



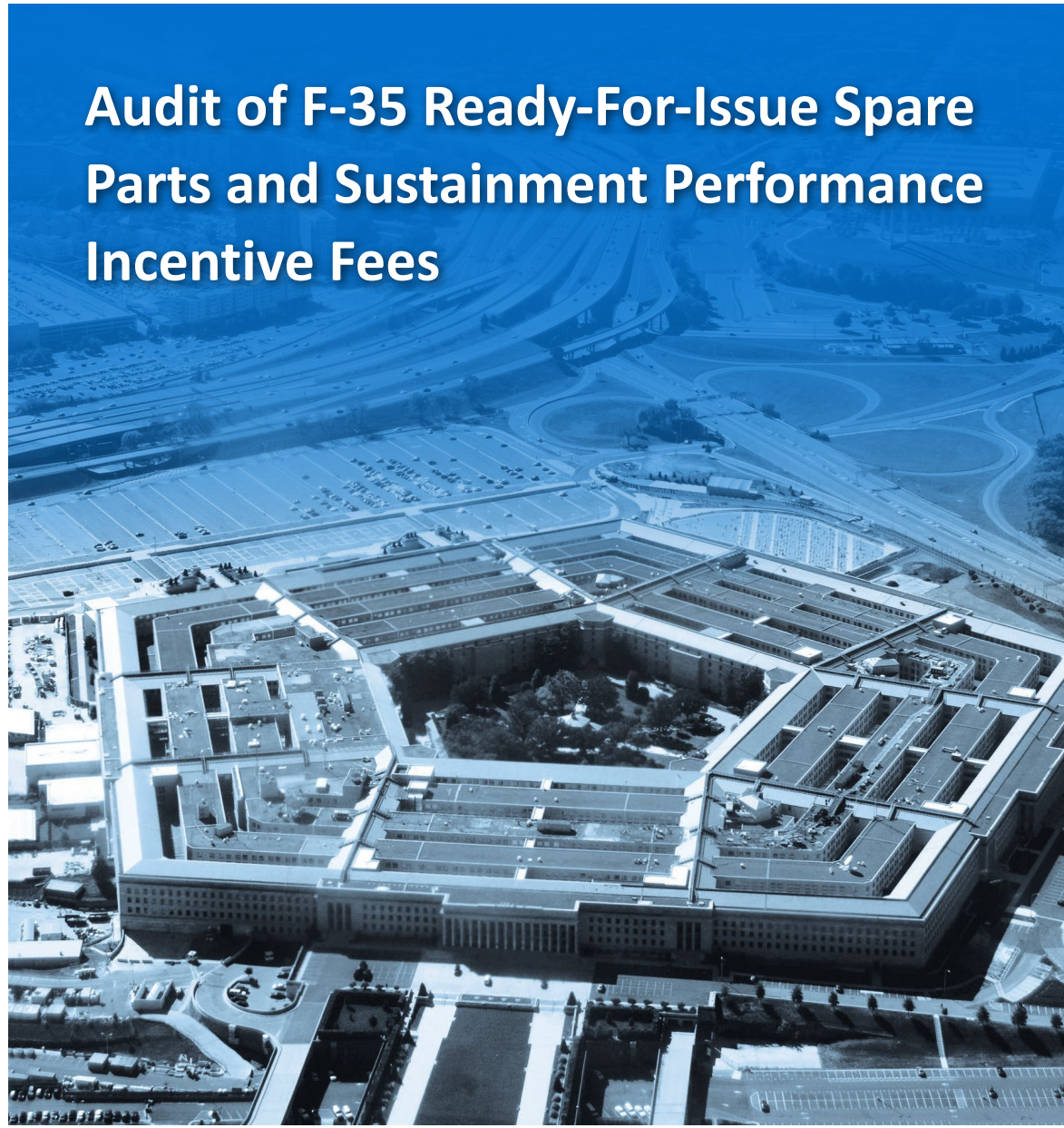
# INSPECTOR GENERAL

*U.S. Department of Defense*

JUNE 13, 2019



## Audit of F-35 Ready-For-Issue Spare Parts and Sustainment Performance Incentive Fees



INTEGRITY ★ INDEPENDENCE ★ EXCELLENCE







# Results in Brief

## *Audit of F-35 Ready-For-Issue Spare Parts and Sustainment Performance Incentive Fees*

June 13, 2019

### Objective

We determined whether the DoD received Ready-For-Issue (RFI) spare parts for the F-35 Joint Strike Fighter (F-35) in accordance with contract requirements and paid sustainment performance incentive fees according to the incentive fee plan.

### Background

The F-35 program is the DoD's largest acquisition program. The F-35 is a supersonic, low observable stealth fighter capable of executing multi-role missions. The F-35 has three variants: the F-35A, F-35B, and F-35C. The program is a joint, multi-national program involving the Air Force, Navy, Marine Corps, and eight international partners. The estimated acquisition cost for the F-35 program is over \$406 billion.

Lockheed Martin, the prime contractor for aircraft production, is required to deliver RFI F-35 spare parts, such as wheel, seat, and window assemblies, as part of the F-35 sustainment contract. According to the contract, RFI means that spare parts: 1) are ready for aircraft maintenance personnel to install on the aircraft, and 2) have an Electronic Equipment Logbook (EEL) assigned, which includes information such as part history and remaining life (hours). For this report, spare parts without an EEL are referred to as "non-RFI."

Additionally, the 2016, 2017, and 2018 sustainment contracts each contained a

### Background (cont'd)

clause establishing performance metrics to evaluate the contractor's ability to sustain F-35 fleet operations. The Joint Program Office (JPO) paid performance incentive fees based on the contractor's ability to meet three performance metrics, all of which are related to the number of hours the aircraft are "available" for use, or aircraft availability hours.

### Finding

We determined that the DoD did not receive RFI F-35 spare parts in accordance with contract requirements and paid performance incentive fees on the sustainment contracts based on inflated and unverified F-35A aircraft availability hours. This occurred because the JPO did not conduct adequate oversight of contractor performance related to receiving F-35 spare parts and aircraft availability hours. Specifically, the JPO did not:

- resolve contractor non-performance related to the delivery of non-RFI spare parts since 2015;
- verify that contracting officer representatives (CORs) collected and reported information to the contracting officer on the number of non-RFI spare parts received, the manual processes used by the DoD to keep aircraft flying when non-RFI spare parts are used, and the number of aircraft availability hours reported at each F-35 site to assess contractor performance; and
- assign CORs at all F-35 sites and consolidate information from the CORs and the Defense Contract Management Agency (DCMA) to identify systemic problems on the sustainment contracts.

As a result, the DoD received non-RFI spare parts and spent up to \$303 million in DoD labor costs since 2015, and it will continue to pay up to \$55 million annually for non-RFI spare parts until the non-RFI spare parts issue is resolved. In addition, the lack of available RFI spare parts could result in the F-35 fleet being unable to perform required operational and training missions. Furthermore, until the DoD addresses the delivery of non-RFI spare parts, the use of manual



# Results in Brief

## *Audit of F-35 Ready-For-Issue Spare Parts and Sustainment Performance Incentive Fees*

### **Finding (cont'd)**

processes to mitigate non-RFI problems creates a life and safety concern for aircrews. The concern occurs if DoD personnel make mistakes on the number of hours the spare part was flown when manually tracking hours for limited life non-RFI spare parts. Finally, the DoD has potentially overpaid \$10.6 million in performance incentive fees by not independently collecting and verifying aircraft availability hours.

### **Recommendations**

We recommend that the Program Executive Officer for the F-35 JPO:

- In coordination with the DCMA, pursue compensation from the contractor for costs of non-RFI spare parts that have been delivered since 2015 on the sustainment contracts.
- Direct the Contracting Officer to add language to the future F-35 sustainment contracts to allow the DoD to collect compensation for each non-RFI spare part provided by the contractor.
- Direct the Lead COR (LCOR) to update the Quality Assurance Surveillance Plan (QASP), approve the site surveillance plans, and require the CORs to provide monthly information on contractor performance, including the number of non-RFI spare parts received; the manual processes used by the DoD to correct non-RFI problems; the manual processes used by the F-35 sites to keep aircraft flying when non-RFI spare parts are used and the associated increase in availability hours; and the total F-35 aircraft availability hours.
- Direct the LCOR to assign CORs to provide oversight at all F-35 sites and collect contractor performance data from the CORs and the DCMA to identify systemic contractor performance problems.

