

**F-35 JOINT STRIKE FIGHTER:  
ENSURING SAFETY AND ACCOUNTABILITY  
IN THE GOVERNMENT'S  
TRILLION DOLLAR INVESTMENT**

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**HEARING**  
BEFORE THE  
**COMMITTEE ON**  
**OVERSIGHT AND REFORM**  
**HOUSE OF REPRESENTATIVES**  
ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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Wednesday, July 22, 2020

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON OVERSIGHT AND REFORM,  
*Washington, D.C.*

The committee met, pursuant to notice, at 10:08 a.m., in room 2154, Rayburn House Office Building, Hon. Carolyn Maloney, [chairwoman of the committee] presiding.

Present: Representatives Maloney, Norton, Lynch, Connolly, Krishnamoorthi, Rouda, Khanna, Wasserman Schultz, Welch, Speier, Kelly, DeSaulnier, Plaskett, Tlaib, Porter, Comer, Jordan, Foxx, Massie, Hice, Grothman, Cloud, Gibbs, Higgins, Norman, Miller, Armstrong, Steube, and Keller.

CHAIRWOMAN MALONEY. Welcome, everyone, to today's hybrid hearing.

Pursuant to House rules, some members will appear in person and others will be remotely via WebEx. Since some members are appearing in person, let me first remind everyone that pursuant to the latest guidance from the House attending physician, all individuals attending this hearing in person must wear a face mask.

This is something that I believe very strongly in. I am from New York. We have lost over 30,000 souls.

We still do not understand the virus. It is terribly contagious and it is easy for us to go home and infect our families. So, it really is a life and death issue, and so we will not recognize anyone unless they are wearing a face mask.

Let me also make a few reminders for those members appearing in person. You will only see members and witnesses appearing remotely on the monitor in front of you when you are speaking what is known in WebEx as active speaker view.

A timer is visible in the room directly in front of you. For members appearing remotely, I know you are all familiar with WebEx by now. But let me remind everyone of a few points.

First, you will be able to see each person speaking during the hearing, whether they are in person or remote, as long as you have your WebEx set to active speaker view.

If you have any questions about this, please contact staff immediately.

Second, we have a timer that should be visible on your screen when you are in the active speaker with thumbnail view. Members

who wish to pin the timer to their screens should contact committee staff for assistance.

Third, the House rules require that we see you. So, please have your cameras turned on at all times.

Fourth, members appearing remotely who are not recognized should remain muted to minimize background noise and feedback.

Fifth, I will recognize members verbally. But members retain the right to seek recognition verbally in regular order. Members will be recognized in seniority order for questions.

Last, if you want to be recognized outside of regular order, you may identify that in several ways. You may use the chat function to send a request. You may send it email to the majority staff. Or you may unmute your mic to seek recognition.

Obviously, we do not want people talking over each other. So, my preference is that members use the chat function or email to facilitate formal verbal recognition.

Committee staff will ensure that I am made aware of the request and I will recognize you. We will begin the hearing in just a few moments when they tell me they are ready to begin the live stream.

Chairwoman MALONEY. The committee will come to order.

First of all, I would like to congratulate Ranking Member Comer. This is his first full committee hearing as ranking member, and I am pleased that it is one that we can work in a bipartisan manner.

I believe we all want a strong military, a strong private sector, and a strong government that is wisely tracking taxpayers' money and spending it efficiently for the purposes that it was meant for.

I look forward to working with the ranking member in the future and I am so pleased that he is with us here today.

Without objection, the chair is authorized to declare a recess of the committee at any time and I now recognize myself for an opening statement.

Good morning. Today's hearing will focus on the F-35 Joint Strike Fighter, a highly technical stealth fighter that is the Pentagon's largest and most costly acquisition program.

Since the F-35 program began more than 20 years ago, the Department of Defense has spent more than \$350 billion on its development. Total cost to sustain the program are estimated at more than \$1 trillion.

Unfortunately, this expensive program has been plagued by challenges for years, including major problems with maintenance of the aircraft. This hearing will address the money, time, and manpower our military is being forced to spend to address problems with equipment logs for spare parts from the primary contractor, Lockheed Martin.

In June 2019, the DOD inspector general found that over a three-year period more than 15,000 spare parts for the F-35 lacked an electronic equipment log that maintains important information on the history of the spare part and the hours flown.

This information is critical for the military to determine the age of a part and whether it is safe to keep using. In late 2019 and early 2020, committee staff from the majority and the minority visited multiple military bases and interviewed personnel who maintained the F-35 fleet.

During these visits, staff confirmed that the problems identified by the IG still have not been resolved. This is unacceptable.

As a result of Lockheed Martin's failure to provide spare parts that meet contract requirements, the military has been forced to divert personnel, to troubleshoot these issues, and use extensive work arounds to keep F-35 planes flying, and this costs American taxpayers millions of dollars they should not have to pay.

For example, last year the IG estimated that more than \$300 million was spent on additional labor costs between 2015 and 2018 as a result of Lockheed Martin's failure to provide spare parts with electronic logs.

The inspector general estimates that taxpayers will have to continue paying up to \$55 million a year if we do not fix these problems. That does not even include an additional \$10 million in unwarranted and sensitive payments Lockheed Martin received in 2017 and 2018.

Since then, the Defense Contract Management Agency has refined this estimate to determine how many missing and delayed electronic logs can be attributed specifically to Lockheed Martin.

After this process, the Defense Contract Management Agency determined that Lockheed Martin is responsible for at least \$183 million in missing and delayed electronic logs from 2015 to early 2020.

That is \$183 million that the American taxpayers were forced to pay because Lockheed Martin failed to meet the requirements of its contract.

That is why today's hearing is so important. This money belongs to the American people. These are funds that could have been used to train our war fighters, upgrade older airplanes, or support service members and their families.

In the 2020 National Defense Authorization Act, Congress required DOD to seek, and I quote, "compensation for costs incurred by the Department of Defense as a result of the contractor's failure to deliver compliant ready-for-issue spare parts under the contract," end quote.

I believe Lockheed Martin needs to pay this money back. Lockheed Martin is currently in negotiations with DOD to compensate the government for all the defective spare parts it provided.

It is imperative that Lockheed acknowledge that it failed to meet contract requirements and pay back the American people for these failures.

Lockheed is going to tell us that they have made improvements to ensure F-35 parts arrive on base with electronic logs. Improvements have been made, but parts are still being delivered without electronic logs, and missing and corrupt electronic logs occur throughout a spare part's lifecycle, not just when they are delivered to a base.

In documents provided to the committee, DOD itself identified nine points of failure in the life cycle of a spare part. You are also going to hear that missing electronic logs have never resulted in an accident or a fatality, and that is very good news. So far.

But the Government Accountability Office warned that every time DOD disregards a warning about a missing electronic log, military personnel are at risk of ignoring real problems with that aircraft. We cannot simply hope that these accidents never occur.

These problems must be addressed for our military personnel and we must address it now.

The U.S. Government is a major client of Lockheed Martin. In 2019 alone, Lockheed expected to earn \$41 billion in revenue from the U.S. Government, business paid for by the American taxpayers. For that much money we can expect Lockheed to deliver products that work and that keep our service members safe. Anything else is unacceptable.

I also plan to look at whether legislation is needed to ensure that F-35 is meeting performance expectations.

I want to thank our witnesses for testifying on this important issue and I really want to thank Ranking Member Comer and his staff for their cooperation and assistance on this hearing and the numerous meetings that we had beforehand. This truly is a bipartisan investigation.

I now yield to the distinguished ranking member from the great state of Kentucky for his opening statement.

Mr. COMER. Well, good morning, and thank you, Madam Chair, for those nice words and for holding this important hearing.

I appreciate each of our witnesses here today and I want to extend my personal thank you to Lieutenant General Fick for his continued service to this country and to Ms. Ellen Lord for all her hard work at the department.

I want to note that Mr. Ulmer wished to be here today, but the Democrat majority declined that request and forced him to testify virtually. I understand the current public health situation but I truly believe it to be vitally important to hear from witnesses in person.

Further, since the majority began an investigation into Lockheed Martin, I feel it is inappropriate for their representative to be questioned virtually.

Even though the minority did not invite a witness to this hearing, I fear that what we see today could be used to suppress future minority participation. We have seen denial of minority witnesses in the Select Subcommittee.

It is important that this committee operate in a fair and equitable manner and I ask the chairwoman to commit to give all future witnesses the choice to appear in person if they wish and not force their virtual testimony.

But today we are here to discuss the F-35 fighter jet, the most advanced weapons system in the world which brings significant war fighting capabilities to our great military.

The three variants are used by the Air Force, Marines, and the Navy to fly missions without detection by enemy radar and are equipped with sophisticated electronic components that aid the pilot in effectuating his or her mission.

These jets let us gather information, engage targets at longer ranges with sophisticated precision-guided munitions while avoiding detection.

These planes don't come cheap, and although the cost per plane is always decreasing, we must be vigilant to ensure that the government is using all the tools in its belt to keep costs down while maintaining a mission-ready F-35 fleet.



Even though the cost to acquire an F-35 aircraft is significant, that is not the end of the story. Our military must keep that plane mission ready while performing routine maintenance and replacing parts when their life cycle is over.

The cost of this sustainment is significant. The Department of Defense inspector general found that many spare parts were delivered to the military lacking or with a defective electronic equipment logbook, or EEL, meaning that the spare parts were not considered ready for issue.

Even though these parts are genuine and ready for use on the aircraft, the inability to track the part with the EEL means that flight crews have to manually track those parts for wear and tear, which can lead to increased costs, human error, and potentially a threat to life and safety.

Fortunately, the government and Lockheed Martin entered into a massive collaborative effort to reduce the incidents of nonready-for-issue spare parts. I am encouraged to hear progress is being made both in reducing the frequency of EEL deficiencies and in identifying previous deficiencies.

If there are instances of unsatisfactory contract performance, those issues must be remedied. But we must also find the root cause. Government contracting can be burdensome and expensive, driving innovative companies away from the market.

We must work together to ensure we get the best products quickly and at the least expensive to the taxpayer. Increasing commercial item acquisition, competition, transparency and end-user input may all help with that.

I look forward to hearing from our witnesses today about their hard work supporting the F-35 fleet and ways that Congress can help increase contracting efficiency.

With that, I yield back.

Chairwoman MALONEY. Thank you.

Now I would like to introduce our witnesses. Our first witness today is the Honorable Ellen Lord, who is the under secretary for acquisitions and sustainment at the Department of Defense.

Then we will hear from Lieutenant General Eric T. Fick, who is the program executive officer of the F-35 Joint Program Office at the Department of Defense.

Next, we will go to Ms. Diana Maurer, who is the director of defense capabilities and management at the Government Accountability Office.

We will also hear from Ms. Theresa Hull, who is the assistant inspector general at the Department of Defense, Office of Inspector General.

Finally, we will go to Gregory M. Ulmer, who is the vice president and general manager of the F-35 Lightning II Program at Lockheed Martin Corporation.

The witnesses will be unmuted so that they can be sworn in. Please raise your right hand.

Do you swear or affirm that the testimony you are about to give is the truth, the whole truth, and nothing but the truth, so help you God?

[Chorus of ayes.]

Chairwoman MALONEY. Let the record show that the witnesses answered in the affirmative.

Thank you, and without objection, your written statements will be made part of the record, and with that, Under Secretary Lord, you are now recognized for your testimony.

**STATEMENT OF ELLEN LORD, UNDER SECRETARY FOR ACQUISITIONS AND SUSTAINMENT, U.S. DEPARTMENT OF DEFENSE**

Ms. LORD. Good morning.

Chairwoman Maloney, Ranking Member Comer, and other distinguished members of the committee, thank you for the opportunity to update you on the department's F-35 sustainment efforts to improve the F-35 ready-for-issue parts for the war fighter and to ensure comprehensive oversight of our contractor support.

I am pleased to be joined by my fellow witnesses today to brief the committee on the progress the department has made on these issues.

The F-35 program is a key enabler of all three pillars of the National Defense Strategy: first, rebuilding military readiness as we build a more lethal joint force; second, strengthening alliances as we attract new partners; and third, reforming the department's business practices for greater performance and affordability.

The fifth-generation stealth and battlefield networking capabilities clearly delivers the lethality needed to meet war fighter requirements.

As such, our international partner nations and foreign military sales customers have chosen the F-35 to be at the core of their future airpower planning.

Last, the F-35 program is a focus of the department's reform efforts to provide affordable war fighter capability. Today, I would like to focus my remarks on three main topics to address congressional concerns: increasing accountability within the F-35 sustainment enterprise, the department's management response to the DOD inspector general's report on ready-for-issue parts, and my efforts to promote effective oversight within the F-35 program.

A core focus area of my tenure as undersecretary for acquisition and sustainment has been strengthening accountability within the acquisition systems and, particularly, for the F-35 enterprise.

