instrument and Machine Company	Noncommercial
Servomechanism	4C95000-107D	Thomas Instrument and Machine Company	Noncommercial
Throttle quadrant	4C99000-101A	Woodward MPC, Inc.	Noncommercial

# Management Comments

## Department of the Air Force



**DEPARTMENT OF THE AIR FORCE**  
HEADQUARTERS AIR FORCE LIFE CYCLE MANAGEMENT CENTER  
WRIGHT-PATTERSON AIR FORCE BASE OHIO

05 DEC 2016

MEMORANDUM FOR DOD INSPECTOR GENERAL

FROM: AFLCMC/CC

SUBJECT: Draft Report of Audit, The Air Force Did Not Adequately Determine or Document Fair and Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C5 Aircraft, Project D2016-D0000AH-0113.000

We non-concur with findings "A" and "B," concur with recommendations "A.1.a" and "A.1.b" and concur with intent with recommendations "B.1.a" and "B.1.b" from the DoDIG Draft Report of Audit Air Force Did Not Adequately Determine or Document Fair and Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C-5 Aircraft, Project D2016-D0000AH-0113.000. Attached are details of the Specific Management Comments in response to the findings and recommendations:

IG Finding	IG Recommendation	AFLCMC Response	Specific Management Response Page Number Reference
A		NON-CONCUR	1
	A.1.a	CONCUR	2
	A.1.b	CONCUR	3
B		NON-CONCUR	11
	B.1.a	CONCUR WITH INTENT	12
	B.1.b	CONCUR WITH INTENT	12

If you have any questions or concerns with our comments, please contact [REDACTED]

KEVIN W. BUCKLEY  
Program Executive Officer for Mobility

THOMAS D. ROBINSON  
Director of Contracting

JOHN P. THOMPSON  
Lieutenant General, USAF  
Commander

Attachment:  
Management Comments

## Department of the Air Force (cont'd)

DoD Inspector General  
Draft Report of Audit, Air Force Did Not Adequately Determine or Document Fair and  
Reasonable Prices for Lot 7 Sole-Source Initial Spare Parts for the C5 Aircraft  
(Project Number 2016-D0000AH-0113.000)

**Finding:**

**A:** The AFLCMC contracting officer did not adequately determine fair and reasonable prices for 11 nonstatistically selected commercial spare parts purchased from LM Aero on Lot 7. This occurred because the contracting officer did not obtain sufficient commercial sales data for the commercial parts in accordance with Federal and Defense acquisition guidance. As a result, the AFLCMC contracting officer may not have purchased the 11 commercial spare parts, valued at \$58.8 million, from LM Aero at fair and reasonable prices.

**Management Comments:**

**A: Non-Concur.**

AFLCMC non-concurs with finding A. The C-5 Reliability Enhancement and Re-Engining Program (RERP) Lot 7 spares Air Force Negotiation Team (AFNT) negotiated one Firm Fixed Price (FFP) amount of \$91.1 million for one lot of spares consisting of 496 unique commercial and non-commercial parts. The Lot 7 RERP Initial Spares were negotiated along with the Lot 6 and 7 RERP Installations and the Lot 7 RERP Material/Fabrication efforts. In total the requirements are valued at close to \$1 billion. Separate proposals and clearances were obtained for the efforts, but the Government continuously leveraged negotiations to obtain the best overall business arrangement. Fact finding and negotiations took place over the span of more than 13 months after receipt of the Lot 7 Spares initial proposal. Discussions involved not only the core AFNT, but also included senior leadership at Lockheed Martin Aeronautics, and the Deputy Assistant Secretary (Contracting), Office of the Assistant Secretary of the Air Force for Acquisition. During negotiations the AFNT participated in three party discussions with the prime contractor and several subcontractors including Honeywell-Tempe to discuss the Air Turbine Motor, and Hamilton Sunstrand to discuss the Auxiliary Power Unit. Three party discussions were also held between the AFNT, the prime contractor, and General Electric (GE) concerning the application of a decrement to the GE spares catalog pricing. On 21 Mar 14 the AFNT reached an agreement on the price for the Lot 7 Initial Spares with the prime contractor. The 21 Mar 14 agreement also included agreed to prices for the Lot 7 RERP Material/Fabrication effort and agreed to not-to-exceed amounts for the Lot 6 and Lot 7 RERP Installation efforts.