### **Management Comments and Our Response**

The Program Executive Officer agreed with our finding and recommendations. The Program Executive Officer stated that the JPO will:

- Work with the DCMA to collect data associated with non-RFI problems to support a consideration (compensation) package for the Lockheed Martin contracts, dating back to December 2015.
- Work on the development of a compensation package to include the potential monetary benefits associated with the non-RFI problems.
- Work with the DCMA on the strategy and timeline for engagement with Lockheed Martin on the consideration (compensation) package, for the non-RFI problems.
- Evaluate contractual alternatives for the sustainment contracts to allow for the DoD to be compensated for future non-RFI spare parts delivered by the contractor.
- Develop an electronic QASP and data repository for F-35 QASP reports and audits.
- Assign CORs to provide oversight at all F-35 sites and track systemic contractor performance problems.

Comments from the Program Executive Officer addressed all recommendations. Therefore, the recommendations are resolved but will remain open until we verify that the planned actions have been completed.

Please see the Recommendations Table on the next page for the status of recommendations.

## Recommendations Table

Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
Program Executive Officer, F-35 Joint Program Office	None	A.1, A.2, A.3, and A.4	None

**Note:** The following categories are used to describe agency management's comments to individual recommendations.

- **Unresolved** – Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **Resolved** – Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **Closed** – OIG verified that the agreed upon corrective actions were implemented.





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

June 13, 2019

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION  
AND SUSTAINMENT  
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL  
MANAGEMENT AND COMPTROLLER)  
DIRECTOR, DEFENSE CONTRACT MANAGEMENT AGENCY  
NAVAL INSPECTOR GENERAL  
AUDITOR GENERAL, DEPARTMENT OF THE AIR FORCE

SUBJECT: Audit of F-35 Ready-For-Issue Spare Parts and Sustainment  
Performance Incentive Fees (Report No. DODIG-2019-094)

We are providing this report for your information and use. We conducted this audit in accordance with generally accepted government auditing standards.

We considered the management comments from the F-35 Program Executive Office on the draft of this report when preparing the final report. Comments received addressed all the specifics of the recommendations and conformed to the requirements of DoD Instruction 7650.03.

We appreciate the cooperation and assistance received during the audit. Please direct questions to Mr. Kenneth B. VanHove at (216) 535-3777 (DSN 499-9946).

A handwritten signature in black ink, reading "Theresa S. Hull", is positioned above the printed name.

Theresa S. Hull  
Assistant Inspector General for Audit  
Acquisition, Contracting, and Sustainment

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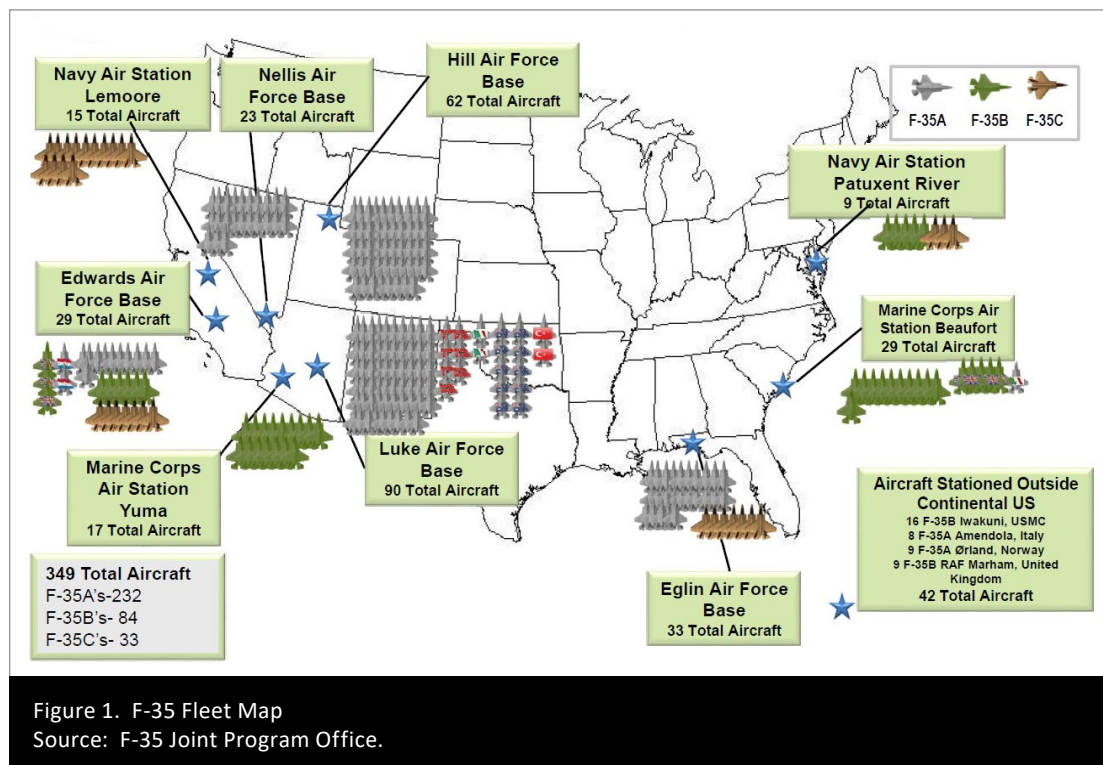
# Introduction

## Objective

We determined whether the DoD received Ready-For-Issue (RFI) spare parts for the F-35 Joint Strike Fighter (F-35) in accordance with contract requirements and paid sustainment performance incentive fees according to the incentive fee plan. See the Appendix for a discussion of the scope and methodology and prior coverage related to the objective.

## Background

The F-35 program is the DoD's largest acquisition program. The estimated acquisition cost for the F-35 program is over \$406 billion. The program is a joint, multi-national program involving the Air Force, Navy, Marine Corps, and eight international partners: the United Kingdom, Italy, the Netherlands, Turkey, Canada, Australia, Denmark, and Norway. The F-35 is a supersonic, low observable stealth fighter capable of executing multi-role missions. The F-35 has three variants: the F-35A, F-35B, and F-35C. As of February 2019, the DoD and its partners have accepted delivery of 232 operational F-35As, 84 operational F-35Bs, and 33 operational F-35Cs. See Figure 1 for a map of the 349 U.S. and international partners' F-35 fleet aircraft located at 13 F-35 sites.<sup>1</sup>



<sup>1</sup> The F-35 fleet consists of all three aircraft variants owned by the U.S. and its partners.

The DoD designed the F-35A to operate from conventional runways and the aircraft is primarily used by the Air Force, allied air forces, and other nations through foreign military sales. The F-35A achieved initial operational capability on August 2, 2016.<sup>2</sup> See Figure 2 for a picture of the F-35A. The DoD designed the F-35B to operate from austere, short-field bases and a range of air-capable ships operating near front-line combat zones. The Marine Corps is the primary user of the F-35B. The F-35B achieved initial operational capability on July 31, 2015. The Navy is the primary user of the F-35C, which is designed for aircraft carrier operations. The F-35C reached initial operational capability on February 28, 2019.



Figure 2. F-35A  
Source: Lockheed Martin.

### ***F-35 Joint Program Office***

The F-35 Joint Program Office (JPO), located in Arlington, Virginia, is responsible for total life-cycle management, including coordination of program objectives, requirements, schedules, and budgets. In addition, the JPO manages and oversees the support and sustainment functions required to field and maintain the readiness of the F-35 fleet.

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<sup>2</sup> Initial operational capability is the point in time when a weapon system can meet the minimum needs of the user.