The department has made significant improvements in fleet availability over the past year. The department currently uses two main measures of fleet availability for the F-35: mission-capable rate and full mission capable rate. The department has increased the overall mission-capable fleet for the F-35 from, roughly, 60 percent at the beginning of the year to nearly 70 percent in June.

The department has similarly improved the full mission-capability fleet rate from below 35 percent at the beginning of the year to nearly 40 percent in June.

While more work remains to be done to meet war fighter needs, these improvements in fleet availability, driven primarily by improvements in maintainability and supply chain efficiency, demonstrate the department's efforts and are having a significant and measurable impact.

On the ready-for-issue parts concerns raised by the DOD inspector general, their July 2019 report found that the department did not ensure that the contractor was providing spare parts in a ready-for-issue state.

The report also identified that the department did not ensure that payments to Lockheed Martin were properly tied to performance against ready-for-issue metrics.

The department concurred with all of the Department of Defense's inspector general's recommendations and has aggressively implemented corrective actions based on a followup status report provided to DOD IG in January 2020 and, subsequent, conversations with DOD IG representatives.

The issues raised in the DOD IG report are primarily issues of electronic records management related to known deficiencies and the ability of the F-35 Autonomic Logistics Information Systems, or ALIS's, ability to accurately and reliably track and transmit electronic equipment log, EEL, files.

The department has taken near-term action to address key degraders of ready-for-issue, or RFI, rate. But the long-term solution to the problem depends on the already underway effort to replace ALIS with a more stable capable system.

As a result of those near-term actions, the department has increased the RFI rate at Hill Air Force Base, Luke Air Force Base, and Marine Corps Air Station at Yuma from 43 percent in February to exceeding the RFI threshold metric rate of 70 percent in every month since April, achieving a high of 83 percent in June.

In May, this committee spoke to unit commanders from the three services about the effects that ready-for-issue parts issues were having on the units under their command.

I have also spoken directly with these F-35 commanders to hear their feedback and suggestions for improvement.

As a result, I will ensure that corrective actions will drive a system architecture and capability that meets war fighter needs and enables our maintainers to spend their time keeping aircraft available rather than manually working around the flawed electronic records systems.

On January 14, 2020, I announced to the House Armed Services Committee members the transition from ALIS to a new government-owned system, Operational Data Integrated Network, called ODIN.

The department will introduce the first tranche of ODIN capability fleet wide by the end of 2021. In the interim, the department has been working to develop solutions to the legacy ALIS system to improve EEL's accuracy, tracking, and transmission performance to reduce maintenance work arounds and to mitigate potential risks to the fleet.

The DOD IG's report also identified that existing contract terms were not sufficient to hold the prime contractor accountable for the EEL's deficiencies. DCMA has been working closely with the F-35 JPO to negotiate fair consideration to the government from the prime contractor for these deficiencies.

DCMA notified Lockheed Martin of its intent to seek consideration on April 2 and formal discussions began on May 7. DCMA's task is to seek consideration for non-RFI parts delivered between

the beginning of 2015 and April 30, 2020, and to incorporate terms into the next annualized statement contract.

The F-35 JPO has also been working to negotiate more comprehensive contract terms in future sustainment contracts to ensure the contract has defined EEL and RFI metrics to measure performance.

As we have worked to negotiate contracts to better align incentives with performance and accountability, the department recognizes the need to enable more robust and effective oversight on major issues that decrease availability and increase cost.

My staff and I are personally engaged on these issues in a number of venues. I have been meeting weekly with F-35 JPO service and other stakeholder leadership to ensure management oversight.

Furthermore, I have been meeting monthly with the vice chairman of the Joint Chiefs of Staff and military service leaders to drive performance improvement.

I have also been meeting regularly with the CEO of Lockheed Martin to address key issues facing the F-35 enterprise.

I am keenly aware of congressional interest in the F-35 program and my staff has been working closely with the congressional Defense Committees to ensure that they receive timely information on key issues of interest.

My staff has provided quarterly updates to the congressional Defense Committees on a range of F-35 development, production, and sustainment issues, including the status of the ALIS to ODIN transition.

I appreciate the opportunity to have these meaningful discussions with this committee as we work together to strengthen the F-35 enterprise and to continue to provide safe, reliable, and capable F-35s for our war fighters.

Thank you very much for your time and I look forward to answering your questions.

Chairwoman MALONEY. We will now turn to Lieutenant General Fick.

Lieutenant General Fick, you are now recognized.

**STATEMENT OF ERIC T. FICK, LIEUTENANT GENERAL, PROGRAM EXECUTIVE OFFICER, F 0935 JOINT PROGRAM OFFICE, U.S. DEPARTMENT OF DEFENSE**

Mr. FICK. Chairwoman Maloney, Ranking Member Comer, and distinguished members of the committee, it is my distinct honor to serve as your F-35 program executive officer and program director, leading the F-35 enterprise through the development, production, and sustainment of this amazing air system.

On behalf of the 2,100 men and women of the F-35 Lightning II Program, it is my privilege to update you on the hard work that continues daily across the F-35 global enterprise.

I am encouraged by the real progress we have made as an enterprise, but remain keenly aware that much work remains before us. In the past year, our program has matured rapidly.

Annual production rates reached an all-time high. We delivered our five-hundredth aircraft. Unit costs continue to come down and mission-capable rates continue to rise.

We remain committed to delivering the capabilities our war fighters need at a price our taxpayers can afford. Over the past six months, we reshaped the F-35 program office to a product-aligned organization with cross-functional talent embedded within each project management team.

I am seeing the benefits of this change through improved communication with F-35 stakeholders and rapid issue resolution across the organization.

I have focused this team on four lines of effort to continue the positive momentum we have seen in readiness over the last year.

Those four areas are reliability and maintainability, or keeping the part on the aircraft longer; supply posture, which ensures parts are available; repair capacity, which means the capability to repair the part; and finally, repair velocity, which means fixing parts quickly to get the jets flying again.

My remarks today address ready-for-installation, or RFI, parts and electronic equipment logs, or EELs, as requested in your invitation.

An F-35 EEL is similar to a digital medical record. It tells the story of the part from cradle to grave. Each part with an EEL, roughly, 1,000 of the 50,000 parts on an F-35, is managed by the F-35 Autonomic Logistics Information System, or ALIS.

When a part arrives with an incorrect or missing EEL, that part is not ready for installation, or non-RFI. It takes a significant effort and time for maintainers to reconstruct the part history and create a digital record for that part.

This activity diverts time from scheduled maintenance, increases the probability of human error and in costs to the program. The bottom line is we must receive our parts on time and with all the required identification markings and electronic records.

Aided by insights from the Government Accountability Office, the DOD inspector general, and my active dialog with commanders in the field, we are aggressively targeting the root cause of EEL and non-RFI parts issues.

We have improved contracting language to ensure that industry compensation is based upon delivery of parts that are ready to be installed.

We worked closely with the Defense Contract Management Agency to assess the impacts from parts with missing or incomplete EELs and are evaluating what, if any, excess incentive fee may have been paid to Lockheed Martin when our war fighters compensated for non-RFI parts.

My team conducted site visits and quality inspections, working side by side with maintainers on the ground. We developed corrective action plans with industry to address supply system degraders and we are monitoring to ensure that the supply chain is responsive to these corrective actions.

We updated ALIS to improve parts accountability, redesigned ALIS modules to make data entry more intuitive, and revamped training and quality oversight at F-35 locations to catalog discrepancies and reduce human error.

These measures are paying off. As Ms. Lord mentioned, last month our EEL parts ready-for-install rate reached 83 percent with a target goal of 90 percent this year.

Beginning in 2021, the contracted requirement for parts ready-to-issue will be 99 percent. To be clear, we heard the DOD IG. We heard the GAO. We are taking actions, and these actions are making a difference.

In the next two years, the program will also sunset the Autonomous Logistics Information System and introduce a more modern sustainment management tool called the Operational Data Integrated Network, or ODIN.

Led by the government, ODIN starts with a new underlying integrated data environment and brings modern hardware and software to the F-35 sustainer, and will leverage agile development practices and interactions in response to the evolving needs of our customers and global operations.

ODIN will decrease maintenance workload, improve readiness levels, and be portable and easily deployable.

My team of experts and I continue to work tirelessly to deliver the war fighting capability our Nation needs. We will do it smartly, efficiently, and as cost effectively as possible, and we will do it with the highest regard for those we serve and those who put their trust in us.

As the son of an airman and the father of two airmen, nothing is more important to me than giving our service members the tools they need to do their job in harm's way and to bring them back home safely every time.

I appreciate the opportunity to appear before you today and I look forward to your questions.

Chairwoman MALONEY. Thank you.

Next is Ms. Maurer.

Ms. Maurer, you are now recognized.

**STATEMENT OF DIANA MAURER, DIRECTOR, GOVERNMENT ACCOUNTABILITY OFFICE, DEFENSE CAPABILITIES AND MANAGEMENT**

Ms. MAURER. Thank you very much.

Good morning, Chairwoman Maloney, Ranking Member Comer—

Chairwoman MALONEY. We can't hear you right now. You have to speak up louder.

Ms. MAURER. Good morning, Chairwoman Maloney, Ranking Member Comer, and other members and staff. I am pleased to be here—pleased to testify today about GAO's body of work on the Autonomous Logistics Information System, or ALIS.

Over the years, we have found a number of significant problems and challenges with ALIS, which are summarized in my prepared statement for today.

Most concerning is the lack of trust the pilots, maintainers, and commanders have in key aspects of the system. Getting ALIS to work requires cultural work arounds and forces commanders to assume the risk of allowing planes to fly when ALIS says they should stay on the ground.

Over the past six years, we have issued a series of recommendations to DOD to help address these concerns, and we are encouraged that Under Secretary Lord and General Fick are taking our recommendations seriously as they chart a new path ahead,

transitioning from ALIS to ODIN, and as you have heard, ODIN is the fix for ALIS.

So, rather than walk through the list of problems we have identified with ALIS over the years, I will instead focus on key questions stemming from those findings that can assist congressional oversight.

Question one, what is ODIN supposed to do? That was not clearly defined for ALIS. There was general agreement that it should diagnose maintenance problems and form a global logistics chain, reduce sustainment costs, and help keep aircraft—put more aircraft in the air.

But years ago, DOD gave Lockheed essentially no specific requirements beyond create a logistics information system and then did not adequately build users and to develop a process.

As the system evolved over time, there are often gaps between what users needed and what was delivered. So, for example, having a deployable system meant one thing to Lockheed and something very different to the war fighter.

To avoid similar disconnects in the future, it is important to clearly define and agree on what ODIN is meant to do informed by user needs.

Which leads to the second question. After defining what ODIN should do, how will you know it has done it? Six years ago, you recommended DOD develop ways to determine whether ALIS was performing as intended. That never happened.

Instead, over the years we have heard consistently that ALIS has a lot of problems but it is getting better. However, lacking some kind of measures, it was never clear what success looked like or how far off it was.

The F-35 program can learn from its history by developing a clear understanding of how ODIN impacts mission execution. Is it helping putting planes in the air or keeping them on the ground, and how well is ODIN meeting the needs of pilots, maintainers, and commanders?

That leads to the third question. Who is going to make this happen? Years ago, DOD handed responsibility for F-35 sustainment, including ALIS, to Lockheed. That is not inherently bad and, if done properly, it can save money and lead to better outcomes.

But at the time, DOD did not think through of the downstream applications of giving nearly complete control of software, hardware, and intellectual property to the contractor, and as DOD pivots now from ALIS to ODIN, there is an opportunity to reconsider who will do what.

That includes DOD's access to technical data, whether maintainers will be able to correct missing or incorrect information without having to pay a contractor, and how Lockheed, the Joint Program Office, the U.S. military services, and international partners will work together to implement, use, maintain, and upgrade ODIN.

Fixing ODIN—fixing ALIS by transitioning to ODIN will not be quick and it will not be easy. Fully implementing GAO's recommendations will help DOD's efforts in its duty and its ongoing efforts.

However, this transition from ALIS to ODIN is only one item on a much longer list of F-35 sustainment challenges. The F-35 is the

foreseeable future of combat aviation for this country and many of our allies, but it cannot achieve its full potential until the program can address sustainment challenges associated with ALIS, spare parts, operating costs, supply chain, and mission capability.

Chairwoman Maloney and other members, your continued focus and action on sustainment issues, not just production, can help ensure the F-35 is able to meet our national security goals for decades to come.

Thank you for the opportunity to testify this morning and I look forward to your questions.

Chairwoman MALONEY. Thank you.

Next is Ms. Hull.

Ms. Hull, you are now recognized.

**STATEMENT OF THERESA HULL, ASSISTANT INSPECTOR GENERAL, U.S. DEPARTMENT OF DEFENSE, OFFICE OF THE INSPECTOR GENERAL**

Ms. HULL. Chairwoman Maloney, Ranking Member Comer, and distinguished members of the committee, thank you for inviting me to appear before you today to discuss the Department of Defense Office of Inspector General report on F-35 ready-for-issue spare parts and sustainment performance incentive fees.