IAW FAR 15.404-1(b)(2) the AFNT used a variety of cost and price analysis techniques in order to reach its fair and reasonable price determination. The AFNT's evaluation of the Lot 7 spares proposal focused on parts which contributed to the highest percentage of the overall cost. Sampling was used to evaluate the remaining parts. Price agreements were not reached for each individual part. Instead, negotiations culminated in one agreed to price for the entire lot of spares. The strategy to negotiate one price for the lot of spares was discussed and approved at the Business Clearance. The approved strategy is consistent with how spares have traditionally been procured for previous RERP Lots, and is an accepted methodology for procuring spares used on other programs as well. To develop the Government Objective and Considered Negotiated amounts for

## Department of the Air Force (cont'd)

the effort the AFNT compared proposed prices to historical prices paid for the same or similar items. The AFNT also received and evaluated sales data and catalog pricing. As discussed in the audit report proposed subcontractor costs for some parts did increase during negotiations. In these instances data was received and discussions with the prime and subcontractors were held to better understand the rationale for the cost increases. In some cases to complete the price analysis for commercial items subcontractors allowed the AFNT to review sales data at the subcontractor's facility, but the AFNT was required to sign a non-disclosure agreement and was not permitted to retain the data in the contracting file documentation. The practice of viewing but not retaining data pertaining to commercial items in order to protect commercial trade secrets is not unique to the C-5 program. The practice has been widely utilized and determined to be acceptable when procuring commercial items. The FAR repeatedly requires the contracting officer to obtain data necessary to make a fair and reasonable price determination. DFARS PGI 215.402 stresses contracting officers must obtain sufficient data to determine price reasonableness. The level of data considered to be "necessary" or "sufficient" is subjective in nature, but the determination is ultimately made by the contracting officer. The AFNT met all FAR and DFARS requirements and used commonly accepted business practices during the proposal evaluation and negotiation phases resulting in a sufficiently documented fair and reasonable price for the RERP Lot 7 Initial Spares.

After completion of negotiations the prime contractor provided a parts list with an allocated unit price for each part. The parts list was subsequently incorporated under the awarded modification as an exhibit. The exhibit is utilized to facilitate timely delivery and invoicing of parts during contract execution. The contracting officer verified the total price in the exhibit matched the agreed to \$91.1 million FFP for the lot of spares. The contracting officer did not, however, validate the unit prices for each individual part in the exhibit because they were not individually agreed to by both parties.

### Recommendations:

**A.1** We recommend that the Commander, Air Force Life Cycle Management Center:

**a.** require contracting officers to obtain sufficient commercial sales data when evaluating the prices of sole-source commercial items, and request other-than-certified cost or pricing data when commercial sales data are not sufficient, in accordance with the Federal Acquisition Regulation 15.402(a), 15.403-3(c), 15.404-3, and Defense Federal Acquisition Regulation Supplement Procedures, Guidance, and Information 215.402; and

**b.** require the contracting officer to assess and determine whether it is appropriate to request a \$5.3 million voluntary refund from Lockheed Martin Aeronautics Company for potential excess payments on contract FA8625-07-C-6471, in accordance with Defense Federal Acquisition Regulation Supplement Subpart 242.71.

### Management Comments:

**A.1.a: Concur.**

AFLCMC concurs the contracting officer must follow all FAR and DFARS requirements including obtaining sufficient commercial sales data when evaluating the prices of sole-source commercial items, and requesting other-than-certified cost or pricing data when commercial sales data is not sufficient. The Lot 7 Spares AFNT followed these FAR and DFARS requirements in making their fair and reasonable price determination for the lot of spares. The AFLCMC Director



## Department of the Air Force (cont'd)

of Contracting will continue to emphasize the requirements of FAR 15.402(a), 15.403-3(c), 15.404-3, and DFARS Procedures, Guidance, and Information 215.402 to the contracting workforce.

**Recommendation A.1.a is considered CLOSED as of 11/16/2016.**

**A.1.b: Concur.**

The C-5 Reliability Enhancement and Re-Engining Program (RERP) Lot 7 spares AFNT negotiated one price for one lot of spares consisting of 496 unique commercial and non-commercial parts. The AFNT's evaluation focused primarily on the parts driving the majority of the costs. The prices for a sampling of the remaining parts were evaluated as well. Price agreements were not reached for each individual part. Since one price was agreed to for the entire lot of spares, re-opening negotiations for the four parts questioned in the audit report will re-open negotiations on the entire lot of spares. This may not be in the Government's best interests as the contractor may be experiencing overruns on some of the 496 parts being provided. AFLCMC is also concerned about the negative implications re-opening this FFP agreement will have on future FFP negotiations if contractors begin to believe FFP agreements will not be honored by the Government.

Based on the recommendation, however, an assessment was conducted to determine if it is in the C-5 programs best interests to request a \$5.3 million voluntary refund from Lockheed Martin Aeronautics for the four parts questioned in the report. The analysis focused on a comparison of the Lot 6 considered negotiated costs with the Lot 7 considered negotiated costs. The AFNT also requested DCAA/DCMA provide actual costs incurred by the prime contractor during contract execution. The analysis further confirmed requesting the voluntary refund is not appropriate. Below is a summary of the analysis performed for each of the four parts:

**"APU Bare"**

Table 1 provides a summary of the analysis performed pertaining to the APU Bare. Requesting a voluntary refund from the contractor for the APU Bare is not recommended.