## ***Lockheed Martin***

Lockheed Martin Aeronautics (Lockheed Martin), located in Fort Worth, Texas, is the prime contractor for all variants of F-35 aircraft production. In addition, Lockheed Martin is responsible for providing sustainment support for all variants of the F-35 aircraft, including the supply chain, logistics system, depot maintenance, and pilot and aircraft maintenance training.

## ***Defense Contract Management Agency***

The Defense Contract Management Agency (DCMA) works directly with Defense contractors to ensure that the contractors deliver supplies and services on time and at projected cost and that they meet all performance requirements. The JPO assigned the DCMA as the contract administrator for the F-35 sustainment contracts. In this role, the DCMA monitors the contractors' performance and management systems to ensure that cost, product performance, and delivery schedules comply with the terms and conditions of the sustainment contracts. The DCMA's administration office is located at Lockheed Martin's facilities in Fort Worth, Texas.

## ***F-35 Sustainment Contracts***

Over the last 4 years, the JPO has awarded cost-plus-incentive fee contracts to Lockheed Martin for sustainment of the F-35A, B, and C variants. A cost-plus-incentive fee contract is a cost-reimbursement contract in which the Government pays the contractor for incurred costs plus an adjustable performance incentive fee based on cost and performance. Since 2015, the JPO has awarded the following four sustainment contracts to Lockheed Martin for FY:

- 2015 for \$388.3 million,
- 2016 for an estimated \$646.6 million,
- 2017 for an estimated \$1.1 billion, and
- 2018 for an estimated \$1.4 billion.<sup>3</sup>

## ***Sustainment Contract Performance Incentive Fees***

The sustainment contracts for 2016, 2017, and 2018 each contained a clause establishing performance metrics to evaluate the contractor's ability to sustain F-35 fleet operations. These performance metrics include:

- Air Vehicle Availability (AVA), which measures the number of hours that F-35 aircraft are **capable of performing at least one** of its tasked missions;

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<sup>3</sup> The values are based on the initial contract award.

- Full Mission Capable (FMC), which measures the number of hours the aircraft **is available for use and capable of performing all** of its tasked missions; and
- Mission Capable (MC), which measures the number of hours the aircraft **is available for use and capable of performing at least one** of its tasked missions.

[Bolded text shows differences in metrics]

The JPO paid performance incentive fees based on the contractor's ability to meet these performance metrics, all of which are related to the number of hours the aircraft are "available" for use, or aircraft availability hours. Lockheed Martin is responsible for collecting, calculating, and reporting aircraft availability hours used to pay the performance incentive fees. The JPO is responsible for monitoring contractor performance and evaluating the aircraft availability hours reported by Lockheed Martin to determine the final performance incentive fee award. Lockheed Martin has the potential to earn more than \$150 million in performance incentive fees for the 2016, 2017, and 2018 sustainment contracts combined.

### ***F-35 Sustainment Contract Oversight***

The JPO is responsible for F-35 sustainment contract oversight. The Federal Acquisition Regulation (FAR) Subpart 1.602-2, "Responsibilities," states that contracting officers are responsible for ensuring performance of all necessary actions for effective contracting, ensuring compliance with the terms of the contract, and safeguarding the interests of the United States in its contractual relationships. In addition, FAR Subpart 16.301-3, "Limitations," requires that the Government conduct appropriate oversight and surveillance on contractor performance for cost-reimbursement contracts. To accomplish this oversight, the JPO uses both the DCMA and contracting officer's representatives (CORs). The DCMA performs oversight at the contractor's warehouse sites and the CORs perform oversight at the 13 F-35 sites receiving spare parts.

For the 2015 annual sustainment contract, the JPO assigned the DCMA as the administrative contracting office for F-35 sustainment.<sup>4</sup> As the administrative contracting office, the DCMA is required to conduct surveillance to ensure contract compliance. In addition, the DCMA can issue administrative changes or contract modifications, provided the changes or modifications do not require additional funds. If the DCMA identifies contractor noncompliance, it can issue a Corrective Action Request (CAR) to the contractor asking for a remedy or solution for a contract noncompliance. The DCMA also notifies the JPO when it issues a CAR.

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<sup>4</sup> FAR Subpart 42.202, "Assignment of Contract Administration," allows the JPO to designate the DCMA as the administrative contracting office.



In addition, JPO CORs are expected to conduct contract surveillance to verify that the contractor is fulfilling contract requirements and to document the contractor's performance. The JPO CORs also should develop a site surveillance plan, which identifies specific areas of oversight, based on a Quality Assurance Surveillance Plan (QASP) and site-specific risks. According to FAR Subpart 46.4, "Government Contract Quality Assurance," the QASP should specify all work requiring surveillance and the method of surveillance. The Lead COR (LCOR), who is part of the JPO, is responsible for developing the QASP and approving the COR's site surveillance plans. For the F-35 program, the CORs also follow guidance contained within the F-35 Sustainment Performance Management Plan. The Sustainment Performance Management Plan describes the roles, responsibilities, and methods for collecting and evaluating contractor performance data.

### ***Ready-For-Issue Spare Parts***

Under the sustainment contracts, Lockheed Martin is required to deliver RFI F-35 spare parts, such as wheel, seat, and window assemblies. RFI means that spare parts: 1) are ready for aircraft maintenance personnel (maintainers) to install on the aircraft, and 2) have an Electronic Equipment Logbook (EEL) assigned.<sup>5</sup> EELs are electronic files assigned to certain spare parts that include information such as part history and remaining life (hours). According to the F-35 Sustainment Supply User Guide, May 11, 2017, if a spare part is missing an EEL, the maintainers should place the part in a separate location until Lockheed Martin provides the EEL. If a spare part is missing its EEL, maintainers should submit an Action Request (AR) asking Lockheed Martin to fix the EEL problem. ARs are reports that identify supply chain problems that need resolution. Lockheed Martin charges the DoD for the costs to resolve the ARs. Both the contractor and DoD personnel can create EEL problems. The contractor creates EEL problems when it does not send the EEL with the spare part, does not create an EEL for a spare part, or enters incorrect information into the logistics systems. DoD personnel create EEL problems when they do not follow proper spare part maintenance procedures when removing or installing a spare part or when transferring a spare part between units.

### **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. We identified an internal control weakness related to a lack of JPO oversight on F-35 sustainment contracts. We will provide a copy of the report to the senior official responsible for internal controls in the F-35 JPO.

<sup>5</sup> For this report, spare parts without an EEL are referred to as "non-RFI."

## Finding

### **The DoD Did Not Receive Ready-For-Issue F-35 Spare Parts and Paid Performance Incentive Fees on Inflated Aircraft Availability Hours**

The DoD did not receive RFI F-35 spare parts in accordance with contract requirements and paid performance incentive fees on the sustainment contracts based on inflated and unverified F-35A aircraft availability hours. This occurred because the JPO did not conduct adequate oversight of contractor performance related to receiving F-35 spare parts and aircraft availability hours. Specifically, the JPO did not:

- resolve contractor non-performance related to the delivery of non-RFI spare parts since 2015;
- verify that CORs collected and reported information to the contracting officer on the number of non-RFI spare parts received, the manual processes used by the DoD to keep aircraft flying when non-RFI spare parts are used, and the number of aircraft availability hours reported at each F-35 site to assess contractor performance; and
- assign CORs at all F-35 sites and consolidate information from the CORs and the DCMA to identify systemic problems on the sustainment contracts.

As a result, the DoD received non-RFI spare parts and spent up to \$303 million in DoD labor costs since 2015 and it will continue to pay up to \$55 million annually for non-RFI spare parts until it is resolved. In addition, the lack of available RFI spare parts could result in the F-35 fleet being unable to perform required operational and training missions. Furthermore, until the DoD addresses the delivery of non-RFI spare parts, the use of manual processes to mitigate non-RFI problems creates a life and safety concern for aircrews. The concern occurs if DoD personnel make mistakes on the number of hours the spare part was flown when manually tracking hours for limited life non-RFI spare parts. Finally, the DoD has potentially overpaid \$10.6 million in performance incentive fees by not independently collecting and verifying aircraft availability hours.