I am the assistant inspector general for audit, acquisition, contracting, and sustainment, the DOD IG directorate that conducted the audit of the F-35 RFI spare parts and sustainment performance incentive fees.

With the DOD expecting to spend over \$1 trillion to operate and maintain the fleet for 66 years, our report findings highlight the importance of ensuring that F-35 program costs are affordable and sustainable long term.

Lockheed Martin is required to deliver RFI F-35 spare parts. RFI spare parts should be ready for aircraft maintenance personnel to install on the aircraft and should be assigned an electronic equipment logbook, or EEL.

During the audit, we found that Lockheed Martin has been providing a significant number of non-RFI spare parts to F-35 sites since 2015 when sustainment efforts began.

Despite being aware of this problem, the Joint Program Office did not resolve the issue or require DOD personnel to track the number of non-RFI spare parts received. DOD personnel submitted more than 15,000 action requests from December 2015 to June 2018 to correct the non-RFI issues.

To maintain the volume of non-RFI parts that Lockheed Martin provided, F-35 sites reassigned DOD personnel to focus full time on informally resolving the EEL issues.

In some cases, this preempted the need to create an action request and, therefore, created an inaccurate impression that the issue of Lockheed Martin delivering the parts without EELs was improving.

If reassigned DOD personnel were unable to resolve the problem, they still had to contact Lockheed Martin representatives or submit an action request incurring additional charges.

As a result, the DOD received non-RFI spare parts and has spent up to \$303 million between 2015 and 2018 on labor costs for DOD



personnel to bring the spare parts to RFI condition and will continue to pay an estimated \$55 million annually until Lockheed Martin consistently delivers RFI spare parts that meet the contract requirements.

The DOD paid performance incentive fees on the sustainment contracts based on inflated and unverified F-35 aircraft availability hours. Due to the number of non-RFI spare parts that Lockheed Martin provided to F-35 sites, the JPO issued guidance in October 2018 allowing aircraft to be flown with spare parts that had EEL issues, contradicting previous JPO guidance that required spare parts with EEL issues to be quarantined and not used until the issues were resolved.

Personnel at the F-35 sites resorted to using white boards and spreadsheets to track flight hours when non-RFI spare parts were used on aircraft.

The DOD's use of local guidance and ad hoc manual processes allowed aircraft to fly and complete missions instead of the DOD grounding aircraft due to receiving non-RFI parts.

This practice inadvertently inflated aircraft availability hours. According to JPO officials, on any given day 50 percent of the F-35 fleet is flying with non-RFI spare parts.

However, the Joint Program Office does not require F-35 site personnel to collect aircraft availability hours and track the hours that aircraft fly with non-RFI spare parts installed.

Therefore, the DOD has no way to determine the total number of hours the F-35 has flown with non-RFI spare parts. Lockheed Martin is receiving incentive fee payments that were earned through the use of DOD labor rather than the contractors' ability to meet its performance metrics.

As a result, the JPO potentially overpaid performance incentive fees on the 2017 and 2018 sustainment contracts. Furthermore, the JPO relied solely on contractor-reported information on availability hours to pay Lockheed Martin performance incentive fees for 2017 and 2018.

The JPO compared availability hours on one Lockheed Martin-generated report to another Lockheed Martin-generated report because the JPO did not track or collect aircraft availability hours.

As a result, the DOD has potentially overpaid \$10.6 million in performance incentive fees. F-35 aircraft are already proving to be more expensive to sustain than originally planned.

If the DOD and Lockheed Martin do not address the concerns discussed, issues related to non-RFI spare parts will continue to compound as the fleet expands, escalating sustainment costs, reducing mission-capable rates, and increasing the life and safety risks that occur when life-limited non-RFI spare parts are installed and flown without an EEL.

Additionally, 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.

Thank you for the opportunity to testify this morning and I look forward to your questions.

Chairwoman MALONEY. We will now conclude with Mr. Ulmer. Mr. Ulmer, you are now recognized.

**STATEMENT OF GREG ULMER, VICE PRESIDENT AND GENERAL MANAGER, F 0935 LIGHTNING II PROGRAM, LOCKHEED MARTIN CORPORATION**

Mr. ULMER. Thank you, Chairwoman.

Chairwoman Maloney, Chairman Lynch, Ranking Member Comer, Ranking Member Grothman, distinguished members of the committee, I appreciate the opportunity to testify on behalf of Lockheed Martin and our industry teammates to provide you with an update on the F-35 program.

My preference would be to testify in person, but as you know, I have been asked to speak to you virtually due to COVID.

I want to thank you for your interest in the program and commitment to ensuring it delivers the best value to the taxpayer but, more importantly, to our war fighters.

As the F-35 vice president and general manager, I appreciate the opportunity to meet with Congress and engage in meaningful dialog concerning the program.

At this time, I would like to submit my full written statement and ask that it be made part of the hearing record.

Now I would like to provide a brief update on the state of the F-35 program. The committee has asked specifically that I address F-35 sustainment, focusing on electronic equipment logbooks, or EELs, as well as ready-for-issue, or RFI, parts.

These are important issues for the maintainers on the flight line who keep the F-35 flying, and we remain steadfast in our commitment to make their job seamless and without issue.

The F-35 stealth technology, supersonic speed, advanced sensor suite, weapons capacity, and increased range make it the most lethal, survivable, and connected aircraft operating in the world today.

We have delivered more than 540 aircraft, trained more than a thousand pilots and 9,000 maintainers and flown nearly 300,000 flight hours.

Currently, the F-35 operates from 20 bases and force ships with nine nations operating the jets from their own home soil. Five countries have flown operational missions including the United States Air Force, which has been in continuous deployment overseas for more than a year.

War fighters tell us the aircraft provides game-changing capabilities, providing unprecedented situational awareness, maneuverability, and connectivity.

The F-35 program is also a powerful economic driver. The program currently has 1,900 suppliers, 1,800 of which are in 48 states plus Puerto Rico, generating 254,000 jobs, which results in a U.S. economic impact of \$49 billion annually.

The F-35 program continues to make great strides in the area of sustainment. We quickly scaled from development to production to fielding at an unprecedented rate.

In the last three years, Lockheed Martin has delivered more than 300 aircraft and invested over \$270 million improving our supply chain through data analytics and automation along with leveraging both production and sustainment elements to improve performance at reduced cost.

Lockheed Martin and the JPO have been working diligently to improve sustainment performance with an emphasis on affordability.

Within the last 24 months, the mission-capable rate for the fleet has increased from the low 50 percentile to the mid-70's.

Additional sustainment metrics that measure the health of maintenance due to supply and other associated maintenance activities have also significantly improved.

Over the past five years, Lockheed Martin has reduced the cost per flying hour that we control by approximately 40 percent and we project that with our further investments we will be able to drive that down—drive down our costs per flying hour aspect another 50 percent over the next five years.

We acknowledge EELs have been a challenge, but significant improvements have been realized. Lockheed Martin has applied diagnostic and engineering resources to resolve the issue.

These challenges do not indicate that a part is flawed nor are EEL issues caused exclusively by industry alone. U.S. services have confirmed a market improvement in ready-for-issue parts in 2020.

These gains are a direct result of the concerted joint government industry effort to identify root cause and implement corrective actions. Substantial progress has been achieved since the release of the DOD IG report more than a year ago.

Since then, Lockheed Martin has demonstrated a 45 percent point improvement in EEL performance while simultaneously growing the fleet by more than a third.

This year, RFI parts have improved to approximately 83 percent. We will accelerate two more rounds of improvements this year, which we expect will result in the 90 percent RFI threshold targets specified by our customer.

Lockheed Martin is committed to transparency and partnership and the resolution of the challenges associated with EELs and we will continue to be compliant with our contractual obligations on the program and look forward to a continued partnership with the committee, the DOD, and the Joint Program Office to resolve this issue.

In conclusion, the F-35 is performing and operating as we envisioned from an operational sustainment perspective. The F-35 has proven itself in combat and is quickly becoming the centerpiece of the U.S. military fighter fleet and that of our allies.

It is a privilege to lead the F-35 industry team and, on behalf of Lockheed Martin, I thank the men and women of our U.S. services and their families for their selfless service to our Nation.

Again, thank you for this opportunity to update you on the F-35 program. I am happy to answer any questions you may have.

Thank you.

Chairwoman MALONEY. I want to thank all the panelists, and I do want to respond to the items that my friend, Representative Comer, raised, and we are in person today because DOD insisted on testifying in person. So, the witnesses in person are all from DOD and we could only have three to conduct the hearing safely.

We did try to work with your staff and the medical staff of the Capitol to have in-person hearings as you requested. It was very

difficult to make this happen and meet the health standards to ensure people don't get infected.

One thing I know from New York is we don't know enough about this virus. I have talked to friends and they seem fine. The next day they are dead.

They told us it doesn't affect children. One day 35 children came down with it. One of them died. And you hear the heartbreaking stories of medical professionals who believe they are decontaminated. They come home and they infect their entire families.

So it is a deadly, deadly disease and we have to put health first. But the next hearing we could have Lockheed in person and have DOD remotely. I am going to instruct the staff to work even harder with your staff to meet the accommodations and the concerns that you have.

I deeply respect the position you hold and want to work with you. I think we are united in wanting to have a strong military, a strong private sector, a strong government, all getting a quality product and protecting taxpayers' money.

So, I sincerely would like to try to accommodate and next time we will have Lockheed testify in person and others will be remotely.

So right now, I would like to recognize myself for five minutes.

Ms. Hull, according to the DOD IG report issued last year, they said that DOD incurred more than \$300 million, a staggering amount, in excess labor costs between 2015 and 2018 due to Lockheed Martin not delivering spare parts that met the requirements of the contract.

The IG also estimated if these problems go unaddressed that it will continue to pay the department, DOD, \$55 million each year in extra labor cost.

Your office recommended that the Defense Department seek compensation from Lockheed Martin dating back to 2015. Why did your office recommend that DOD seek to be reimbursed for these parts?

Ms. HULL. Chairwoman, we recommended that DOD be—seek reimbursement for that because by definition in the contract the parts should have arrived ready for issue, which means they should have been ready to go on the aircraft along with an electronic equipment log book.

So, to keep in terms with the contract, our recommendation speaks to the need for compensation.

Chairwoman MALONEY. OK. And according to the IG report, the Defense Department previously sought payment from Lockheed Martin for these electronic log defects in November 2018 but Lockheed Martin, and I quote, "refused to sign the proposed modification on the sustainment contract."

Ms. Hull, is that right?

Ms. HULL. Based on the information that we had at the time, that is true.

Chairwoman MALONEY. And according to the IG's report, based on a similar contract modification the proposed change would have cost Lockheed Martin \$7,000 for each problem identified with a spare part and, according to DOD, Lockheed Martin refused to sign

the modification because it would cost less to fix each individual problem than it would to reimburse the government.

Is that correct?

Ms. HULL. The range of cost per EEL issue is in \$7,000 to \$11,000 and, yes, according to what we found, as from our work, Lockheed Martin found that it would be cheaper to address this on a sustainment contract.

Chairwoman MALONEY. OK.

Lieutenant General Fick, let us turn our attention to you. Congress mandated the 2020 National Defense Authorization Act that the departments follow the IG's recommendation by seeking compensation for defective parts, and I understand the discussion between Lockheed Martin and the Defense Contract Management Agency began in April and that DOD worked with Lockheed to identify specific problems between 2015 and 2020 that are attributable to Lockheed Martin.

What is the current status of the negotiations with Lockheed Martin now?

Mr. FICK. Those discussions are ongoing as we speak. My understanding is that the team has come to an agreement relative to the magnitude of the issue and the problem but that the consideration offered or demanded has not yet been agreed to.

Chairwoman MALONEY. OK.

And, Mr. Ulmer of Lockheed Martin, Lockheed Martin is responsible for fully executing the contract that American taxpayers are paying for and that our military is counting on your company to safely and effectively deliver.

We don't need further delays or excuses from Lockheed Martin about these problems. Will you commit to paying the Defense Department back for every defective electronic log in the Defense Contract Management Agency that has been identified?

[No response.]

Chairwoman MALONEY. Mr. Ulmer?

Counsel. They lost the audio from us so you may have to repeat it.

Chairwoman MALONEY. OK. Mr. Ulmer, can you hear me now? He has left, I guess.

Counsel. No, he is on. He is on. They are—they have problems with our audio.

Chairwoman MALONEY. OK.

Counsel. Go on to the next question and come back.

Chairwoman MALONEY. OK. All right. We are going to go to another question. But my questions are of Mr. Ulmer.

So, I now yield to the ranking member for his questioning.

Mr. COMER. Thank you.

Ms. Lord, I understand the EELs are a major issue, but what are some other issues in the program and how are you and the department responding to them?