The Lot 6 price for the part documented in Exhibit AI is not representative of the subcontractor cost disclosed during the Lot 7 negotiations and represents a significant negotiation challenge taken by the contractor. Actual costs incurred during contract execution are in line with the Lot 7 considered negotiated cost demonstrating the prime contractor was not able to sustain its Lot 6 negotiation challenge during contract execution.

## Department of the Air Force (cont'd)

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Table 1 - APU Bare Unit Costs/Prices								
Part Number	Description	Subcontractor	Lot 6 Contractor Proposed Cost (Data Item 3) 6-Aug-12	Lot 6 Contractor Proposed Cost (Data Item 4) 24-Sep-12	Lot 6 Considered Negotiated Cost Documented in PNM 19-Oct-12	Lot 6 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data 11-Oct-12	Lot 6 Price Included in Contract Parts List (Section J, Exhibit AI)* 11-Oct-12	
4P99010-105A	APU Bare	HSSD	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	
Part Number	Description	Subcontractor	Lot 7 Contractor Proposed Cost (Original Proposal) 28-Feb-13	Lot 7 Contractor Proposed Cost (Data Item 6) 21-Feb-14	Lot 7 Considered Negotiated Cost Documented in PNM 25-Apr-14	Lot 7 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data 27-Mar-14	Lot 7 Price Included in Contract Parts List (Section J, Exhibit AW)* 15-Apr-14	Average Actual Cost Paid By Prime Contractor
4P99010-105A	APU Bare	HSSD	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	N/A	\$ [REDACTED]	\$ [REDACTED]

\* Prices in exhibit are fully burdened with prime contractor's overheads and profit and should not be compared to proposed costs or individual cost elements from PNM

Under the "Data Item 3" submittal for the Lot 6 RERP spares procurement the prime contractor proposed a subcontractor cost of [REDACTED] for the "APU Bare." In the subsequent "Data Item 4" submittal the subcontract cost for the "APU Bare" was increased to [REDACTED]. During fact finding the prime contractor disclosed the [REDACTED] proposed cost under "Data Item 3" was a mistake. The Price Negotiation Memorandum (PNM) states the PCO utilized data from the Lot 7 Advanced Procurement, and data provided under "Data Item 4," to develop the Government objective cost position of [REDACTED] for the "APU Bare." The PCO then considered the Government objective position to be sustained during negotiations. For the Lot 6 spares procurement one total price was agreed to with the prime contractor for the entire lot of spares and the exact subcontractor cost or price for each individual part was not specifically agreed to between both parties. After completion of negotiations the prime contractor provided its certificate of current cost or pricing data which also included an updated Bill of Materials (BoM). The BoM included a price build up for each individual part, including a subcontractor cost of [REDACTED] for the Bare APU. Since agreements were not made at the part number level the PCO verified the total price for the parts in the BoM reflected the total agreed to negotiated price for lot of spares, but did not verify the price build up for each individual part. The PCO also verified the Government was not entitled to a downward adjustment to the overall price agreement as a result of the new disclosures. The considered negotiated amounts for subcontractor costs as documented in the PNM did not change based on the disclosures provided with the certificate of current cost or pricing data. After completion of negotiations the prime contractor also provided a parts list which was subsequently attached to the contract as Exhibit AI. The exhibit is used for deliveries and invoicing during contract execution and the Government's risk is capped at the total FFP amount. The PCO verified the total price in the exhibit was consistent with the negotiated total price for the lot of spares. The PCO did not verify the price for each individual part since agreements were not reached at the part number level. The exhibit included a price of [REDACTED] for the "APU Bare." The Government maintains the prime contractor took a significant negotiation challenge by providing a price of [REDACTED] for



## Department of the Air Force (cont'd)

the “APU Bare” in the exhibit considering both “Data Item 4” and the BoM submitted with the certificate of current cost or pricing data included a subcontractor cost [REDACTED] for the part.