## Contractor Did Not Provide RFI Spare Parts

The DoD did not receive RFI F-35 spare parts in accordance with contract requirements. Lockheed Martin is required by the sustainment contracts to deliver RFI F-35 spare parts; however, it has been providing non-RFI spare parts to F-35 sites since 2015 when F-35 sustainment efforts began. Despite the JPO being aware of this problem, it did not resolve the issue or require the Services to track the number of non-RFI spare parts received. The three F-35 sites we contacted were manually tracking non-RFI spare parts received.<sup>6</sup> For example, of 74 spare parts delivered to Hill Air Force Base (AFB) between September 17 and 30, 2018, 59 spare parts (80 percent) were non-RFI. Additionally, of the 263 spare parts delivered to Luke AFB in June 2018, 213 spare parts (81 percent) were non-RFI. Finally, of the 132 spare parts delivered to Marine Corps Air Station Beaufort in September 2017, 58 spare parts (44 percent) were non-RFI.

*Of the 263 spare parts delivered to Luke AFB in June 2018, 213 spare parts (81 percent) were non-RFI.*

According to an F-35 Program Instruction, if an F-35 site receives a spare part that is non-RFI, DoD personnel cannot use the spare part on an aircraft.<sup>7</sup> Additionally, the Sustainment Supply User Guide, Volume 2, May 11, 2017, states that DoD personnel must go through a seven-step process to make the spare part RFI and available for use. The first step in the process is for DoD personnel to place the spare part in a separate location within the logistics system to ensure the spare part is not used until resolution of the non-RFI problem. If DoD personnel cannot resolve the non-RFI problem using the seven-step process, DoD personnel create an AR for the contractor to resolve the problem. According to the DCMA, DoD personnel have submitted over 15,000 ARs from December 2015 to June 2018 to correct the non-RFI problems. Lockheed Martin charged the DoD for each AR submitted for non-RFI spare parts. The cost reimbursement sustainment contracts included a clause, which stated that the cost of replacement or correction is an allowable cost.<sup>8</sup> We attempted to identify the costs Lockheed Martin charged the DoD for each non-RFI problem; however, after multiple requests, Lockheed Martin did not provide the cost data. Furthermore, the clause stated that the Government may require the contractor to replace or correct any supplies that are nonconforming at time of delivery. However, the DoD accepted the non-RFI spare parts provided by Lockheed Martin and developed site-specific local policy and manual processes to meet the operational and training mission requirements.

<sup>6</sup> We visited Luke and Hill Air Force Bases. The DCMA visited Marine Corps Air Station Beaufort.

<sup>7</sup> F-35 Program Instruction 1505.07, Sustainment Operating Instruction, "Electronic Equipment Log (EEL)," December 12, 2013.

<sup>8</sup> FAR 52.246-3, "Inspection Of Supplies-Cost-Reimbursement," May 2001.

***DoD Personnel Issued Local Policy***

DoD personnel at two F-35 sites that we visited developed local policy to allow aircraft to meet mission requirements with non-RFI spare parts installed when other RFI spare parts were not available. Since Lockheed Martin did not meet contract requirements and provided non-RFI spare parts, the local policy allowed for DoD personnel to more quickly resolve the non-RFI problems than when using the seven-step process identified in the Sustainment Supply User Guide. The Maintenance Group Commanders at Luke and Hill AFB issued local policy in August 2017 and February 2018, respectively, that allowed the use of non-RFI spare parts on aircraft. In the local policy, the Commanders designated which DoD personnel were allowed to determine the aircraft was safe to fly using their professional judgement. On October 25, 2018, the JPO issued a memorandum officially allowing aircraft to fly with non-RFI spare parts installed, contradicting the F-35 Program Instruction, which was written by the JPO. However, we determined that DoD personnel at the two F-35 sites had already been flying aircraft with non-RFI spare parts, such as wheel, seat, and window assemblies, as early as August 2017.

***DoD Created Manual Processes to Receive, Issue, and Use Non-RFI Spare Parts***

DoD personnel at four F-35 sites created manual processes to allow for receiving and issuing non-RFI spare parts provided by Lockheed Martin to allow aircraft to fly and to meet mission requirements. For example, Luke and Hill AFBs created manual processes by reassigning 20 DoD personnel, including maintainers, from their normal duties to work exclusively on correcting non-RFI problems, such as identifying whether the electronic record existed and, if so, where the record was located in the logistics system. Similarly, the DCMA determined that the DoD reassigned 27 personnel at Luke AFB, Eglin AFB, and Marine Corps Air Station Beaufort to correct non-RFI problems. The DCMA calculated that the reassignment of the 27 personnel cost the DoD over \$1.3 million since December 2015. According to the DCMA, the DoD has spent at least \$7,000 and up to \$11,000 in labor charges for each time the DoD resolves the non-RFI problem with the spare parts. In some instances, the extra DoD personnel assigned were unable to resolve the problem and still had to contact Lockheed Martin to correct the problem.<sup>9</sup> DoD personnel at the F-35 sites did not track and report the related personnel costs to the JPO.

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<sup>9</sup> DoD personnel either submit an AR to Lockheed Martin or contact Lockheed Martin personnel directly to submit an informal action request.



In addition, DoD personnel created manual processes to track the amount of time a non-RFI spare part was used on an aircraft. Luke AFB personnel used either a spreadsheet or a whiteboard to track the amount of time a non-RFI spare part was used. For example, on July 2, 2018, according to the Luke AFB personnel, a non-RFI seat survival kit assembly, a critical safety part, was installed on an aircraft that was then flown and the assembly hours were tracked on a whiteboard. Critical safety parts require accurate time tracking to ensure that the spare part is not over-used to avoid critical damage or loss of life. The contract requires that Lockheed Martin use an aircraft logistics system that electronically tracks the use for RFI spare parts. However, if the DoD installs a non-RFI spare part on an aircraft, maintainers must manually track the amount of time the spare part was used. When the aircraft is done flying, DoD personnel manually update the amount of time the spare part was used in the aircraft logistics system. Once the non-RFI problem is corrected, the logistics system can electronically track the spare part's use. The DoD's use of local guidance and manual processes allowed aircraft to fly and complete missions instead of the DoD grounding the aircraft due to receiving non-RFI spare parts from Lockheed Martin.

## **Performance Incentive Fees Paid Based on Inflated and Unverified Aircraft Availability Hours**

The DoD paid performance incentive fees on the sustainment contracts based on inflated and unverified F-35A aircraft availability hours. Specifically, DoD personnel installed non-RFI spare parts to make F-35 aircraft available to fly and perform assigned missions. As a result, this practice unintentionally inflated aircraft availability hours, which is an incentive fee performance metric under the contract. Additionally, the JPO relied solely on Lockheed Martin to collect and report all F-35 aircraft availability hours. The JPO used this contractor-reported information to pay Lockheed Martin nearly \$32 million of the \$38 million in available AVA, FMC, and MC performance incentive fees for the 2017 and 2018 sustainment contracts.<sup>10</sup> See Table 1 for the performance incentive fees available and the amount and percentage paid to Lockheed Martin.

<sup>10</sup> We reviewed the first period of performance for the 2018 sustainment contract for this report.

Table 1. F-35A Sustainment Contract Performance Incentive Payments

	2017			2018		
	Available	Paid	% Paid	Available	Paid	% Paid
AVA	\$16,630,708	\$14,867,856	89	\$4,923,503	\$3,829,391	78
FMC	5,543,569	2,771,786	50	1,641,167	1,025,729	62
MC	8,317,157	8,317,157	100	1,301,855	1,065,154	82
<b>Total</b>	<b>\$30,491,434</b>	<b>\$25,956,799</b>	<b>85</b>	<b>\$7,866,525</b>	<b>\$5,920,274</b>	<b>75</b>

Source: The DoD OIG-created table based on JPO data.