Ms. LORD. From a sustainment point of view, we are trying to look at Lockheed Martin's performance, particularly in terms of earning incentive fee by implementing some of the measures we took on the production program where we, very clearly, link what is goodness for the war fighter to what are those incentives that are paid. So, that is contractually what we are doing.

Second, EELs are a significant issue, but we do have a challenge with visibility in parts being transferred, also in terms of maintaining warehouses and making sure that obsolete equipment is moved out. So, there are a variety of other things as well.

Mr. COMER. General Fick and Ms. Lord, we have heard from servicemen on the ground that they are following DOD and JPO directives to fly aircraft that may be missing an EEL.

I believe that—well, I trust our commanders to make the proper decision regarding the health and safety of our pilots and our jets.

But I believe that Lockheed is incentivized to keep jets in the air and keep them at least partially mission capable, notwithstanding the directives from DOD and JPO.

If a jet were missing an EEL, would it be allowed to fly?

Mr. FICK. Yes, sir, it could, and let me tell you the circumstances under which a jet that is missing an EEL could fly, the circumstances in which that EEL does not contain a safety—is not associated with a safety-critical part nor a life-limited part.

So, when I spoke with my maintenance group commanders, five of them on the phone on Monday of this week, each of them confirmed to me that if the EEL—I am sorry, if a part that is missing an EEL is safety critical or is life limited in any way, that part will not be installed on the aircraft and that aircraft will not fly.

Mr. COMER. So, if a jet were not allowed to fly, would it count positively toward aircraft availability or the mission-capable rate?

Mr. FICK. It would count negatively.

Mr. COMER. OK. Should a contractor be incentivized for performance that would otherwise not happen without the hard work of U.S. Government personnel such as allowing a plane to fly without an EEL?

Mr. FICK. Sir, in general, I would say no. But at the end of the day, we put blue suiters and green suiters and brown suiters in the cockpit to fly those missions. So, no aircraft takes off without some form of government assistance. The magic is finding where in the middle—where is the—what is the right answer for responsibility.

Mr. COMER. Ms. Lord, are EELs required by a contract to be delivered by Lockheed to the government?

Ms. LORD. Yes, sir, it could.

Mr. COMER. Is Lockheed delivering EELs intact 100 percent of the time?

Ms. LORD. No.

Mr. COMER. Have they failed to deliver just a few parts or are we talking thousands of parts?

Ms. LORD. We are talking significant numbers of parts. I believe General Fick can confirm it is thousands.

Mr. COMER. OK. Is Mr. Ulmer back online yet?

Mr. Ulmer, can you hear me?

Chairwoman MALONEY. Mr. Ulmer, can we—can we ask you a question? Are you online, Mr. Ulmer?

Mr. COMER. OK. I have two minutes left. All right. I will yield back until we get him back online. I had questions as well, Madam Chair.

Chairwoman MALONEY. Is he back online now?

COUNSEL. He is on. He is on.

Mr. COMER. Oh, he is on? OK.

Mr. ULMER. Madam Chairwoman, can you hear me?

Mr. COMER. Yes, we can hear you now.

Chairwoman MALONEY. We can hear you but I can't see you.

Mr. COMER. All right. There we go. Good deal. All right.

Chairwoman MALONEY. OK. Great. You are back. OK.

OK. Why don't you finish, Mr. Comer, because—

Mr. COMER. OK. Thank you.

Mr. Ulmer, when was your last quarterly earnings call at Lockheed?

Mr. ULMER. Yesterday, Congressman.

Mr. COMER. How much revenue was reported?

Mr. ULMER. I believe \$41 billion.

Mr. COMER. So, that is—what about revenue for all of Fiscal Year 2019?

Mr. ULMER. I don't have that figure off the top of my head, Congressman.

Mr. COMER. How much is—how much of your revenue is from government accounts?

Mr. ULMER. I will have to get that information for you and provide that, Congressman.

Mr. COMER. OK. Our research indicates it is—

Mr. ULMER. But it is the majority.

Mr. COMER. Right. Somewhere around 75 percent. Do you know, roughly, what percentage of your revenues came from the F-35 program?

Mr. ULMER. Approximately 30 to 40 percent.

Mr. COMER. OK. With all this profit, why is Lockheed failing to fulfill the contract and deliver EELs intact and on time?

Mr. ULMER. Congressman, those figures are orders and sales, not profit, and we are very engaged relative to resolving this problem concurrently with our customer.

Mr. COMER. OK.

Well, Ms. Lord and General Fick, I look forward to working with you all on this issue and continuing our efforts to make contracting less burdensome and safeguard the American taxpayer.

I mean, it is—the taxpayers want and expect us to have the best military in the world. The Congress is committed to ensuring that our troops and our military have the best and have everything they need and I, for one, certainly want to work with the private sector to ensure that we have the best. But we also expect the private sector to deliver on the contracts that the American taxpayer expects.

So, I look forward to working with you and Lockheed through this process and, hopefully, we will continue to see improvements.

Madam Chair, I yield back.

Chairwoman MALONEY. Thank you, and I would like to be associated with your comments about wanting to see improvements.

We had a prior briefing with the military leaders that were running this program and working with the men and women who were flying the planes, and I have never seen a military person not in combat who was so frustrated, wanting to make—have a product that was great for our country and not having the support or the technology or even the parts that worked for the plane.

This is a tremendous problem. So, I really want to ask you, Mr. Ulmer, will you commit to paying the Defense Department back for

every defective electronic log the Defense Contract Management Agency identified?

Mr. ULMER. Congresswoman, it is a complex problem, as we have discussed. It is not all associated with Lockheed Martin performance. There are many aspects relative to not ready for issue.

This is not simply—this electronic file, we are making—we are innovating as we go through this process with our customer. This has been a concurrent program. So, we concurrently have developed, produced, and sustained this aircraft and the products that we utilized to do that.

An electronic equipment logbook contains quite a bit of sophisticated engineering information. It doesn't simply just track a part. It includes technical data, graphical data, ITAR data.

It contains a lot of different information. Through the business process, there are—there are elements that we can corrupt this data. It can be presented that way or a customer can miss input information.

So, there are a lot of complexities relative to the electronic EEL book. We have been working wholeheartedly with the DCMA and the JPO to resolve and understand these technical issues.

We have seen significant improvement in the last six months, in particular—as we have mentioned, an improvement up to 83 percent ready for issue—and I am fully committed to supporting that continued engagement to resolve those issues, going forward.

I am also committed to meeting with the Defense Contract Management Agency as well as the JPO to sit down and reconcile the concerns and adjudicate the cost appropriately.

Chairwoman MALONEY. Well, I appreciate your concern. But I come from a military family, and every time a pilot gets in those planes and flies up into the sky they are risking their life.

And I know many widows and children that have lost their father because of faulty equipment and 85 percent isn't good enough for the U.S. military.

It has got to be 100 percent, and a contract is a contract, and the contract says you will deliver a plane, which you have done beautifully.

It is a beautiful plane. But it also says that the material that is needed to fly that plane has to be delivered, too.

Our military managers don't want to be sending people up in the air when they don't have everything perfectly there that is in that contract. That is only fair.

So, I hope that you will change your mind and at the next hearing have an update on how you are now at 100 percent and how you have worked out the understanding of this equipment so that it is working for the military.

One of the most heartbreaking things to me in the last meeting is that one of the managers said—he said—I can't even repeat it. It is too upsetting.

I would now like to say, Mr. Ulmer, I sent you a letter, or Lockheed Martin a letter, on June 18, 2020, and I appreciate Lockheed Martin's cooperation so far in producing documents and getting back to us with some answers.



But many documents have not been provided. So, do you commit that Lockheed Martin will produce all of the remaining documents before the end of the month.

I must tell you, it is upsetting to me if you can't deliver a document I have no trust that you can deliver a plane that is going to operate and that has all of the equipment.

True, it is a complicated plane. You have complicated equipment. But the contract for a trillion dollars to maintain it, the contract calls for the supportive equipment to be delivered and operating, and how can you expect our military to respond?

This is in peacetime. I hate to think what would happen if we were in a war and our men and women had to fly a plane that didn't have the technology working or the pieces working that are supposed to be working with this plane.

So, this is really, I would say, not just a money issue. I think it is a life and death issue, and we have to get this plane—what good is a plane that can't fly, according to some of the managers, because all the equipment is not working?

So, I look forward to following up with you on this request for the documents and also on the request that Lockheed Martin live up to its contract.

The American people have paid a lot of taxes to live up to our contract with producing this important plane. But Lockheed is not responding to my requests for documents.

It is not responding to the military's request for equipment that they feel that they need to fly this plane.

So, I now yield to the distinguished lady.

Mr. ULMER. Madam Chairwoman?

Chairwoman MALONEY. I am going to Ms. Norton from the District of Columbia. OK.

Ms. NORTON. Thank you, Madam Chair, and I want to thank you for this hearing. I want to say, Mr. Ulmer of Lockheed, in explaining the cost overruns indicating innovations and the rest, I just want to say for the record that—can you hear me?

Chairwoman MALONEY. Yes, we can hear you.

Mr. ULMER. Yes, Congresswoman.

Ms. NORTON. I want to say for the record that we signed a contract. We didn't sign to pay for innovations. We signed—we didn't sign to pay for cost overruns and that is what is happening. We are paying for cost overruns and that is something that has simply got to stop.

I have a question, beginning with Ms. Maurer of the GAO, because the committee staff also visited the F-35 bases and they pointed at that time that ALIS was the root cause of the problems with the electronic logs and that the—they lose track, the logs do, sometimes overnight after maintenance crews have already cleared the F-35 to fly the next day. Talking about dangerous.

Is what the committee staff found in its visit, Ms. Maurer, consistent with what the GAO has found in its work?

Ms. MAURER. Thank you for the question, and yes, those findings are consistent with what we found in our work and we summarized those findings in our report that was issued back in March as part of our audit work last year.

Our team visited five different installations within the United States where they had F-35s deployed. We heard a great deal of frustration from pilots and from maintainers and from commanders.

There was a grave amount of concern that the—and frustration, frankly, with the problems with EELs and with the problems with the interface with ALIS itself. These are longstanding problems.

We have noted them in our reports going as far back as 2014. Much of this is rooted in the fact that this is an old system and we hope that DOD fully implements our various recommendations as they move toward implementing ODIN.

I will be watching that carefully to make sure that these problems do not continue in the futures. It is definitely a problem with the past, definitely a problem in the present.

Ms. NORTON. Thank you, Ms. Maurer.

Mr. Ulmer of Lockheed, Lockheed, of course, has acknowledged flaws in ALIS and it provided the committee with a presentation. In its presentation, you indicated that ALIS is currently looking at its manpower, hardware, increased labor costs, decreased readiness.

What steps—when you consider all of these flaws in ALIS, what steps is Lockheed taking now—this is for Mr. Ulmer—what steps is Lockheed taking now to improve ALIS until that system can be replaced?

Mr. ULMER. Congresswoman, we have gone to an agile software development process with the ALIS system. Just to let everybody know, ALIS is an IT infrastructure that was developed in the early 2000's before the iPhone existed.

So, it is an antiquated hardware/software system. We have implemented agile software updates. We have improved processing time significantly on the order of 50 percent or more. We have gone to quarterly releases. It was taking us 12 to 18 months to provide software updates.

We are now, concurrently with the JPO, releasing software updates every three months. We are receiving positive feedback, reduced wait times, significant processing time.

You can get all of the information in front of you significantly reduced button clicks to get to information, to process data. So, quite a bit of improvement has occurred on the ALIS system recently.

Ms. NORTON. Madam Chair, I hear concern even discussed on both sides of the aisle. I can only hope that this hearing moves us ahead to at least get a new system so the taxpayers aren't continuing to pay for these redundant flaws.

My time is out and I thank you.

Mr. LYNCH.

[Presiding.] The chair now recognizes the gentlelady from North Carolina, Ms. Foxx, for five minutes.

Ms. FOXX. Thank you, Mr. Chairman.

Mr. Ulmer and Lieutenant General Fick, the DOD Inspector General report notes that ready-for-issue means the spare parts supplied by the contractor are ready to install on the aircraft and have an electronic equipment log, or EEL, assigned.

Can you explain in layman's terms what an electronic equipment log is and its importance to overall maintenance and sustainment of an aircraft such as the F-35?

Mr. FICK. Yes, ma'am, I can.

So, an electronic equipment log I like to think of as a personal health record associated with that specific part. It follows the part digitally or electronically, and some of the functions we ask of that EEL are to track life limits associated with that part, to track implementation of TCTDs, to look at part number and tail number compatibility, to manage complex assemblies like an ejection seat that may have an EEL at the top level and then lower embedded, or indented, EELs below that. We look at the EEL also for export control as well as inspection requirements for those parts.

Ms. FOXX. Thank you.

Mr. Ulmer, would you like to respond?

Mr. ULMER. Yes, ma'am. I concur with General Fick's review of a description of an EEL. To be clear, ma'am, it is an electronic file.