For the Lot 7 RERP spares procurement, the prime contractor included a subcontract cost of [REDACTED] for the “APU Bare” in its initial proposal submittal. Based on the PCO’s analysis of the available data the Government objective position was established at [REDACTED]. “Data Item 6” provided during negotiations subsequently decreased the subcontract cost to [REDACTED]. The Government objective amount of [REDACTED] was considered sustained during negotiations. Similar to Lot 6, one price for the entire lot of spares was agreed to with the prime contractor and agreements were not reached at the part number level. The considered negotiated subcontract cost for Lot 7 of [REDACTED] for the “APU Bare” is [REDACTED] higher than the considered negotiated Lot 6 subcontractor cost for the same part. For the Lot 7 spares procurement the prime contractor did not provide a BoM with its certificate of current cost or pricing data submittal. Instead the prime contractor only disclosed pricing information which had not yet been disclosed to the Government. Consistent with the Lot 6 approach, the prime contractor provided a parts list after the completion of the Lot 7 spares negotiations and the list was subsequently attached to the contract as Exhibit AW. Since agreements were not made at the part number level the PCO verified the total price in the exhibit was consistent with the total agreed to price for the lot of spares but did not verify the pricing for each individual part. After receipt of the “Discussion Draft” audit report, the C-5 program requested DCAA/DCMA provide actual costs incurred by the prime contractor for the four parts specifically mentioned in the audit report. On average for the previous [REDACTED] “APU Bare” purchases the prime contractor incurred an actual subcontractor cost of [REDACTED]. The average cost is consistent with the considered negotiated amount for the Bare APU document in the lot 7 spares PNM. Based on the available information the AFNT maintains the considered negotiated amount documented in the Lot 7 Spares PNM for the lot of spares is still fair and reasonable and re-opening negotiations with the prime contractor is not in the Government’s best interests.

### “Air Cycle Machine”

Table 2 provides a summary of the analysis performed pertaining to the Air Cycle Machine. Requesting a voluntary refund from the contractor for the Air Cycle Machine is not recommended.

The updated subcontractor cost for the Air Cycle Machine was disclosed along with the certificate of current cost or pricing data after the completion of negotiations for the Lot 7 spares. The agreed to price for the lot of spares was not increased as a result of the disclosure. Any price increase to an individual part price provided in Exhibit AW was previously off-set by price decreases to other parts within the exhibit.

## Department of the Air Force (cont'd)

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Table 2 - Air Cycle Machine Unit Costs/Prices								
			Lot 6 Contractor Proposed Cost (Data Item 3)	Lot 6 Contractor Proposed Cost (Data Item 4)	Lot 6 Considered Negotiated Cost Documented in PNM	Lot 6 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data	Lot 6 Price Included in Contract Parts List (Section J, Exhibit AI) *	
Part Number	Description	Subcontractor	6-Aug-12	24-Sep-12	19-Oct-12	11-Oct-12	11-Oct-12	
4A99049-129A	Air Cycle Machine	Honeywell Torrance	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	
			Lot 7 Contractor Proposed Cost (Original Proposal)	Lot 7 Contractor Proposed Cost (Data Item 6)	Lot 7 Considered Negotiated Cost Documented in PNM	Lot 7 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data	Lot 7 Price Included in Contract Parts List (Section J, Exhibit AW) *	Average Actual Cost Paid By Prime Contractor
Part Number	Description	Subcontractor	28-Feb-13	21-Feb-14	25-Apr-14	27-Mar-14	15-Apr-14	
4A99049-129A	Air Cycle Machine	Honeywell Torrance	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
* Prices in exhibit are fully burdened with prime contractor's overheads and profit and should not be compared to proposed costs or individual cost elements from PNM								

Throughout the Lot 6 spares negotiations the prime contractor maintained a subcontractor cost of [REDACTED] for the "Air Cycle Machine." Based on the quantity of spares being proposed under the Lot 6 spares effort the Government's evaluation focused on parts which were high cost drivers and sampling was used for the other parts. As part of sampling the PCO did not specifically evaluate the price for the "Air Cycle Machine." Based on the available information the PCO took a [REDACTED] decrement to the overall Honeywell Torrance subcontract amount, which included the "Air Cycle Machine," to develop the Government objective. Although the part is not specifically addressed in the PNM, the [REDACTED] decrement results in a Government Objective of [REDACTED] for the "Air Cycle Machine." The objective amount for the entire Honeywell Torrance subcontract cost was then considered sustained during negotiations. One total price was agreed to for the entire lot of spares and the exact subcontractor cost or price for each individual part was not specifically agreed to between both parties. After completion of negotiations the prime contractor provided its certificate of current cost or pricing data which also included an updated Bill of Materials (BoM). The BoM included a price build up for each individual part, including a subcontractor cost of [REDACTED] for the "Air Cycle Machine." Since agreements were not made at the part number level, the PCO verified the total price for the parts in the BoM reflected the total agreed to negotiated price for lot of spares, but did not verify the price build up for each individual part. The PCO also verified the Government was not entitled to a downward adjustment to the overall price agreement as a result of the new disclosures. The considered negotiated amounts for subcontractor costs as documented in the PNM did not change based on the disclosures provided with the certificate of current cost or pricing data. After completion of negotiations the prime contractor also provided a parts list which was subsequently attached to the contract as Exhibit AI. The exhibit is used for deliveries and invoicing during contract execution and the Government's risk is capped at the total FFP amount. The PCO verified the total price in the exhibit was consistent with the negotiated total price for the lot of spares. The PCO did not verify the price for each individual part since agreements were not reached at the part number level.