### ***Installed Non-RFI Spare Parts Unintentionally Inflated Aircraft Availability Hours***

DoD personnel at two sites we visited unintentionally inflated aircraft availability hours by installing non-RFI spare parts to allow aircraft to perform missions. For example, on July 16, 2018, Luke AFB personnel indicated that 20 of 22 F-35A aircraft in just one unit had non-RFI spare parts installed that had a total of 172 problems, such as spare parts missing the EELs. Luke AFB personnel reported all 20 aircraft as available to fly at least one mission that day because maintainers installed the non-RFI spare parts. This resulted in inflated aircraft availability hours used to pay the contractor incentive fees for those 20 aircraft on that day. If Luke AFB personnel had followed the F-35 Program Instruction and not installed the non-RFI spare parts, Luke AFB personnel would have reported the 20 aircraft as not available to fly training missions for July 16, 2018, which would have reduced the availability hours used in the calculation of the incentive fee. In another example, on February 1, 2018, Luke AFB personnel inflated aircraft availability hours by showing that three aircraft flying with non-RFI spare parts were 100 percent available instead of being unavailable.<sup>11</sup>

According to JPO officials, on any given day, over 50 percent of the F-35 fleet is flying with non-RFI spare parts. However, the JPO does not require F-35 site personnel to collect aircraft availability hours and has not developed a process to track the hours that aircraft fly with non-RFI spare parts installed. Because the JPO has not requested F-35 sites to collect this information, the DoD has no way to determine the total number of hours the F-35 has flown with non-RFI spare parts. As a result, the JPO potentially overpaid performance incentive fees for the AVA, FMC, and MC metrics on the 2017 and 2018 sustainment contracts.

<sup>11</sup> We identified the number of aircraft that Luke AFB reported with non-RFI problems and compared it to Lockheed Martin's aircraft availability hours that were used to calculate performance incentive fee payments.

### ***JPO Is Paying Incentive Fees Based on Unverified Hours***

The JPO paid performance incentive fees for the sustainment contracts based on unverified F-35A aircraft availability hours. The JPO relied on Lockheed Martin to collect and report all F-35 aircraft availability hours. As part of the performance incentive fee determination process, Lockheed Martin provided the JPO with aircraft availability hours to support performance at the end of each performance period. In addition, during the performance incentive fee determination process, Lockheed Martin requested that aircraft availability hours be adjusted for incidents that are beyond the control of the contractor. The contractor measures these incidents in the number of hours the aircraft was unavailable to fly. For example, on July 3, 2018, lightning struck an F-35A aircraft and the contractor requested that the JPO add 744 aircraft availability hours for this incident. The JPO approved Lockheed Martin's request, which potentially increased the performance incentive fee payments.

According to the Sustainment Performance Management Plan, the CORs are required to validate the contractor-requested hours.<sup>12</sup> However, we did not identify any COR input to the performance incentive fee determination process that resulted in changes to aircraft availability hours for the 2017 and 2018 performance periods. In addition, we interviewed the 14 CORs identified by the LCOR at 6 of the 13 F-35 sites and they stated that they did not provide any information to the JPO on the aircraft availability hours used to calculate the performance incentive fees. The aircraft availability hours added back during the 2017 and 2018 performance periods allowed Lockheed Martin to earn 33 percent more in performance incentive fees, over \$10.6 million, for the AVA, FMC, and MC metrics. Table 2 shows the increase in performance incentive fee payments based on unverified hours for the three different metrics.

*Table 2. 2017-2018 F-35A Sustainment Contract Performance Incentive Payments*

	AVA	FMC	MC	Total
Fee Earned Based on Raw Performance Data Without Adjustments	\$11,326,607	\$3,684,685	\$6,237,869	\$21,249,161
Performance Incentive Fee Paid	18,697,247	3,797,515	9,382,312	31,877,074
Fee Earned Based On Reconciled Performance Data	7,370,640	112,830	3,144,444	10,627,914

Source: The DoD OIG and JPO.

<sup>12</sup> Contract N00019-17-C-0045 Attachment 10 Annex D, "F-35 Sustainment Performance Management Plan," Version 1.2, dated May 27, 2016.

## Inadequate Oversight

The JPO did not conduct adequate oversight of contractor performance related to receiving F-35 spare parts and aircraft availability hours. Specifically, the JPO did not resolve contractor non-performance related to the delivery of non-RFI spare parts since 2015. In addition, the JPO did not verify that CORs collected and reported information to the contracting officer on the number of non-RFI spare parts received, the manual processes used by the DoD to keep aircraft flying when non-RFI spare parts are used, and the number of aircraft availability hours reported at each F-35 site to assess contractor performance. Furthermore, the JPO did not assign CORs at all F-35 sites and consolidate information from the CORs and the DCMA to identify systemic problems on the sustainment contracts.

### ***Compensation for Non-RFI Spare Parts***

The JPO did not resolve contractor non-performance related to non-RFI spare parts delivered by Lockheed Martin since 2015. The JPO is responsible for overall contractor oversight and assigned contract administration responsibilities to the DCMA. In addition, the JPO assigned the DCMA to take the lead on addressing the non-RFI spare parts problem. As part of the DCMA's responsibilities, on November 13, 2015, the DCMA issued a CAR to Lockheed Martin for non-performance in providing RFI spare parts. The CAR required Lockheed Martin to submit a corrective action plan to the DCMA. Lockheed Martin submitted two corrective action plans to the DCMA in 2017 to address the CAR; however, Lockheed Martin will not complete all corrective actions until 2021.

Beginning in February 2018, the DCMA visited three F-35 sites to determine if the corrective actions implemented by Lockheed Martin were fixing the problems associated with the non-RFI spare parts. As a result of the visits, the DCMA determined that Lockheed Martin was still providing non-RFI spare parts to the DoD. In addition, the DCMA found that the receipt of non-RFI spare parts resulted in the DoD increasing the use of manual processes and assigning additional DoD personnel to resolve the problems at the F-35 sites. According to the DCMA, the manual processes performed by the DoD to make the non-RFI spare parts usable are actions that should be charged to Lockheed Martin. Also according to the DCMA, the manual processes caused damage to the DoD in the form of labor costs incurred for DoD personnel. The DCMA attempted to quantify the DoD labor costs, since 2015, by identifying the number of non-RFI spare part problems reported by Lockheed Martin and

*According to the DCMA, the total DoD labor cost resulting from receiving non-RFI spare parts since 2015 could be as much as \$303 million.*



the DoD labor costs to process the non-RFI spare parts. According to the DCMA, the total DoD labor cost resulting from receiving non-RFI spare parts since 2015 could be as much as \$303 million.<sup>13</sup>

The DCMA also estimated that the DoD would continue to expend labor costs to correct non-RFI spare parts in the future at an estimated cost of up to \$55 million annually. In November 2018, the DCMA recommended options to the JPO for addressing the non-RFI problem, including issuing a contract modification to the current sustainment contract that would allow the DoD to charge Lockheed Martin per non-RFI problem on a quarterly basis. The proposed modification was similar to a contract modification that Lockheed Martin previously agreed to on the F-35 production contract, which charged Lockheed Martin \$7,000 for each non-RFI problem. According to the DCMA, although Lockheed Martin signed the modification on the production contract, it refused to sign the proposed modification on the sustainment contract. In addition, according to the DCMA, Lockheed Martin did not sign the modification because RFI problems on the sustainment contract would cost less to fix than RFI problems on the production contract.

In October 2018, the DCMA requested that the JPO grant it the authority, as the contract administrator, to seek compensation for the non-RFI spare parts and issue the contract modification. On October 25, 2018, the JPO approved the request; however, the JPO did not agree with the DCMA strategy. Instead, JPO officials indicated that they would take the DCMA's recommendations for addressing the non-RFI spare parts and include it in a comprehensive compensation package request for all F-35 contracts being negotiated with Lockheed Martin. The JPO, in coordination with the DCMA, should pursue compensation from the contractor for costs of non-RFI spare parts that have been delivered since 2015 on the sustainment contracts. In addition, the JPO should direct the Contracting Officer to add language to the future F-35 sustainment contracts to allow the DoD to collect compensation for each non-RFI spare part provided by the contractor.