In 2016, we implemented quarantines such that when we release materiel that we ensure the EEL is, in fact, in place and appropriate.

So, here in Fort Worth, where we produce the aircraft, in late 2016, early 2017, we implemented we could not deliver aircraft without EELs being compliant. As the aircraft delivers and then that EEL delivers on with the airplane, it is consumed within the ALIS system.

The information that General Fick described populates the information structure that informs the maintenance system how to operate and sustain the airplane.

The business processes behind that transfer of that information, the communication of that information, the input of that information is what is resulting with the EEL issues to date and that is where we are very focused on creating solutions from an IT business process point of view to resolve these issues, and that is where we have seen in the last six months in particular the significant increase of ready-for-issue parts.

Ms. FOXX. Thank you.

This question is also for both Lieutenant General Fick and Mr. Ulmer. What challenges are the F-35 program experiencing on electronic equipment logs and what is being done to identify and understand the root causes of sustainment issues with the F-35 program?

Mr. FICK. I will speak to them in general terms, ma'am.

I think there is, basically, three problems. One would be does it exist, and Mr. Ulmer addressed that in his comment relative to the initial existence of an EEL on delivery.

The second would be both of those really have more to do, in my mind, with ALIS and with the IT systems and how the EELs are passed around than they do with the actual instantiation of the EEL itself and that is they may be corrupted or they may be removed or stripped inadvertently as the electronic footprint of that part works its way through the system from Lockheed to a supply point in a country and then, eventually, to a squadron.

Ms. FOXX. Mr. Ulmer, if you think that Mr. Fick's—General Fick's answer is sufficient, then if you would just say so. My time is running out and I have one more question.

Mr. ULMER. Congresswoman Foxx, I concur with the PEO.

Ms. FOXX. Thank you.

Mr. Ulmer, what actions has Lockheed Martin taken to address the nonready-for-issue parts and ensure accuracy of electronic equipment logs more than what you have already stated—if there is something else you need to state?

And then, Lieutenant General Fick, have you seen improvements in issue—ready-for-issue parts?

If your question is yes or no, then that would be easy, General Fick.

Mr. FICK. We have seen an improvement associated with RFI parts that require an EEL. Now, remember, EELs are only required in about a thousand out of the overall 50,000-part count on an aircraft.

So, it is a very small number of parts that actually require EELs. And to that point and to my earlier point relative to whether an EEL is truly required, we are actively looking to reduce the number of parts that have EELs.

Ms. FOXX. Right.

Mr. FICK. So, we reduce this problem.

Ms. FOXX. Mr. Ulmer? Mr. Ulmer?

Mr. ULMER. Congresswoman Foxx, we have invested \$30 million relative to improving the ready-for-issue parts. That improvement, as we have described the EEL and the engineering content associated with that, the complexity of that content, we have done a very formal systems engineering approach.

When I say we, I am talking the enterprise—JPO, Lockheed Martin—with our war fighter. We have conducted events where we have gone out to the war fighter. We have heard the concerns.

We have witnessed the concerns. We document the concerns, and then we come back and go through a very formal systems engineering process to determine root cause and corrective action, and those actions then play forward relative to the improvements we are seeing.

We still have two more formal initiatives this year as we work to raise the bar relative to issue effectiveness.

Ms. FOXX. Thank you both.

Madam Chair—Mr. Chair, I yield back.

Mr. LYNCH. The gentlelady yields.

I am going to yield myself five minutes.

Ms. Hull, at the beginning of your testimony you mentioned the term of the current contract with the—

Mr. COMER. Mr. Chairman, point of order.

It is—now it is the Republicans' turn.

Mr. LYNCH. Ms. Foxx just spoke.

Mr. COMER. Oh, Ms. Foxx.

Mr. LYNCH. She is still a Republican, right?

[Laughter.]

Mr. COMER. Yes.

Mr. LYNCH. OK. All right.

Mr. COMER. I thought you said you were yielding yourself.

Mr. LYNCH. That is OK. Reclaiming my time. We are going to start the clock again for five minutes. But I respect the gentleman's right.

Ms. Hull, at the beginning of your testimony you mentioned the term or the length of the Lockheed Martin contract on the F-35. How long was that?

Ms. HULL. The contracts, they are annual contracts. Some have gone beyond a year. As part of our review we looked at on the EEL issue the time period of 2015 until about April 2019—or sorry, the 2018 contract goes until April 2019 but our EEL review covered a portion of 2015 through 2018.

Mr. LYNCH. OK. Is there—are there problems—and I know Ms. Lord and Lieutenant General Fick, you were both on board back in 2019 when we went with this larger contract. I think it is—is this Lot 12 we are doing now or Lot—

Mr. FICK. Yes, sir. We are delivering Lot 12 now.

Mr. LYNCH. OK, and that is 149 aircraft? Is that correct, roughly?

Mr. FICK. It is 147, I believe.

Mr. LYNCH. OK. All right. All right. I trust you. All right. Close enough.

Is there a problem with the way we have framed this contract that makes Lockheed Martin less responsive to issues like this, do you believe?

Mr. FICK. I don't believe so. I know that on the sustainment contracts, starting with—

Mr. LYNCH. OK. Let me—let me—and I don't have a whole lot of time.

Mr. FICK. Yes, sir.

Mr. LYNCH. But are they—is Lockheed Martin still getting incentives, despite the fact that they are delivering noncompliant parts?

Mr. FICK. So, we assess Lockheed Martin's performance against the specific incentive fee criteria that we build into both the production contract, the—

Mr. LYNCH. But isn't that on flight time? So, if you fix—if you fix a noncompliant part and get that up in the air, does Lockheed get the bonus? Get the—

Mr. FICK. Yes.

Mr. LYNCH. Yes, they get the incentive. So, that is what I am getting at. Is there a way we could—and Mr. Ulmer, I would like you to consider this seriously.

That part of the contract, the fact that you are getting an incentive bonus because DOD personnel have spent approximately \$300 million in a work around on your noncompliant parts to allow you to receive a bonus for work that, you know, you didn't do correctly.

So, you need to—you need to go back and figure that out. You can work with the Defense Contracting Management Agency.

That portion of the benefits you are receiving is not fair and just under the contract, and I would highly recommend if you want to avoid reputational damage you need to rethink the terms of that contract and come back to the table and work something out that is fair for the American taxpayer.

Lockheed Martin has had a long strong history in the defense sector and we respect that. But I don't believe, based on the facts

here, that the American people are being treated fairly, and that will be to the detriment—if that continues, that will be to the detriment of Lockheed Martin.

So, we got to look at that really hard. I do believe that the F-35 is probably one of the finest aircraft out there when it flies. When it flies.

And that is the problem that we have got this whole work around in terms of, you know, this whole program.

So, you are on notice, Mr. Ulmer, and I would like to ask you some questions. Do you believe—Mr. Ulmer, do you believe that we are—we are in the process of fixing this problem?

I have a report right now that tells me that the inspector general of DOD, in addition to the Government Accountability Office and the bipartisan Committee of Staff Delegation, Republican to Democrat—we agree on this.

This is not a partisan issue. That because of pervasive problems with the F-35 spare parts, missing electronic logs, military personnel must be reassigned to troubleshoot problems.

Pilots must fly F-35s on a near daily basis with defective spare parts, and maintenance personnel are at risk of allowing aircraft to fly with potentially dangerous issues.

So, we got a problem, according to DOD, our unified staff, and the Government Accountability Office. So, what are you going to do about it and how quickly do we get this thing fixed?

Mr. Ulmer?

Mr. ULMER. Congressman, I take—Congressman, I take this extremely serious. We are very focused on manufacturing and sustaining the F-35, and safety is at the forefront as well as airworthiness of the vehicle.

And, for the record, I would like to state to the chairwoman to my knowledge all documents have been provided. So, I would like to connect with your staff to make sure that that occurs to your satisfaction. But my belief is we are doing that.

Congressman, you asked if we are taking—

Mr. LYNCH. We will followup. We will followup on that.

Mr. ULMER. Thank you, sir.

Sir, you asked me what have we done. So, I indicated we have spent \$30 million to resolve this issue to date. We continue to meet directly. We have had six direct meetings with the DCMA since April 2.

We were meeting with the DCMA prior to April 2 to work on this issue together. We continue to have regular engagements with the Joint Program Office.

We continue to make adjustments to the ALIS system to improve the system, not just from an EELs—electronic equipment logbook—point of view but from an ALIS all up point of view.

We are participating with the JPO relative to taking the lessons learned from the ALIS experience and informing the ODIN experience as we go forward. So we are taking several different approaches relative to problem resolution.

We have seen marked improvement. We have more to go. We understand we have more to go and we will continue to support and you have our resolve to fix this problem.

Mr. LYNCH. OK. As you know, this is the largest single contract we have got. This is an important part of U.S. readiness and, you know, we have got unanimity here, Democrat and Republican, that we got to get this right.

The chair now recognizes the gentleman from Texas, Mr. Cloud, for five minutes.

Mr. CLOUD. Thank you, Chairman.

This is quite the ordeal. It is amazing to think that 20 years into this program this is still where we are at. You know, no doubt the F-35 is an amazing piece of technology.

We are glad to have it in our force and we certainly want to make sure that the United States stays preeminent when it comes to race of technology and dominance.

But when it comes to the battle space, the battle space is not just collateral, and especially today, as we look to the threats from China, it is also economic. It is cyber. It is multifaceted.

And when nations have risen and fallen through history, it wasn't just because they didn't have the latest technology on the battlefield. It is because they collapsed from internally through economic restraint.

So, it is extremely important that we get this right, but it is extremely important that we get it efficient as well.

We have spent \$1 trillion in the last five years on this, and at least the estimates that we have here, and it is—you know, that could have gone to a lot of different places. You know, we have China invading our cyber and doing other different things, and so it is just important that we get this right.

So, where we are at now, it seems we have a shipping system that doesn't work. I have talked to people in the boots on the ground and they will say that when the parts come in they are not even labeled correctly. You know, sometimes up to 30 percent, half of them, aren't even labeled correctly.

Now, I know that the system is complicated. It is not like Amazon where you are just delivering the part, you are trying to track it and all that other kind of stuff. But it seems like not being able to get the part to them correctly is a problem.

As has been mentioned, we have \$300 million in excess labor costs just since 2015 that is going in this. When Lockheed—it was just mentioned by the chairman when they—they are incentivized for having planes flying. It is a great idea.

But when they don't fly and then we have to fix them, they still get paid for incentives, and so it is hard to see how this keeps going on. You know, it has been said that insanity is doing the same thing over and over and expecting different results.

Here, it just seems like another day in Washington, DC. So, I appreciate the work that has been done to move this forward but it seems like we still have a whole lot of work to do. Seventy percent, I don't think, is a benchmark for excellence in anyone's.

I know that is not—you are here and I know many of you came into this program. You haven't been in your positions for 20 years, certainly.

Recently, we paid \$30 million to store and maintain six 35s originally destined for Turkey, which makes we wonder what is the general cost of not flying an F-35.

So, when an F-35 isn't ready to fly, what cost is associated with this? How much does it cost? Because \$30 million to not fly six planes seems like a lot of money.

Mr. FICK. So the—sir, respectfully, the \$30 million cost for those six planes accounted for the induction of those aircraft into long-term storage and the work required to preserve them in that condition.

So, that is not work that we normally would do to an aircraft on a flight line because, ultimately, our goal—our objective there is to continue to fly them.

I can certainly get you a breakdown of the cost associated with that entry into long-term storage and then what the annual costs are associated with the storage of those Turkish jets.

Mr. CLOUD. Mm-hmm. Now, I have been surprised to find that we have these contracts being renewed every year and then still the contracts don't seem to be getting any better. Are there performance metrics that are required penalties for not meeting them?

I mean, these are things that seem basic in the corporate world that we seem to have a hard time doing when it comes to military contracting.

Ms. LORD. Congressman, I would like to address that. I was in industry for 33 years before taking this job about three years ago, and my primary energy has been put into rewriting the acquisition system for the Department of Defense. So we used to have one large one-size-fits-all system and we have broken that system down into six individual pathways.

So, for instance, we are talking about ODIN, which is the upgrade from ALIS. We are using modern software techniques on that. So we are tailoring.

To your specific questions about sustainment, what we are doing is refining the incentive fee structure, going back and getting the voice of the customer, understanding what it takes to get aircraft operational and making sure that as we write incentive fees there is a very clear linkage there.

Additionally, we have said multiple times this morning that one of the root causes of the EELs problems and the RFI problems are ALIS, the software system we use to collect data and maintain the information.

That is an out of date system, and what we are doing in developing ODIN, its replacement, is going directly to the maintainers and getting the voice of the customer to make sure we drive software requirements from the front line, the user, what they need, versus someone sitting in a lab deciding that for them.

Mr. CLOUD. Thank you. My time has expired. I will just say it is extremely important, that we owe it to the American taxpayer. It is a patriotic duty to do this right, efficiently, and to require Lockheed to pay penalties when they don't get it right.