## Department of the Air Force (cont'd)

For the Lot 7 spares procurement the subcontract cost for the "Air Cycle Machine" was initially proposed in the amount of [REDACTED]. Similar to the Lot 6 approach based on the quantity of spares being proposed under the Lot 7 spares effort the Government's evaluation focused on parts which were high cost drivers and sampling was used for the remaining parts. As part of sampling the PCO did not specifically evaluate the price for the "Air Cycle Machine." The PCO took a [REDACTED] decrement to the overall proposed Honeywell Torrance subcontract amount to develop the Government Objective. Although each part is not specifically addressed in the PNM the [REDACTED] decrement results in a Government Objective of [REDACTED] for the "Air Cycle Machine." During negotiations "Data Item 6" was submitted and the subcontractor cost for the part was decreased to [REDACTED]. Prior to completion of negotiations with the Government the prime contractor completed negotiations with Honeywell Torrance. The total negotiated cost for the subcontract effort was below the total Government objective cost. Therefore, the Government took no exception to the negotiated agreement, and the total negotiated Honeywell Torrance subcontractor cost was included in the Government's overall considered negotiated cost. Similar to the Lot 6 approach, one total price was agreed to between the Government and the prime contractor for the entire lot of spares and the exact subcontract cost or price for each individual part was not specifically agreed to between both parties. After completion of negotiations the prime contractor provided its certificate of current cost or pricing data. Along with the certificate the prime contractor disclosed pricing information which had not yet been disclosed to the Government. The disclosure included the following statement:

*"LM mistakenly used Production pricing associated with the Air Cycle Machine (ACM), P/N 4A99049-129A for the Lot 7 Initial Spares proposal. The Production pricing for the ACM is refurbishing legacy ACMs removed from the aircraft. Lot 7 Initial Spares procures new ACMs already modified. As a result unit pricing for the ACM has been increased to [REDACTED]."*

The Government does not generally entertain upward adjustments after the completion of negotiations so no adjustment was made to the total agreed to price as a result of the disclosure. The prime contractor provided a parts list after completion of the Lot 7 spares negotiations and the list was subsequently attached to the contract as Exhibit AW. The PCO verified the total for the lot of spares included in Exhibit AW was consistent with the agreed to negotiated price for the lot of spares, but did not verify the prices for each individual part since price agreements were not reached for each part. The Government's risk is capped at the FFP amount, and any increases the prime contractor made to individual part prices in the exhibit resulting from the final pricing disclosure had to be off-set by decreases to other parts within the exhibit. Additionally, average actual costs provided by DCAA/DCMA are consistent with the subcontractor cost disclosed along with the certificate of current cost or pricing data. Based on the available information the AFNT maintains the considered negotiated amount documented in the Lot 7 Spares PNM for the lot of spares is fair and reasonable and re-opening negotiations with the prime contractor is not in the Government's best interests.

### **"Jet Engine Fuel Pump"**

Table 3 provides a summary of the analysis performed pertaining to the Jet Engine Fuel Pump. Requesting a voluntary refund from the contractor for the Jet Engine Fuel Pump is not recommended.



## Department of the Air Force (cont'd)

During negotiations the AFNT evaluated documentation supporting the subcontractor cost increase for the part. Actual costs incurred by the prime contractor during contract execution are also consistent with the considered negotiated subcontractor cost. Re-opening negotiations for the "Jet Engine Fuel Pump" is not in the Government's best interests.

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Table 3 - Jet Engine Fuel Pump Unit Costs/Prices									
Part Number	Description	Subcontractor	Lot 7 Contractor Proposed Cost (Original Proposal) 28-Feb-13	Lot 7 Catalog Price Provided Via E-Mail 23-Dec-13	Lot 7 Contractor Proposed Cost (Data Item 6) 21-Feb-14	Lot 7 Considered Negotiated Cost Documented in PNM 25-Apr-14	Lot 7 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data 27-Mar-14	Lot 7 Price included in Contract Parts List (Section J, Exhibit AW)* 15-Apr-14	Average Actual Cost Paid By Prime Contractor
9355M33P13	Jet Engine Fuel Pump	GE	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	N/A	N/A	\$ [REDACTED]	\$ [REDACTED]
* Prices in exhibit are fully burdened with prime contractor's overheads and profit and should not be compared to proposed costs or individual cost elements from PNM									

The "Jet Engine Fuel Pump" was not procured as part of the Lot 6 spares procurement.