### ***CORs Not Collecting and Reporting Oversight Information***

The JPO did not verify that the CORs collected and reported information to the contracting officer on the number of non-RFI spare parts received, the manual processes used by the DoD to keep aircraft flying when non-RFI spare parts are used, and the number of aircraft availability hours reported at each F-35 site to assess contractor performance. The JPO is responsible for overall contractor oversight and assigned the oversight responsibilities at F-35 sites to the CORs.

<sup>13</sup> The DCMA used Lockheed Martin-provided data to quantify the number of non-RFI problems and multiplied this number by the DCMA-calculated average DoD labor cost to process a non-RFI spare part.

The JPO also assigned an LCOR to oversee all the CORs at F-35 sites. The LCOR is responsible for identifying significant oversight areas in the QASP for the CORs to use to develop their site surveillance plans.

The LCOR developed the QASP with 26 key areas for oversight, which included supply chain management. Oversight of supply chain management could include reviewing the receipt of non-RFI spare parts. However, the LCOR did not identify a specific reporting requirement for non-RFI spare parts received and the associated manual processes to allow aircraft to fly with non-RFI spare parts, even though it was a known problem. In addition, the LCOR did not identify the Sustainment Performance Management Plan requirement for COR input to aircraft availability hours and include the collection of this data as part of the monthly reporting requirement. CORs did not collect information on the number of non-RFI spare parts received, the manual processes DoD used, and aircraft availability hours because it was not separately identified in the QASP. Instead, oversight performed by CORs at some sites included verifying serial numbers on parts and flight training metrics related to training simulators. The JPO should direct the LCOR to update the QASP, approve the site surveillance plans, and require the CORs to provide monthly information on contractor performance, including the number of non-RFI spare parts received; the manual processes used by the DoD to correct non-RFI problems; the manual processes used by the F-35 sites to keep aircraft flying when non-RFI spare parts are used and the associated increase in availability hours; and the total F-35 aircraft availability hours.

### ***CORs Not Assigned to All F-35 Sites and Performance Information Not Consolidated***

The JPO did not assign CORs at all F-35 sites and consolidate information from the CORs and DCMA to identify systemic performance problems on the sustainment contracts. Specifically, the LCOR did not assign a COR at 3 of 9 stateside F-35 sites that receive spare parts. According to the LCOR, COR oversight was inadequate and she had requested to hire additional CORs. However, the JPO rejected the request due to limited resources. Instead, the JPO assigned 14 CORs to six of the nine F-35 sites to perform oversight. We determined that 3 of the 14 CORs were not performing oversight on the 2018 sustainment contract. For example, two of the three CORs located at Edwards AFB were actually DCMA employees who did not accept COR appointments from the JPO. In another example, the COR from Hill AFB reported that he was performing oversight on the F-35 production contract and not the 2018 sustainment contract. The COR stated that he was not aware of a sustainment contract for the F-35. However, upon reviewing the COR designation letter, we identified that the JPO had appointed the COR to oversee the 2018 sustainment contract. After disclosing this to the COR, he stated that he misspoke and he was actually appointed

by the JPO to oversee the sustainment contract. However, the COR did not provide any information that demonstrated he had performed any oversight on the 2018 sustainment contract. As a result, only 11 of the 14 CORs identified by the JPO were performing oversight on the 2018 sustainment contract and five of nine F-35 sites, or 56 percent, did not have CORs assigned to monitor contractor performance.

Additionally, even though the JPO assigned oversight responsibilities for the F-35 sustainment contracts to the CORs and the DCMA, the JPO did not consolidate contractor performance information to identify systemic problems. The LCOR stated that the JPO did not have a system for maintaining contractor performance information reported by the CORs, such as a database, to identify systemic and recurring contractor performance problems. The JPO indicated that the DCMA separately tracked contractor performance at the warehouse sites; however, the JPO did not ensure that the DCMA worked with the CORs at the F-35 sites to collect and consolidate data to identify systemic problems. As a result, the JPO did not have the necessary information to resolve the contractor non-performance. The JPO should direct the LCOR to assign CORs to provide oversight at all F-35 sites and collect contractor performance data from the CORs and the DCMA to identify systemic contractor performance problems.

### **Lack of RFI Spare Parts Will Continue to Increase Sustainment Costs, Impact Fleet Aircraft Availability, and Impact Performance Incentive Fee Payments**

The DoD received non-RFI spare parts and spent up to \$303 million in DoD labor costs since 2015, and it will continue to pay up to \$55 million annually for non-RFI spare parts until the non-RFI spare parts issue is resolved. This problem will continue until the JPO collects information on the number of non-RFI spare parts received. The lack of available RFI spare parts could result in the F-35 fleet being unable to perform required operational and training missions. The F-35 aircraft are already proving to be more expensive to sustain than originally planned and, as the DoD adds more aircraft to the F-35 fleet, the strain on the aircraft logistics system will increase. Furthermore, non-RFI problems may continue to multiply and affect already increasing sustainment costs and F-35 mission capable rates. The JPO awarded the first full F-35 sustainment contract to Lockheed Martin in 2016 for approximately \$646.6 million to sustain the 211 F-35 aircraft in the fleet. In only 2 years, the sustainment costs for the F-35 fleet more than doubled to \$1.4 billion to sustain 349 F-35 aircraft. The JPO forecasted that approximately 658 F-35 aircraft would be in the fleet by 2021. According to an Office of the Under Secretary of Defense Logistics and Materiel Readiness representative, the Air Force estimated costs will be 43 percent over its Service budget for F-35 sustainment costs starting in 2036. In addition, the previous Secretary of Defense directed the DoD to improve mission capable rates to above 80 percent by

September 2019. For the first performance period in 2018, the DoD only achieved a 57 percent mission capable rate for the F-35A. The lack of RFI spare parts may result in the DoD struggling to maintain, much less improve, F-35 mission capable rates.

Furthermore, until the DoD addresses the delivery of non-RFI spare parts, the use of manual processes to mitigate non-RFI problems creates a life and safety concern for aircrews. The concern occurs if DoD personnel make mistakes on the number of hours the spare part was flown when manually tracking hours for limited life non-RFI spare parts. Finally, the DoD has potentially overpaid \$10.6 million in performance incentive fees by not independently collecting and verifying aircraft availability hours. Until the JPO independently collects data to verify contractor performance, the DoD may continue to overpay performance incentive fees on the 2018 and future sustainment contracts.

## Recommendations, Management Comments, and Our Response

### ***Recommendation***

**A. We recommend that the Program Executive Officer for the F-35 Joint Program Office:**

- 1) In coordination with the Defense Contract Management Agency, pursue compensation from the contractor for costs of non-Ready-For-Issue spare parts that have been delivered since 2015 on the sustainment contracts.**

### ***Program Executive Officer Comments***

The Program Executive Officer agreed with the recommendation, for the JPO to work with the DCMA to collect data associated with non-RFI problems to support a consideration package for the Lockheed Martin contracts, dating back to December 2015. Work on the development of a consideration (compensation) package to include the potential monetary benefits associated with the non-RFI problems is ongoing. The JPO will continue to work with DCMA on the strategy and timeline for engagement with Lockheed Martin on consideration for the non-RFI problems.

### ***Our Response***

Comments from the Program Executive Officer addressed the recommendation. Therefore, the recommendation is resolved but will remain open until we receive documentation that supports the specific actions taken by the Program Executive Officer to collect data associated with non-RFI problems on the sustainment contracts and the potential monetary benefits resulting from the consideration package discussion with Lockheed Martin.

- 2) Direct the Contracting Officer to add language to the future F-35 sustainment contracts to allow the DoD to collect compensation for each non-Ready-For-Issue spare part provided by the contractor.**

### *Program Executive Officer Comments*

The Program Executive Officer agreed with the recommendation, stating that the JPO will evaluate contractual alternatives for the sustainment contracts to allow for the DoD to be compensated for future non-RFI spare parts delivered by the contractor.

### *Our Response*

Comments from the Program Executive Officer addressed the recommendation. Therefore, the recommendation is resolved but will remain open until we verify that the changes made to future sustainment contracts that allow for compensation to be obtained when non-RFI spare parts are delivered by the contractor.