I yield back.

Mr. LYNCH. The gentleman yields back.

The chair recognizes Ranking Member, Mr. Comer.

Mr. COMER. Mr. Chairman, I ask for unanimous consent to clarify Mr. Ulmer's response to my questions.

First, your second quarter profit is \$1.6 billion. Second, your Fiscal Year 1919 profit was \$6.2 billion. So, I renew my question



which was why is Lockheed failing to fulfill the contract and deliver EELs intact and on time, and I ask for these documents to be in the record.

Mr. LYNCH. And you repeat your question, right?

Mr. COMER. Yes.

Mr. LYNCH. OK. So, Mr. Ulmer, I hope you heard that. Without objection, the documents are accepted.

[The information follows[SA2]:]

Mr. ULMER. Understood.

Mr. LYNCH. The chair now recognizes the gentleman from Virginia, Mr. Connolly, for five minutes.

Mr. CONNOLLY. Thank you, Mr. Chairman, and thank you to our panel today. I am going to try to ask a few rapid-fire questions.

Ms. Maurer, what is unique about the F-35 program?

Ms. MAURER. There is a long list of things that make it a unique program, but among many different things it is—one, it is an international program. It is not just a U.S. program.

So, international partners including some of our closest allies like the British and the Dutch and the Australians have a voice in decisions including what is going to happen—

Mr. CONNOLLY. Let me interrupt. But isn't there something else? The J-35 is—I mean, the F-35 is replacing all our Strike Fighters, right?

Ms. MAURER. Yes. It is designed to replace a number of legacy fighters across three different services: The Marine Corps, the Navy, and the Air Force.

Mr. CONNOLLY. Have we ever done that before?

Ms. MAURER. We have never—we have never had a single system that was designed to replace three different—

Mr. CONNOLLY. Correct. So, that is what is unique. The stakes here are enormous. They affect all of our services. We have never done this before, and it is a critical piece of U.S. defense and offensive capability as well.

GAO, Ms. Maurer, going back to 2014, provided a number of recommendations to DOD, the project manager, which we haven't focused on a lot yet, including trying to create a performance measurement for ALIS back in September 2014.

Were those recommendations adopted by DOD?

Ms. MAURER. That specific recommendation has not been adopted. Repeated again in our March 2020 report and sent it over to Congress and suggested that Congress take action to ensure that that happens.

Mr. CONNOLLY. So, why did it happen? I mean, given all the problems today you would think, with the stakes this high on this unique program, DOD would run, not walk, to make corrections to a system that was defective, and you documented it back in 2014, six years ago.

Ms. MAURER. I completely agree, we definitely want to see DOD implement all of our recommendations as quickly as possible—

Mr. CONNOLLY. But my question is—

Ms. MAURER [continuing]. And it is a concern that they haven't done it yet.

Mr. CONNOLLY. Why not?

Ms. MAURER. Well, over the years, we have heard from them that they have a number of other issues to address for the F-35 program. What we are talking about today is one of many sustainment challenges that they are facing.

It is also a very difficult thing for them to do. But we think it is vital because—what happens they will never know what is good enough, when it is going to be done.

Mr. CONNOLLY. Yes, but now we are in a place where sustainment is the major problem—

Ms. MAURER. Yes.

Mr. CONNOLLY [continuing]. In the F-35 program because they ignored it, your recommendations and those of the DOD IG.

Ms. HULL, were your recommendations, over the years, implemented by the Project Management Office?

Ms. HULL. The Joint Program Office agreed to our recommendations in our June 2019 report. However, we are waiting for supporting documentation to validate that they have implemented the recommendations.

Mr. CONNOLLY. But in your testimony, you gave us a long laundry list of issues that were seemingly cavalierly ignored by the Joint Program Office over the years. Is that not correct?

Ms. HULL. Yes, I touched on the EEL issues, sir, and then also the incentive fees.

Mr. CONNOLLY. Right. And even when they were getting feedback from the field, from pilots, from command centers and the like, they still didn't implement changes that would have gone some way to ameliorating the problem. Is that correct?

Ms. HULL. The Joint Program Office in October 2018 issued guidance allowing the parts to go on the aircraft without the electronic equipment logbooks and additional labor—DOD labor was used with work arounds to make sure the parts could get on the aircraft for it to fly.

Mr. CONNOLLY. The ALIS program we are talking about, that was created by Lockheed just for this program. Is that correct?

Ms. HULL. While ALIS wasn't a direct focus of our report, it is my understanding that that is true.

Mr. CONNOLLY. Is that your understanding, Ms. Maurer?

Ms. MAURER. Yes. ALIS was created specifically for the F-35 program.

Mr. CONNOLLY. And it was approved by the Joint Project Office. Is that correct?

Ms. MAURER. That is correct. It was approved nearly 20 years ago.

Mr. CONNOLLY. Twenty years ago. So, has it been updated?

Ms. MAURER. It has been updated several times. It did not go fully—ALIS did not go fully operational until two years ago, until 2018.

They had a number of problems on the way in getting it rolled out. There have been a number of updates. But the central problem is it has never met user needs. You know, we have heard some comments today about how it has gotten better and, certainly, it is downloading faster and they can—users can click things faster.

But the bottom line is there are no performance measures in place to assess whether users are getting what they need. So, until that is in place, we are not going to know when it is good enough.

Mr. CONNOLLY. And for the record, you advised the Department of Defense six years ago that it needed such performance metrics.

Ms. MAURER. Yes, we did.

Mr. CONNOLLY. And—

Ms. MAURER. We have recommended that to the department.

Mr. CONNOLLY. And they did not act on that recommendation?

Ms. MAURER. They have taken some actions but it has not been sufficient to close the recommendation.

Mr. CONNOLLY. My final question, Mr. Chairman.

Ms. Maurer, had they accepted that recommendation when you made it, do you believe that some of the problems we are chronicling today in this hearing could have been avoided?

Ms. MAURER. Yes. I think if they had fully implemented the recommendations in 2015 or 2016 they could have potentially mitigated a number of the problems we talked about today.

Mr. CONNOLLY. I would just say, Mr. Chairman, we are focused on correctly, you know, the shortcomings of the contractor. But we also, as the Oversight Committee, need to focus on the shortcomings of the management of contracting and the contractor.

And I think this hearing and this testimony we have just heard from Ms. Hull and Ms. Maurer certainly should give us pause about how competent the oversight and management of the single most important new fighter aircraft in the history of the United States has been.

I yield back.

Mr. LYNCH. Thank you. The gentleman yields back.

The chair now recognizes the gentleman from Ohio, Mr. Gibbs, for five minutes.

Mr. GIBBS. Thank you, Mr. Chairman.

Mr. Ulmer, I hope you are still there. Do legacy aircraft have EELs?

Mr. ULMER. I am sorry, Congressman. Repeat the question.

Mr. GIBBS. Do legacy aircraft have EELs?

Mr. ULMER. No, sir. No, Congressman.

Mr. GIBBS. So, I guess my thought is, because the F-35 is such a sophisticated complicated highly technological aircraft, is that the reason why you have the program for EELs? How do you—or how do you do it with legacy aircraft for parts?

Mr. ULMER. Yes, sir. The maintenance system for legacy airplanes are more segregated, not integrated systems that support specific platforms. So, this is an attempt at the ALIS, and the electronic equipment logbook approach relative to the technology really is about an integrated sustainment—IT sustainment system for a platform.

Mr. GIBBS. OK.

General Fick, do the EELs pose any safety concern or risk? Is that—

Mr. FICK. Sir, my understanding from talking to the maintenance group commanders in the field that authorize their aircraft to fly in the event that a part is not RFI. There is not a safety concern associated with flying aircraft with those parts. They will

not—they will not allow a part to be installed in the aircraft if that EEL—

Mr. GIBBS. OK. OK. I got that.

Mr. FICK. Yes, sir.

Mr. GIBBS. So, the issue is not getting those parts readily available and in place so the aircraft can fly? That is what the issue is?

Mr. FICK. Yes.

Mr. GIBBS. So, I guess the next thought would be how much delay or, you know, F-35s have been grounded. You know, where are we on that because of that—because of the—

Mr. FICK. So, we have—we have mixed data from our—from those commanders in the field relative to the times which they have allowed those aircraft to fly without EELs. We have really good error information from one of the installations in particular that we are using to kind of sort through and figure out what I will call an adjudication of what the real impact would be from a cost and incentive perspective.

We have other information from other wings that is less clear, and then still other wings—I will say the Navy and the Marine Corps, in particular, are not allowing their aircraft to fly, period, with non-RFI parts. So, there is not an issue with them.

Mr. GIBBS. OK. I just heard, I guess, the person in their office talk about the ALIS program just rolled out two years ago. But then I heard earlier in testimony that it was a program that started way before that. Is that—

Mr. FICK. So, ALIS has been around for a long, long time. I don't know—I think 2000 or—

Mr. GIBBS. Then I did hear it doesn't have the technology of an iPhone, you know, the newer softwares and stuff.

Mr. FICK. Correct.

Mr. GIBBS. So, whose fault is that? I mean, is that just government bureaucracy or is that—I mean, where is that—where had that happened at? The program has been around for a long time but it just got rolled out two years ago with technology that is 10 years outdated.

Mr. FICK. So, the first—I can get you the exact date, sir, but the first ALIS versions I believe rolled out in the 2006–2007 timeframe and have been updated on a 12-to 18-month kind of a cadence since then.

We had a substantial update to the ALIS system as we entered IOT&E and we have continued to update from—when I entered the program a couple years back it was ALIS 2.0. We moved to 2.4. We moved to 3.0 or 3.1.

The version in the field today that 87 percent of the units have is ALIS 3.5.2, which is the most recent iteration. Greg mentioned that we are going to quarterly releases.

Mr. GIBBS. OK. I am out of time. I want to ask another question. Whoever wants to answer, I guess.

This F-35, the whole system, as we know, is highly sophisticated, very complicated, high technology—technological. Is it fair for Lockheed Martin on the contract, because you are in a whole new, you know, area of sophistication.

You know, was it right to have a contract they couldn't do because there were so many unknowns, you know, bringing the system online?

I guess, Ms. Lord, that might be a question to you.

Ms. LORD. We have different contract types that correlate with the risk involved.

When there is a high level of development and unknown, we do cost plus type contracts where we pay for what is needed and there is a different level of fee than when it is more known.

When you get into full rate production, for instance, those are fixed price contracts with incentive fees for meeting certain criteria.

So, where we are in the Department of Defense is really working to make sure all of our contracting officers have all the different techniques and procedures to deal with that.

Mr. GIBBS. So—OK, so, since the F-35 has been developing for quite a while now, and they are starting to do a lot more planes—

Ms. LORD. Correct.

Mr. GIBBS [continuing]. So, are we moving in that second phase—

Ms. LORD. For production.

Mr. GIBBS. For production?

Ms. LORD. And then what we are in the midst of doing is developing sustainment contracts that are better tailored to the—

Mr. GIBBS. And are you seeing—are you seeing better results now since it has gone along with working with the manufacturer, Lockheed Martin?

Ms. LORD. Well, we started out when I got involved with the program three years ago. Absolutely from a production point of view, we got much, much more fidelity around what was happening on the manufacturing floor.

I will say that the Department of Defense has an enormous amount of data now relative to that versus where we were three weeks ago. I would say we are just turning our real focus on sustainment now and just beginning to build that robust data set.

So, we have a number of teams working on the ALIS to ODIN transition as well as the annual sustainment.

Mr. GIBBS. So, are you confident and optimistic that cost overruns and all that, things are going to get better, improving?

Ms. LORD. I am confident that we are making progress. But I think we still have a way to go in sustainment.

Mr. GIBBS. OK. Thank you. I am out of time. I have to yield back.

Mr. LYNCH. The gentleman yields back.

The chair now recognizes the gentleman from California, Mr. Rouda, for five minutes.

Mr. ROUDA. Thank you, Mr.—thank you, Mr. Chair, and thank you to all of our participants. We appreciate your commitment to the security of our country.

And I have got a few questions I would like to ask. One of my main concerns with the F-35 program that, if left unaddressed, problems with defective F-35 spare parts will only get worse as the fleet grows.

If my numbers are correct, as of February 2020 the global F-35 fleet was about 500 aircraft. But the fleet is expected to double by 2023. The U.S. alone plans to purchase about 2,500 F-35s from Lockheed Martin over the life of the program, as was pointed out earlier, to really replace our entire fleet.

That growth may be great for Lockheed Martin's bottom line but if problems with the F-35 software such as ALIS and electronic logs on spare parts are not thoroughly addressed and fixed, of course, the headaches for U.S. pilots and maintenance crews will only grow.

So, Ms. Hull, is it a fair assumption that the problems you identified in your June 2019 report will only get worse as the F-35 fleet expands?

Ms. HULL. It is true that unless the ready-for-issue spare part and EEL issue is addressed, it will continue to perpetuate, and we have seen from the Joint Program Office, you know, guidance to fly aircraft with EELs.