Under the Lot 7 spares procurement the prime contractor initially proposed a subcontract cost of [REDACTED] for the "Jet Engine Fuel Pump." Based on the quantity of spares being proposed under the Lot 7 spares effort the Government's evaluation focused on parts which were high cost drivers and sampling was used for the remaining parts. As part of sampling the PCO did not specifically evaluate the price for the "Jet Engine Fuel Pump" to develop the Government Objective. The PCO took a [REDACTED] decrement to the originally proposed GE subcontract price for the spares to develop the Government objective. The subcontract cost for the "Jet Engine Fuel Pump" was subsequently increased during negotiations. The increased cost of [REDACTED] was disclosed via e-mail along with a sampling of other catalog pricing to support the GE subcontractor cost. The cost was subsequently increased to [REDACTED] in the "Data Item 6" proposal update. The "Data Item 6" update indicated the cost increase resulted from an updated subcontractor quote. During negotiations the Government reviewed the GE catalog and quote pricing and determined a [REDACTED] mark-up over the secondary tier subcontractor's cost was appropriate to account for GE's administrative costs, warranties for the parts, and GE's profit. The total considered negotiated subcontractor cost for the GE spare parts was determined to be [REDACTED]. Part number level price agreements were not reached with the contractor. The Government instead agreed to one price for the entire lot of spares. The considered negotiated GE subcontract cost is included in the overall agreed to price for the entire lot of spares. The prime contractor provided a parts list after completion of the Lot 7 spares negotiations and the list was subsequently attached to the contract as Exhibit AW. The exhibit is used for deliveries and invoicing during contract execution and the Government's risk is capped at the total FFP amount. The PCO verified the total for the lot of spares included in Exhibit AW was consistent with the agreed to negotiated price for the lot of spares, but did not verify the prices for each individual part since priced agreements were not reached for each part. Additionally, the average actual subcontractor cost incurred by the contractor provided by DCAA/DCMA is [REDACTED] lower than the considered negotiated price. The total price for the lot of spares is therefore still considered fair and reasonable and re-opening negotiations of the [REDACTED] FFP agreement is not in the Government's best interest.

## Department of the Air Force (cont'd)

### "Turbine Engine Main Fuel Control"

Table 4 provides a summary of the analysis performed pertaining to the Turbine Engine Main Fuel Control.

Requesting a voluntary refund from the contractor for the Turbine Engine Main Fuel Control is not recommended. The updated pricing provided by the prime contractor during negotiations is consistent with the Lot 6 data, and the average actual costs for the part incurred by the contractor are consistent with the considered negotiated cost.

FOR OFFICIAL USE ONLY									
Table 4 - Turbine Engine Main Fuel Control Unit Costs/Prices									
Part Number	Description	Subcontractor	Lot 6 Contractor Proposed Cost (Data Item 3) 6-Aug-12	Lot 6 Contractor Proposed Cost (Data Item 4) 24-Sep-12	Lot 6 Considered Negotiated Cost Documented in PNM 19-Oct-12	Lot 6 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data 11-Oct-12	Lot 6 Price Included in Contract Parts List (Section J, Exhibit A1)* 11-Oct-12		
2042M93P0(3/4)	Turbine Engine Main Fuel Control	GE	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]		
Part Number	Description	Subcontractor	Lot 7 Contractor Proposed Cost (Original Proposal) 28-Feb-13	Lot 7 Catalog Price Provided Via E-Mail 23-Dec-13	Lot 7 Contractor Proposed Cost (Data Item 6) 21-Feb-14	Lot 7 Considered Negotiated Cost Documented in PNM 25-Apr-14	Lot 7 Cost Provided by Contractor with Certificate of Current Cost or Pricing Data 27-Mar-14	Lot 7 Price Included in Contract Parts List (Section J, Exhibit AW)* 15-Apr-14	Average Actual Cost Paid By Prime Contractor
2042M93P0(2/3/4)	Turbine Engine Main Fuel Control	GE	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	N/A	\$ [REDACTED]	\$ [REDACTED]

\* Prices in exhibit are fully burdened with prime contractor's overheads and profit and should not be compared to proposed costs or individual cost elements from PNM

For the Lot 6 spares procurement the prime contractor proposed a subcontractor cost of [REDACTED] for the "Turbine Engine Main Fuel Control" under "Data Item 3." The cost was subsequently decreased to [REDACTED] under "Data Item 4." Based on the quantity of spares being proposed under the Lot 6 spares effort the Government's evaluation focused on parts which were high cost drivers and sampling was used for the remaining parts. As part of sampling the PCO did not specifically evaluate the price for the "Turbine Engine Main Fuel Control." Based on historical information, however, the PCO did take a standard decrement of [REDACTED] to all of the proposed GE spare parts. The decrement was considered sustained by the Government during negotiations. Although the "Turbine Engine Main Fuel Control" is not specifically discussed in the Lot 6 Spares PNM, the application of the [REDACTED] decrement to the [REDACTED] proposed subcontractor cost results in a considered negotiated subcontractor cost of [REDACTED] for the part. One total price was agreed to for the entire lot of spares and the exact subcontractor cost or price for each individual part was not specifically agreed to between both parties. After completion of negotiations the prime contractor provided its certificate of current cost or pricing data and the prime contractor included a Bill of Materials (BoM) with the certificate submittal. The BoM provided a price build up for each individual part, including a subcontractor cost of [REDACTED] for the "Turbine Engine Main Fuel Control." Since agreements were not made at the part number level the PCO verified only that the total price for the parts reflected the total agreed to negotiated price. The PCO also verified