- 3) Direct the Lead Contracting Officer's Representative to update the Quality Assurance Surveillance Plan, approve the site surveillance plans, and require the Contracting Officer's Representatives to provide monthly information on contractor performance, including the following:**
- **The number of non-Ready-For-Issue spare parts received.**
  - **The manual processes used by the DoD to correct non-Ready-For-Issue problems.**
  - **The manual processes used by the F-35 sites to keep aircraft flying when non-Ready-For-Issue spare parts are used and the associated increase in availability hours.**
  - **The total F-35 aircraft availability hours.**

### *Program Executive Officer Comments*

The Program Executive Officer agreed with the recommendation, and stated there is value added in tracking and utilizing contractor performance data. The LCOR is developing an electronic QASP and data repository for F-35 QASP reports and audits. The system will be able to tailor the site surveillance plans and collect data for supply chain issues. The software trend analysis capability will improve current manual processes by allowing automated data collection and real time visibility of non-RFI spare part problems and associated impacts to aircraft availability. Pilot implementation at U.S. sites is scheduled to begin in FY20. Additionally, the JPO and the contractor have already taken action to aggressively track and monitor non-RFI problems as part of the planning to achieve 80 percent Mission Capability.

### *Our Response*

Comments from the Program Executive Officer addressed the recommendation. Therefore, the recommendation is resolved but will remain open until we verify that the LCOR updates and approves the QASP and site surveillance plans and that the CORs are providing contractor performance information monthly related to:

- The number of non-RFI spare parts received.
- The manual processes used by the DoD to correct non-RFI problems.
- The manual processes used by the F-35 sites to keep aircraft flying when non-RFI spare parts are used and the associated increase in availability hours.
- The total F-35 aircraft availability hours.

- 4) Direct the Lead Contracting Officer's Representative to assign Contracting Officer's Representatives to provide oversight at all F-35 sites and collect contractor performance data from the Contracting Officer's Representatives and the Defense Contract Management Agency to identify systemic contractor performance problems.**

### *Program Executive Officer Comments*

The Program Executive Officer agreed with the recommendation that the LCOR assign CORs to provide oversight at all F-35 sites. Per DCMA guidance, contractor surveillance at operational locations is outside DCMA's responsibility. Instead, systemic contractor performance problems will be tracked and managed by the JPO. The Director of Logistics and Sustainment, Product Support Manager, for the F-35 JPO signed a memorandum on March 26, 2019, that required the Services and international partners to appoint CORs to perform contractor oversight at all F-35 sites. The Services are currently formulating their plans for appointing CORs for each current and future site. All newly delegated CORs will be trained on contractor oversight procedures, including training on the use of the new electronic QASP once approved for JPO use.

### *Our Response*

Comments from the Program Executive Officer addressed the recommendation. Therefore, the recommendation is resolved but will remain open until we verify that there are delegation letters showing F-35 CORs are assigned at all F-35 sites to provide contractor oversight and that the LCOR is collecting contractor performance data from the CORs and the DCMA to identify systemic contractor performance problems.



## Appendix

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### Scope and Methodology

We conducted this performance audit from June 2018 through April 2019 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 objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The contractor reviewed and commented on relevant portions of the draft report and comments provided were considered in preparing the final report.

To determine whether the DoD received RFI spare parts in accordance with contract requirements for the F-35 and paid sustainment performance incentive fees according to the incentive fee plan, we interviewed stakeholders from the following offices to identify roles and responsibilities and obtain documentation.

- Office of the Under Secretary of Defense for Acquisition and Sustainment
- Office of the Under Secretary of Defense for Logistics and Materiel Readiness
- Office of the Secretary of the Air Force Acquisition
- Office of the Secretary of the Air Force Integration Office
- Defense Contract Management Agency
- Naval Air Systems Command
- Headquarters Marine Corps Aviation
- F-35 Joint Program Office
- Lockheed Martin
- Marine Corps Air Station Beaufort, South Carolina
- Edwards Air Force Base, California
- Eglin Air Force Base, Florida
- Hill Air Force Base, Utah
- Marine Corps Air Station Iwakuni, Japan
- Luke Air Force Base, Arizona
- Marine Corps Air Station Yuma, Arizona

### ***Ready for Issue Spare Parts***

To determine whether F-35 sites received RFI spare parts, we interviewed personnel and observed processes for receiving F-35 spare parts. We collected and analyzed documents from the two F-35 sites we visited on RFI and non-RFI spare parts received. We observed manual processes for non-RFI spare parts at the F-35 sites. We determined that the manual processes resulted in additional costs to the DoD. We attempted to quantify these costs to assess the impact on the DoD; however, we determined that the DCMA had already collected and quantified the costs addressing contractor non-performance related to the RFI requirement in the contract.

We interviewed DCMA personnel to identify their roles and responsibilities in sustainment contract oversight. We collected and analyzed documents that the DCMA used to address contractor non-performance and the associated costs that the DoD incurred to correct non-RFI spare parts received. To determine the reasonableness of DCMA's methodology, we identified that the DCMA used contractor-provided reports to quantify the number of ARs received for non-RFI problems from December 2015 through June 2018. However, the DCMA and Lockheed Martin could not identify whether the DoD procured the spare parts on the production or sustainment contracts. The DCMA used DoD average labor rates to determine the cost to the DoD for each AR. We concluded that DCMA's methodology for quantifying these costs was reasonable. Finally, we interviewed the LCOR and the 14 CORs assigned to the 2018 sustainment contract. We obtained and reviewed documentation to understand their roles and input on contractor performance.

### ***Performance Incentive Fees***

To determine whether the JPO paid sustainment performance incentive fees according to the incentive fee plan, we obtained and reviewed the 2017 and 2018 sustainment contracts to identify performance metrics and performance incentive fee calculations. We analyzed the documentation supporting the performance reviews and performance incentive fee payments for all six-performance periods for the 2017 sustainment contract and the first performance period for the 2018 sustainment contract. We reviewed the Lockheed Martin documentation used to support aircraft availability hours to identify COR input. In addition, we calculated the performance incentive fees and compared it to the incentive fees paid by the JPO.

Finally, we interviewed personnel from Luke AFB, Hill AFB, and Marine Corps Air Station Beaufort to identify any manual tracking processes performed and the impact on aircraft availability hours for aircraft flying with non-RFI spare parts. We analyzed documentation from Luke AFB for aircraft with non-RFI spare parts installed and compared it to Lockheed Martin's reported aircraft availability hours.

## **Criteria**

We reviewed the following guidance related to RFI spare parts and payment of sustainment performance incentive fees for the F-35 Joint Strike Fighter.

- Federal Acquisition Regulation (FAR), Part 46 "Quality Assurance," March 2, 2015
- FAR Part 16, "Types of Contracts," January 13, 2017
- FAR 52.246-3, "Inspection Of Supplies-Cost-Reimbursement," May 2001
- FAR Part 1, "Federal Acquisition Regulations System," Subpart 1.6, "Career Development, Contracting Authority, and Responsibilities," 1.602, "Responsibilities," October 26, 2018
- Defense FAR Supplement Part 216, "Types of Contracts," September 23, 2016
- Defense FAR Supplement Procedures, Guidance, and Information 216.4, "Incentive Contracts," April 6, 2015
- Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics), "Guidance on Using Incentive and Other Contract Types," April 1, 2016
- JPO "F-35 Sustainment Supply User Guide – Volume 1," May 11, 2017
- JPO "F-35 Sustainment Supply User Guide – Volume 2," May 11, 2017
- JPO "F-35 Sustainment Management Performance Plan," May 27, 2016
- Lockheed Martin "F-35 Program Electronic Equipment Logbook (EEL) Users Guide," April 24, 2018
- DCMA Instruction 1201, "Corrective Action Process," September 8, 2015
- F-35 Program Instruction 1505.07 "Electronic Equipment Log (EEL)," December 12, 2013
- DoD Product Support Manager Guidebook, 2011 (updated April 2016)

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

We relied on the DCMA's methodology to quantify the impact of non-RFI problems to the DoD. The DCMA used computer-processed data provided by Lockheed Martin to identify the number of ARs submitted for non-RFI problems. The Autonomic Logistics Information System is Lockheed Martin's system of record

for all ARs. The reliability of this data could not be determined as neither the JPO nor the DCMA collected independent data on the number of ARs submitted or the number of non-RFI spare parts received to validate the Lockheed Martin provided data. Although the DoD relied on the contractor to provide this data, we determined that the DCMA-developed methodology was sufficiently reliable for the purposes of our audit. The finding in this report discusses the need for the JPO to collect data each month from F-35 sites for the number of non-RFI parts received to independently have a record of contractor performance in this area. See the recommendations to the finding for specific details.