With the fleet continuing to grow, the problems will become more pervasive unless addressed.

Mr. ROUDA. Ms. Maurer, would you agree with that assessment?

Ms. MAURER. I definitely agree that the F-35 program faces a number of challenges on the sustainment front. Those challenges are only exacerbated by the continued growth of the size of the overall fleet both here in the United States and with our allies.

So, they have a lot of challenges ahead. We are encouraged that they have agreed with our recommendations on sustainment for large starting emission levels.

Mr. ROUDA. Fair enough. Thank you.

Air Force personnel also told committee staff that, if not addressed, current issues with electronic logs and spare parts will likely compound as the F-35 fleet expands and additional aircraft deploy on combat missions.

For example, when committee staff visited Hill Air Force Base in Utah, they were told that an F-35 squadron had received an immense amount of support when the squadron deployed in the Middle East in April 2019.

This, in fact, was the F-35's first time flying combat missions and everyone wanted to see the mission succeed without a hitch. That deployment had only a handful of F-35s compared to the eventual size of the anticipated fleet and many staff were told that it would be difficult to maintain that level of support as the F-35 fleet grew and the demand for pilots, maintainers, and support personnel grew along with it.

Mr. Ulmer, the most recent combat deployment of F-35s from Hill Air Force Base left at the beginning of June. If their deployment follows past ones, they should be home, I think, in about six months.

Mr. Ulmer, can you commit today that the problems with electronic logs on spare parts will be fixed by the time that squadron comes home?

Mr. ULMER. Congressman, it will take us more than that time to resolve these issues. But we are focused to resolve these issues.

Mr. ROUDA. I appreciate your candor.

Lieutenant General Fick, if Mr. Ulmer and Lockheed Martin can't meet that commitment, how will the Joint Program Office and Defense Department ensure our pilots are fully supported under future deployments?

Mr. FICK. So, Mr. Congressman, we have put language in place in our 1919 and 1920—our Fiscal Year 1919 and 1920 spares contract that requires EELs and—I am sorry, that requires parts to be RFI upon delivery.

So, we have set the stake in the sand relative to the delivery of those parts. We are committed to working with the services, with Lockheed Martin and with other industry best partners to instantiate ODIN as the solution to the problems that we continue to have in ALIS, and I firmly believe that the instantiation of ODIN is the—is the intervention required to most completely address the issue with non-RFI parts.

Mr. ROUDA. Thank you.

We all know these problems have to be fixed and they need to be fixed before the F-35 fleet is so large that problems with missing electronic logs, defective spare parts, and continuing software glitches are not so overwhelming it cannot be fixed.

With that, I yield back. Thank you, Mr. Chair.

Chairwoman MALONEY. [Presiding.] I now recognize Mr. Higgins. Mr. Higgins?

Mr. HIGGINS. Thank you, Madam Chair, Ranking Member—

Thank you, Madam Chair.

General Fick, Americans want air dominance worldwide from our military forces, and the parents and families of our pilots want those pilots to have total confidence in their aircraft.

We are focused primarily today on talking about issues we have with the electronic equipment logbook, the EEL, and the classification of missing EEL data in replacement parts for the F-35 platform would be considered non-RFI or not ready for issue.

Absent those problems, as we work through those issues, General Fick, do you consider the F-35 to be the platform that delivers air dominance for the United States of America worldwide?

Mr. FICK. I absolutely do.

Mr. HIGGINS. Thank you, because that is what we are looking for and as we address the problems we are discussing today, which I have complete confidence that Lockheed Martin is dedicated to resolve.

So, I turn my question to Mr. Ulmer.

Mr. Ulmer, are sustainment costs for the F-35 steadily coming down?

Mr. ULMER. Congressman, for every dollar of sustainment approximately \$0.39 is—Lockheed Martin contributes to. About 13 percent—\$0.13—has to do with the propulsion system and the remainder has to do with operational sustainment costs for the government.

Lockheed Martin—

Mr. HIGGINS. Yes, sir.

Mr. Ulmer, in the interest of time, let me just—America needs to know. You know, we recognize that there are problems with the full deployment, manufacture, and perfection of this—of this world-class aircraft that Lockheed Martin is delivering for our Nation and

for freedom's purpose across the world. We need to know are sustainment costs steadily coming down, yes or no?

Mr. ULMER. Yes, they are. The Lockheed Martin elements of sustainment cost have come down 44 percent from a cost per flying hour in the last five years.

There are other contributors on the—on the government side.

Mr. HIGGINS. Thank you, sir. And is the EEL—the EEL non-RFI issues, is that being aggressively addressed by Lockheed Martin?

Mr. ULMER. Yes, sir. We are aggressively engaged to resolve that issue with our—with our customer.

Mr. HIGGINS. All right. And a part or component that is missing EEL data and considered non-RFI—my colleagues have referred to it as defective—does the part work? Will the plane fly if that technician manually updates that data?

Mr. ULMER. Congressman, there is no issue with the part. The part is not defective. The issue is with the electronic file associated with the part.

Mr. HIGGINS. Understood. We are just—yes, sir, and we are clarifying for America. It is important that we know.

Regarding the progress that Lockheed Martin has made, can you clarify? According to my research, production since 2017 has shown the ability to consistently deliver zero-defect aircraft since 2017?

Mr. ULMER. Yes, sir. We have a very strong track record, actually multi years relative to zero-defect deliveries. We are less than one defect per delivery for the last several years.

Mr. HIGGINS. And thank you for that response, sir.

And General Fick, in his—in his opening statement, and I quote. He said, “The bottom line is we need parts delivered on time with all required electronic identification markings and records right upon arrival.”

Mr. Ulmer, when can we get there? Are you optimistic that we are moving in that direction and getting there quickly?

Mr. ULMER. Sir, we are optimistic we can get above 90 percent by the end of this year. As General Fick alluded to, we are going to be challenged to achieve 99 percent ready for issue and we are taking the actions necessary to support that metric and requirement by our customer.

Mr. HIGGINS. Thank you for your response.

Madam Chair, let me say that my father was a Navy pilot in World War II. I am a veteran, and yesterday I spoke with a dear friend of mine whose son is a pilot for the Navy, and he shared the concern of parents and families across the country that their concern is that their—that our pilots are flying planes that they can depend upon.

I thank you for holding this meeting today. I thank the ranking member and I thank the witnesses for testifying today. We are working through these issues and I have total faith in the F-35 jet and Lockheed Martin.

And I yield.

Chairwoman MALONEY. I thank the gentleman for his questions and his statement, and I now yield five minutes to Congresswoman Speier—Jackie Speier.

Ms. SPEIER. Thank you, Madam Chair. Thank you all for participating today.



Let me ask you a question. Lieutenant General, there is no question that the ALIS system has underperformed, correct?

Mr. FICK. Yes, ma'am.

Ms. SPEIER. Ms. Lord?

Ms. LORD. Absolutely.

Ms. SPEIER. Mr. Ulmer, is it true that it has underperformed?

Mr. ULMER. Ma'am, it is not meeting our customer war fighter requirement.

Ms. SPEIER. It has underperformed. It has been anticipated that there is \$183 million that Lockheed Martin owes the taxpayers of this country for this underperformance.

How much time has been spent negotiating with Lockheed Martin and how long and how much time?

Lieutenant General Fick?

Mr. FICK. So, my recollection, ma'am, is that the negotiations specifically associated with the consideration on EELs began in earnest in April of this year and it continues, marching forward.

Ms. SPEIER. How many hours have been put into it?

Mr. FICK. I don't have that number off the top of my head.

Ms. SPEIER. Ms. Lord?

Ms. LORD. I would estimate tens of hours.

Ms. SPEIER. Tens of hours?

Ms. LORD. By the government.

Ms. SPEIER. By the government?

Ms. LORD. It is DCMA that is doing that for us.

Mr. FICK. Yes.

Ms. SPEIER. Thank you.

Mr. Ulmer, you continue to say you are negotiating on something that is, clearly, established that—you have underperformed.

It has been estimated that it is \$183 million. The U.S. Government, the taxpayers of this country, are paying 75 percent of your budget and your profits.

I want to know when you are going to pay the \$183 million and stop nickel and diming the U.S. Government and the taxpayers.

Mr. ULMER. Congresswoman, as we have identified in this testimony, the number has changed from \$303 million to \$183 million, which is a new number to me today. So, I think we have due diligence to do amongst ourselves relative to the contributors that influence the issues associated with electronic EELs. We know that it is not all Lockheed Martin.

Ms. SPEIER. All right. Sir, I have very little time.

How much time are you going to take before we are going to have an answer as to whether or not you are going to repay the government?

Mr. ULMER. Congresswoman, we continue to negotiate in good faith across the table ongoing.

Ms. SPEIER. All right. Let me—let me move on.

Are we absolutely committed to doing ODIN?

Ms. LORD. ODIN?

Ms. SPEIER. Yes.

Ms. LORD. Absolutely. We have the dates rolling out right now. We will have—

Ms. SPEIER. All right. Let me ask you this question. As I calculated it, if we continue to just do work arounds over the course

of the next 66 years, it will cost us \$3.6 billion to just do work arounds with the existing ALIS system. Are we going to end up paying more for ODIN than \$3.6 billion?

Ms. LORD. We are developing ODIN so that we don't have to do work arounds where you can—

Ms. SPEIER. I understand that. But—

Ms. LORD. So, we are doing it for the same amount that we had budgeted just for baseline ALIS.

Ms. SPEIER. How much is it going to cost?

Mr. FICK. So, ma'am, there is \$547 million across 1921 through 1925 in the budget associated with ODIN. I am sorry—associated with ODIN. We believe there is also on the order of about \$70 million a year between now and 2022 that we will continue to put into ALIS.

Ms. SPEIER. OK. Who is going to own the intellectual property of—

Mr. FICK. The U.S. Government.

Ms. SPEIER. No question?

Mr. FICK. No question.

Ms. SPEIER. And that will then allow us to have others fix it so we are not negotiating with the prime contractor over easily \$183 million when we pay a half a billion dollars for every plane we purchase from them.

I would like to say to Mr. Ulmer you are not a good actor in this. This is just one component. We already know that there are nine flaws on the F-35 that are identified as critical, as priority ones, that, to my knowledge, have still not been addressed.

So, we are looking at one component of the F-35. We have had lots of problems of the F-35. We have had problems with the seats. We have had problems with the oxygen system. And for you not to come to the table and negotiate this \$183 million really aggravates me and should aggravate every taxpayer in this country.

Owning this system outright should have been the case initially and we wouldn't be in this situation, and for all those that think that somehow the F-35 is the safest plane around, I have got news for you.

We have had problems with this plane and we continue to have problems with this plane, and we should be very concerned about this EEL system not being accurate because it draws that whole issue into question.

With that, I yield back.

Chairwoman MALONEY. I thank the gentlelady for her passion and knowledge on this issue.

And I now would like to call on Congressman Hice.

Congressman Hice?

Mr. HICE. Thank you, Madam Chair.

I think it is important that we state that the end result is we want to see this program succeed, and the purpose of oversight is to ultimately get to that end.

And there are some glitches in the road here, so to speak, and we need to address those issues. But we want to thank you for your work and acknowledge the purpose of oversight is to get some of these issues resolved. So, I just want that on record.

Let me ask you, Ms. Lord, within that context, a lot of the argument is that we need to see Lockheed write a check and go from that perspective.

Unfortunately, if that were to happen, the check just ends up going to Treasury and it does not help the program. It doesn't help anything. Are there other forms of compensation that might be more beneficial?

Ms. LORD. Absolutely. We are now negotiating the next annual sustainment contract and the two-year options after that. We could very well look for consideration in that contracting?

Mr. HICE. OK. So, there are other options here and I think those other options need to be on the table. They need to be considered.

Also, I do have another concern that I want to bring up for IG Hull, and let me just say, as I understand this we have got about 353 of these jets that have been built out of about 500 since 2015 and, yet, ballpark of a trillion dollars has been spent on operation and sustainment.

Now, I just did a little math. That comes to \$566 million per plane per year. That is a staggering amount to me. If we are talking a trillion dollars in five years for these planes, again, that is just my math but let us—can I get some clarification on this?

Mr. FICK. Sir, we are going to have to go back and help you with the math. I don't understand where the trillion dollars over the last five-year quote came from. I don't understand that number.

The most recent life cycle cost estimate for the entirety of the program over 60 years is \$1.6 trillion. So, I find it hard to believe that we spent a trillion dollars in the last five years.

Mr. HICE. Well, that figure is out. In fact, the Selected Acquisition Report actually didn't—I don't recall seeing that number but they did say that the amount of spending now going per year per plane is going to strain future service operation and sustainment.

I mean, so whatever the actual cost is, this is an enormously expensive program here. So, I want to know kind of how does the annual O&S cost compare to other fighter jet programs in the past?