## Department of the Air Force (cont'd)

the Government was not entitled to a downward adjustment to the overall price agreement. The considered negotiated amounts for subcontractor costs as documented in the PNM did not change based on the disclosures provided with the certificate of current cost or pricing data. After completion of negotiations the prime contractor also provided a parts list which was subsequently attached to the contract as Exhibit A1. The exhibit is used for deliveries and invoicing during contract execution and the Government's risk is capped at the total FFP amount. The PCO verified the total price in the exhibit was consistent with the negotiated total price for the lot of spares. The PCO did not verify the price for each individual part since agreements were not reached at the part number level.

For Lot 7, the prime contractor originally proposed a subcontractor cost of [REDACTED] for the "Turbine Engine Main Fuel Control." Similar to the Lot 6 approach based on the quantity of spares being proposed under the Lot 7 spares effort the Government's evaluation focused on parts which were high cost drivers and sampling was used for the remaining parts. As part of sampling the PCO did not specifically evaluate the price for the "Turbine Engine Main Fuel Control." The PCO applied a standard decrement of [REDACTED] to the overall GE subcontractor cost for spares to develop the Government Objective. The subcontract cost for the "Turbine Engine Main Fuel Pump" was subsequently increased during negotiations. The increased cost was disclosed via e-mail along with a sampling of other catalog pricing to support the GE subcontractor cost. In the disclosure GE claimed the part was mistakenly priced at [REDACTED], and should instead be [REDACTED]. The increased cost was consistent with the cost for part number 2042M93P03 provided along with the Lot 6 certificate of current cost or pricing data. During negotiations the prime contractor also submitted "Data Item 3" which included the [REDACTED] subcontractor cost for the "Turbine Engine Fuel Control." The following explanation was also provided in the handout:

*"General Electric Co. – Updated unit costs to reflect current vendor catalog unit costs. Part number 2042M93P02 requested by the Government is no longer available. The unit costs used herein are the supplier's catalog cost for part number 2042M93P03, which is the part number that would be delivered. In addition the supplier has informed Lockheed Martin that a service bulletin that would result in a new part number (2042M93P04) is in review with the FAA and should be released in the near future."*

Under "Data Item 6" the subcontractor cost was subsequently decreased to [REDACTED]. During negotiations the Government reviewed the GE catalog and quote pricing provided on 23 Dec and determined a [REDACTED] mark-up over the secondary tier subcontractor's cost was appropriate to account for GE's administrative costs, warranties for the parts, and GE's profit. The total considered negotiated subcontractor cost for the GE spare parts was determined to be [REDACTED]. Included in the [REDACTED] considered negotiated GE subcontract cost are the costs associated with the "Turbine Engine Fuel Controls." The PNM states the considered negotiated price for the quantity of [REDACTED] "Turbine Engine Fuel Controls" was determined to be [REDACTED] resulting in a unit cost of [REDACTED]. The considered negotiated Lot 7 cost of [REDACTED] for the "Turbine Engine Main Fuel Control" is [REDACTED] higher than the considered negotiated Lot 6 subcontractor cost for the same part. No part number level agreements were reached with the contractor. Instead one price was agreed to for the one lot of spare parts. For the Lot 7 spares procurement the prime contractor did not provide a BoM with its certificate of current cost or pricing data submittal. Instead with the certificate it only disclosed pricing information which had not yet been disclosed to the Government. Consistent with the Lot 6 approach, the prime contractor provided a parts list after the completion of Lot 7 spares negotiations and the list was subsequently attached to the contract as Exhibit AW. The exhibit is used for deliveries and invoicing during contract execution and the Government's risk is capped at the total FFP amount. Since agreements were not made at the part



## Department of the Air Force (cont'd)

number level, the PCO verified the total price in the exhibit was consistent with the total agreed to price for the lot of spares, but did not verify the pricing for each individual part. DCAA/DCMA indicated the prime contractor incurred an average subcontract cost of [REDACTED] for the part during contract execution. The actual cost is [REDACTED] less than the considered negotiated cost for the part. Based on the available information the AFNT maintains the considered negotiated amount documented in the Lot 7 Spares PNM for the lot of spares is still fair and reasonable and re-opening negotiations with the prime contractor is not in the Government's best interests.