We used computer-processed data from the Sustainment Performance Management System. The Sustainment Performance Management System is a Lockheed Martin system for calculating and determining the aircraft availability hours for the contractor. We obtained aircraft availability hours to determine the number of hours that Lockheed Martin requested and that the JPO approved for each performance period for the 2017 sustainment contract and the first performance period for the 2018 sustainment contract. We used Lockheed Martin's aircraft availability hours and compared those hours to the number of aircraft availability hours reported by Luke AFB personnel to identify inflated aircraft availability hours for a selected day. The JPO solely relied on the contractor data and did not collect aircraft availability hours from F-35 sites; therefore, we could not verify the reliability of Lockheed Martin's aircraft availability hours. The finding in this report discusses the need for the JPO to collect this data monthly from the CORs to validate contractor performance. See the recommendations to the finding for specific details.

## Prior Coverage

During the last 5 years, the Government Accountability Office (GAO) issued three reports related to F-35 RFI spare parts or the management of performance metrics and payment of incentives. Unrestricted GAO reports can be accessed at <http://www.gao.gov>.

## GAO

Report No. 19-321, "F-35 Aircraft Sustainment: DoD Needs to Address Substantial Supply Chain Challenges," April 25, 2019

The F-35 aircraft were unable to fly nearly 30 percent of the May – November 2018 time period due to spare part shortages and other supply chain challenges.

Report No. 18-75, "F-35 Aircraft Sustainment: DoD Needs to Address Challenges Affecting Readiness and Cost Transparency," October 26, 2017

The performance metrics the DoD is using to incentivize the contractor under pilot performance-based agreements may not be appropriate metrics to achieve desired outcomes, in part because they are not fully reflective of processes for which the contractor has control.

Report No. 16-439, "F-35 Aircraft Sustainment: DoD Needs a Plan to Address Risks Related to Its Central Logistics System," April 14, 2016

The DoD is aware of risks that could affect the F-35's Autonomic Logistics Information System, but does not have a plan to ensure that the system is fully functional as key milestones approach.

## Management Comments

### Program Executive Officer Comments



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MEMORANDUM FOR PROGRAM DIRECTOR FOR AUDIT ACQUISITION,  
CONTRACTING, AND SUSTAINMENT, OFFICE OF THE  
INSPECTOR GENERAL

SUBJECT: Response to DoDIG Draft Report, "Audit of F-35 Ready-For-Issue Spare Parts and Sustainment Performance Incentive Fees," Project No. D2018-D000AT-0162.000

As requested, I am providing responses to the general content and recommendations contained in the subject report.

**RECOMMENDATION 1:** In coordination with the Defense Contract Management Agency, pursue compensation from the contractor for costs of non-Ready-For-Issue spare parts that have been delivered since 2015 on the sustainment contracts.

**JPO RESPONSE:** Concur. JPO has worked with DCMA to collect data associated with Electronic Equipment Log (EEL) issues to support a consideration package for the Lockheed contracts, dating back to the initial Procurement Contract Officer (PCOL) letter to Lockheed in December 2015. The team has developed a government estimate per non-conformance to apply to the past EEL issues related to non-conformance. Work on the development of a full consideration package, including the potential monetary benefit associated with EEL non-conformance to the Government are ongoing. JPO will continue to work with DCMA on the strategy and timeline for engagement with Lockheed Martin on consideration for this issue.

**RECOMMENDATION 2:** Direct the Contracting Officer to add language to the future F-35 sustainment contracts to allow the DoD to collect compensation for each non-Ready-For-Issue spare part provided by the contractor.

**JPO RESPONSE:** Concur. JPO is currently working the consideration package to address previously delivered non-Ready-for-Issue Spare Parts. For Future contracts, JPO will evaluate contractual mechanisms for compensation for non-Ready-for-Issue spares parts provided by the contractor and will look to apply appropriate mechanisms in the Sustainment Contracts.

**RECOMMENDATION 3:** Direct the Lead Contracting Officer's Representative to update the Quality Assurance Surveillance Plan, approve the site surveillance plans, and require the Contracting Officer's Representatives to provide monthly information on contractor performance, including the following:

- The number of non-Ready-For-Issue spare parts received.
- The manual processes used by the DoD to correct non-Ready-For-Issue problems.
- The manual processes used by the F-35 sites to keep aircraft flying when non-Ready-For-Issue spare parts are used and the associated increase in availability hours.



## Program Executive Officer Comments (cont'd)

- The total F-35 aircraft availability hours.

**JPO RESPONSE:** Concur. The JPO concurs there is value added in tracking and utilizing this data. The JPO Contract Officer Representative (COR) Lead is currently working with JPO security to obtain approval to introduce an electronic Quality Assurance Surveillance Plan (QASP) and historical data repository for all F-35 QASP reports/audits. The software has been designed to enable the JPO COR Lead to quantify and qualify JSF contractor conformity to the AS9100 standard as per the JSFPO contracts. The system has the capability of tailoring a CORs surveillance plan for each site to include data collection for non-Ready-For-Issue spare parts for all areas of risk such as counterfeit parts entering the supply chain, non-conforming outputs, product safety, design flaws and external supplier issues. The software trend analysis capability will improve current manual processes through automated data collection allowing for real-time visibility of non-Ready-For-Issue Parts problems and associated impacts to F-35 aircraft availability. Targeting Pilot implementation at US sites in FY20. Additionally, the PSM and HPST have already taken action to aggressively track and monitor EEL related issues as part of 80% Mission Capability planning.

**RECOMMENDATION 4:** Direct the Lead Contracting Officer's Representative to assign Contracting Officer's Representatives to provide oversight at all F-35 sites and collect contractor performance data from the Contracting Officer's Representatives and the Defense Contract Management Agency to identify systemic contractor performance problems.

**JPO RESPONSE:** Concur. Per DCMA guidance contractor surveillance at operational locations is outside their responsibility. Therefore systemic contractor performance problems at operational locations will be tracked and managed by the PSM organization. On 26 March 2019, the Director of Logistics and Sustainment, Product Support Manager for the F-35 JPO signed a memorandum to all U.S. Services, International Partners and Foreign Military Sales Participants requiring the Services to appoint organic military and/or civilian personnel to make certain the JSF program has adequate contractor oversight at all F-35 sites both CONUS and OCONUS. The Services are currently formulating their plans for appointing organic CORs for each of their current and future site standups to ensure the JSF program will have a COR(s) assigned at each site across the enterprise. All new delegated CORs will be trained on contractor oversight procedures to include training on the use of the new electronic QASP once approved for JPO use.



MATHIAS W. WINTER  
Vice Admiral, USN  
Program Executive Officer

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## Acronyms and Abbreviations

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<b>AR</b>	Action Request
<b>AFB</b>	Air Force Base
<b>AVA</b>	Air Vehicle Availability
<b>CAR</b>	Corrective Action Request
<b>COR</b>	Contracting Officer's Representative
<b>DCMA</b>	Defense Contract Management Agency
<b>EEL</b>	Electronic Equipment Logbook
<b>FAR</b>	Federal Acquisition Regulation
<b>FMC</b>	Full Mission Capable
<b>JPO</b>	Joint Program Office
<b>LCOR</b>	Lead Contracting Officer's Representative
<b>MC</b>	Mission Capable
<b>QASP</b>	Quality Assurance Surveillance Plan
<b>RFI</b>	Ready-For-Issue

# **Whistleblower Protection**

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

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