**Recommendation A.1.b is considered CLOSED as of 11/16/2016.**

**Finding:**

**B.** The AFLCMC contracting officer did not sufficiently document the fair and reasonable price determination for Lot 7 initial spare parts. Specifically, the contracting officer included inaccurate information in the PNM and did not maintain the price analysis in the contract file. This occurred because the AFLCMC contracting office did not have internal policy and controls to ensure the contracting officer reviewed the PNM for factual accuracy and followed the FAR requirement to maintain support for the price analysis in the contract file. As a result, AFLCMC contracting officials could not support their determination that Lot 7 initial spare part prices for the C-5 were fair and reasonable.

**Management Comments:**

**B: Non-Concur.**

AFLCMC non-concurs with Finding B. AFLCMC currently has robust internal policies and controls in place to ensure PNMs accurately document the details of the acquisition, including sufficient details of the price analysis conducted by the AFNT.

The Lot 7 Spares negotiated agreement was documented IAW with FAR and DFARS requirements and the results of the price analysis are sufficiently documented in the PNM. The "inaccurate" information mentioned in the audit report results from the negotiated agreement being made at the total price level for the entire lot of spares, and the resulting write-up being accomplished at the total cost element summary level. Part number level price agreements were not reached with the contractor, and the write-up was therefore not documented at the part number level. While the statement in the PNM questioned in the audit report could have been better clarified to indicate it applies at the total cost element summary level, the statement in itself is not inaccurate. The one instance mentioned in the audit report where additional clarity in the PNM could have been provided does not indicate a systemic problem with the accuracy of PNMs throughout AFLCMC and should not drive the generation of additional policy or procedures.

The PNM for the Lot 7 Spares effort sufficiently documents the details of the price analysis at the total cost element summary level. The "price analysis" mentioned in the audit report actually refers to the pricer's "working papers." These "working papers" are not, and never were intended to be, part of the official contracting file. The "working papers" consist of excel pricing models which are utilized during negotiations. The AFLCMC Pricing office typically retains the "working papers" for future reference, but they are not considered part of the official record.



## Department of the Air Force (cont'd)

**Recommendation:**

**B.1** We recommend that the Commander, Air Force Life Cycle Management Center:

- a. establish policy and standard operating procedures to ensure that the contracting officer validates the accuracy of the price analysis documented in the price negotiation memorandum; and
- b. implement policy and procedures to ensure that the contracting officer follows Federal Acquisition Regulation 4.803(a) and 15.404 to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.

**Management Comments:****B.1.a: Concur with Intent.**

AFLCMC currently utilizes robust policies and standard operating procedures to ensure PNM statements are validated to be accurate and no new policies or standard operating procedures are required.

AFLCMC currently utilizes a rigorous review process for PNMs. When pricing support is provided by the AFLCMC Pricing Division the PNM is reviewed by the pricer, the contracting officer, the pricing branch chief, the program's legal counsel, and a reviewer in the AFLCMC Policy Division prior to receipt of the required Contract Clearance approval. As part of the review verification of calculations within the document is also accomplished. The review process was utilized for the Lot 7 PNM prior to final signature by the contracting officer.

The requirement to utilize existing policies and standard operating procedures to ensure PNMs accurately reflect the basis for the negotiated agreement will continue to be stressed to contracting officers during existing training.

**Recommendation B.1.a is considered CLOSED as of 11/16/2016.**

**B.1.b: Concur with Intent.**

AFLCMC currently utilizes robust policies and procedures to ensure AFLCMC contracting officers follow FAR 4.803(a) and 15.404 requirements to maintain price analysis results and supporting rationale for the determination of a fair and reasonable price in the contract file.

For the Lot 7 Spares procurement the price analysis details are sufficiently documented at the total cost element summary level in the PNM.

The requirement to utilize existing policies and procedures to ensure the results of the price analysis are sufficiently documented in the PNM will continue to be stressed to contracting officers during existing training.

**Recommendation B.1.b is considered CLOSED as of 11/16/2016.**

## Acronyms and Abbreviations

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<b>AFLCMC</b>	Air Force Life Cycle Management Center
<b>APU</b>	Auxiliary Power Unit
<b>DFARS</b>	Defense Federal Acquisition Regulation Supplement
<b>EDA</b>	Electronic Document Access
<b>FAR</b>	Federal Acquisition Regulation
<b>GE</b>	General Electric Aviation
<b>HSSD</b>	Hamilton Sundstrand San Diego
<b>PGI</b>	Procedures, Guidance, and Information
<b>PNM</b>	Price Negotiation Memorandum
<b>RERP</b>	Reliability Enhancement Re-Engining Program

## **Whistleblower Protection**

### **U.S. DEPARTMENT OF DEFENSE**

*The Whistleblower Protection Ombudsman's role is to educate agency employees about prohibitions on retaliation and employees' rights and remedies available for reprisal.*

*The DoD Hotline Director is the designated ombudsman.*

*For more information, please visit the Whistleblower webpage at [www.dodig.mil/programs/whistleblower](http://www.dodig.mil/programs/whistleblower).*

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