Mr. FICK. So, I can't speak specifically to the O&S cost of other fighter jet programs but I know that we are aggressively targeting, getting our O&S cost to \$25,000 per flight hour by Fiscal Year 1925. That is our—that is a—that is a stretch goal that I am working hard—

Mr. HICE. So, are we—are we trending in that direction? Are we trending to cost savings?

Mr. FICK. We are. We are making—we are making deliberate progress. To get to \$25,000 by 1925 will be a huge—will require significant—

Mr. HICE. If you could provide some comparison of past programs to where we are now as well as the goal. Goals are great—

Mr. FICK. Yes.

Mr. HICE [continuing]. But I want to know the trends to get to those goals.

Ms. LORD. Excuse me. That should approach the fourth-generation sustainment cost.

Mr. FICK. Yes.

Ms. LORD. That was the way we derived the target of \$25,000 per flight hour.

Mr. HICE. OK. I would like—if you could provide that to me, I would appreciate that.

Ms. Lord, let me go with you, and I appreciate the conversations we have had in the past. We have got problems with the ALIS system, the transfer to the ODIN system.

Can you kind of walk us through some of the expectations of ODIN and how this is going to play out?

Ms. LORD. Absolutely.

First of all, ODIN is going to be deployed on much more modern hardware. So, for instance, the ALIS system today for one system you have about 891 pounds of hardware. For ODIN, you are going to only have about 50 pounds of hardware.

So, the footprint is very different and, in fact, as we move toward the first deployment of ODIN in September 2021 an interim step is this fall to actually move ALIS onto the new hardware as the first step.

We will own all of the data rights in the government for ODIN versus ALIS. It is going to be deployed in the cloud. It is being developed using requirements in large part from the actual maintainers.

So, for instance, I was on the phone yesterday with the maintenance unit leads at five different locations making sure that their voice had been heard by the actual team doing the coding for ODIN.

We also, as opposed to using the old waterfall software development techniques, we are using agile and DevSecOps to do that. So we are, in essence, coding every night—I am sorry, coding every day and testing every night.

We have deliverables from the team, the government and industry team, every single day so we can measure those deliverables and we can measure them against the baseline requirements. So a very, very different system than ALIS's.

Mr. HICE. OK. Thank you.

And Madame Chair, I will yield back. But I do want to just say to Mr. Fick I do have some more questions particularly that I would like to get some answers for specific to modified training that we are seeing at Hill and Luke Air Force Bases and why that is happening. So, I will get with you later on that.

But thank you, Madam Chair. I will yield back.

Mr. FICK. Absolutely.

Chairwoman MALONEY. I thank the gentleman and now recognize Representative Wasserman Schultz.

Ms. WASSERMAN SCHULTZ. Thank you, Madam Chair.

Madam Chair, I want to ask my questions through a fiscal lens as a senior member of the Appropriations Committee because I am deeply concerned about what I am hearing and seeing. The waste and mismanagement of Federal dollars is really—seems to be paramount here.

There have to be oversight mechanisms in place to keep costs in check as DOD and Lockheed Martin are moving forward on replacing ALIS, which is, as we know, the main F-35 software system.

So, Ms. Lord, in 2016, the Defense Department told GAO that the ALIS software system would cost an estimated \$17 billion, and

GAO found that estimate, quote, “not fully credible,” since the department had not performed a full analysis of these costs.

What is DOD’s current estimate of how much money has been spent on ALIS?

Ms. LORD. We are spending on ODIN the same amount that we are spending on ALIS, and if you give me a moment here, I have the amount over the next five years.

Mr. FICK. It is \$547 million for the next five years. But the tenet of—

Ms. WASSERMAN SCHULTZ. So, what has already been spent on ALIS? What has already been spent on ALIS? I am not asking you for a cost projection.

Ms. LORD. Oh, sunk cost?

Ms. WASSERMAN SCHULTZ. I am asking you what has already been spent.

Ms. LORD. We don’t have that right here but we can, certainly, get that to you very shortly.

Ms. WASSERMAN SCHULTZ. OK. Suffice it to say is it more than \$17 billion?

Ms. LORD. I don’t believe so. That seems like a very large number. But we can get that for you shortly.

Ms. WASSERMAN SCHULTZ. Respectfully, that is the amount that the Defense Department told GAO that the ALIS software system would cost and that was deemed not fully credible because the department had not performed the full analysis.

So, my suspicion is that it has cost more than that already and now you are projecting another \$547 billion.

Earlier this month on July 10 the department announced it would pay Lockheed Martin \$87.5 million to begin the development of ODIN and start the transition from ALIS.

What will—I want to ask you a series of questions at once and then if you would answer those. What will that initial work by Lockheed Martin include? And the \$87.5 million contract to transition from ALIS is really only the beginning.

You expect, I would imagine, ODIN to cost a lot more than that. You just said it would be \$547 million. And since this program has had cost—significant cost overruns in the past, how do you plan to ensure that the cost of ODIN is not excessive?

Ms. LORD. The way ODIN is being contracted for is very different than what we have done in the past. We are actually defining the architecture and releasing app by app. We just released the first contract to Lockheed Martin in July, and the work is actually being done in a government-owned cloud environment and we have total visibility to what is delivered every day.

Ms. WASSERMAN SCHULTZ. OK. Just interrupting—OK. If I can ask you to pause for a moment. My initial question was the \$87.5 million contract to transition from ALIS is just the beginning. You expect it to cost more than that, don’t you? And what will the initial work by Lockheed Martin include?

Ms. LORD. Well, we have about \$550 million over the next five years and the initial work is a series of codings done by app. But I am going to pass to Lieutenant General Fick for more specifics.

Mr. FICK. Ma'am, that is accurate. Lockheed Martin will be coding three specific applications for ODIN and this is the early work associated with those apps.

Ms. WASSERMAN SCHULTZ. General, do you think the DOD should move forward with any of the design plan without knowing how much the plan or any component of that plan will cost?

Mr. FICK. Ma'am, my team continues to refine the cost estimate for ALIS and ODIN, moving forward. The \$547 million was money that had been previously allocated to an ALIS rearchitecture effort.

We believe that we can fully instantiate ODIN over the course of the next five years within that budgetary cap. But we know that over the course of the 50 years remaining in the program that to remain viable we will need to continue to update the software as issues are found, as the program evolves, and as maintenance practices change.

Ms. WASSERMAN SCHULTZ. Thank you. Before my time expires—

So, I do anticipate more funds will be required beyond the FYDP.

Ms. WASSERMAN SCHULTZ. GAO's March 2020 report recommended that Ms. Lord, in consultation with you, General, develop a detailed strategy.

Ms. MAURER, can you comment on my question about the uncertainty that is looming on how much this is going to cost for the re-design of ALIS that includes the costs of redesigning the whole system?

Ms. LORD. Well, we—

Ms. MAURER. Yes.

Ms. LORD [continuing]. Plan to have ODIN deployed fully by December—

Ms. WASSERMAN SCHULTZ. I am sorry—I am sorry. The question is for Ms. Maurer.

Ms. MAURER. Thank you.

Yes, we share your concern about the ability to track the overall approach on the strategy for implementing ODIN as well as the costs associated with that.

ODIN is a relatively new initiative. It is designed to replace something that has been around for almost 20 years and there are going to be significant challenges and significant costs associated with doing that, and it is important that it be done right and be done in a cost effective way.

Ms. WASSERMAN SCHULTZ. Thank you, Madam Chair. I yield back the balance of my time.

Chairwoman MALONEY. I thank the gentlelady for her questions. And we now recognize Representative Norman.

Mr. NORMAN. Thank you, Madam Chairman.

Inspector Hull, in your testimony you stated the quote, "While a missing EEL does not mean a part is defective, it can create life and safety concerns for air crews." Yet, you also state that, quote, "The DOD's use of local guidance and ad hoc manual processes allowed aircraft to fly and complete missions instead of the DOD grounding the aircraft."

This suggests to me that if anyone put lives at risk it was individuals at the DOD, not Lockheed Martin. Is this your opinion?

Ms. HULL. The staff, the maintainers, and the commanders at the depot had a very difficult decision. They either had to conduct a work around to get parts onto the aircraft so they could continue their training and operational missions or they had to quarantine a part and, potentially, impact that ability.

So, we—although you said earlier that for quality and safety we were aware of a part that was a seat survival kit assembly that was—that is a critical safety item that was flown and tracked through manual processes such as a white board.

Mr. NORMAN. Thank you.

General Fick, do EELs pose a safety concern or is it a risk, in your opinion?

Mr. FICK. Sir, my opinion—the answer is it depends. There are some parts that are safety critical and are life limited, and those parts have EELs. And those EELs must be in place for that part to be installed on an aircraft.

So, in those cases, yes, it is safety critical. For other parts who also have EELs, those parts are not safety critical and those parts are not life limited. It is those parts we are actually looking at to try to find a way to remove the requirement for any EEL so that this discussion of EEL or no EEL comes off the table.

Does that make sense?

Mr. NORMAN. Yes. Can you give me an example of a part that—to demonstrate what you are talking about?

Mr. FICK. I don't have a specific part number or nomenclature for you. But I know that as of right now we are looking at eliminating close to 600 of them across the airplane that have EELs. But they are not safety critical nor are they life limited parts. So, a thousand. Roughly, 600.

Mr. NORMAN. OK. So, there is a distinction?

Mr. FICK. Yes, sir.

Mr. NORMAN. Ms. Lord, and, I guess, General Fick as well, how quickly will we get the ODIN operational and what is the estimated cost to develop and deploy the ODIN?

Ms. LORD. So, the initial delivery of the system is targeted for September 2021 and to develop it will be several hundred million dollars over the next couple years, and then a couple hundred million dollars for the few years after that to continue that deployment.

Mr. NORMAN. OK. General?

Mr. FICK. So, we intend to declare what we call initial operational capability, which is the capability at one squadron, in September 2021.

By December 2022, our intent is to have ODIN spread across the entire fleet with the exception of units that might not decide to transition because they are currently deployed or otherwise need to continue to use the legacy ALIS system. We will get those as soon as operational constraints allow.

Mr. NORMAN. Thank you.

Mr. Ulmer, what has Lockheed Martin done to ensure that the F-35 sustainment meets the war fighter needs?

Mr. ULMER. Congressman, there are several avenues relative to sustainment. So, we have been working on reliability, maintainability, improvements on the platform.

We have been working to improve the prognostic system on the platform. We have gone advance of contract requirements to procure materiel to ensure that we have the spare parts when the customer needs them.

There are just several different aspects. We have been working to improve the ALIS system. So, there are many different levers across the enterprise that we apply to improve sustainment performance on F-35.

Mr. NORMAN. Well, thank you. And I think, like Congressman Hice mentioned, that the—what we need to be doing is looking at the—to solve the issue. I know the question about the money has come up to be paid back but also the question that, in fact, that that doesn't solve any problems.

Lockheed Martin does a great job of producing airplanes and I think will continue to and we are trying to find any problems that exist and you all are trying to find a solution to them.

I am out of time. I yield back.

Chairwoman MALONEY. I thank the gentleman, and now recognize Congressperson Steube.

He is online. OK. He was online.

Congressman, are you with us?

[No response.]

Chairwoman MALONEY. We are going to go to Congress Member Keller as we wait for Mr. Steube. OK.

Congress Member Keller?

Mr. KELLER. Thank you, Madam Chair, and I would like to thank the panelists for being here today, or the witnesses.

A couple questions that I had but I want to sort of followup on some questions that my colleague from Georgia was asking regarding the cost per hour of—or flight hour is that you say by 2025 we want to get to \$25,000 per flight hour?

Mr. FICK. Sir, we consider that a stretch goal. Yes, sir.

Mr. KELLER. OK. What is the current cost?

Mr. FICK. I believe current cost per flight hour is on the order of \$35,000 per flight hour.

Mr. KELLER. OK. So, there is a schedule each year to get to that?

Mr. FICK. So, I mentioned in my opening comments that we have—we have pivoted the program office into lines of effort associated with five different divisions to include the air vehicle, the engines, the maintenance systems, the combat data systems and the training systems.

I have allocated cost savings targets to each one of those offices that they need to pursue to get to that overall cost per flying hour goal.

Mr. KELLER. And when did we start this goal or when was this goal established and we started to begin work on it?

Mr. FICK. So, the \$25,000 by 1925 goal first, I think, hit the Program Office about two years ago we started to talk about it, and move the program in that direction. Looking holistically across a number of initiatives from—principally from a sustainment perspective but also respecting the fact that development influences sustainment cost as well, looking at those opportunities.

Mr. KELLER. So, two years ago was it at \$35,000 a flight hour or what was it when you started?



Mr. FICK. No, sir. It was—it was higher. I don't know the number off the top of my head.

Mr. KELLER. So, we don't know what we gained, or could we find out what we gained—

Mr. FICK. Absolutely.

Mr. KELLER [continuing]. In the first two years to make sure we are on track of hitting that goal?

Mr. FICK. Absolutely.

Mr. KELLER. I realize it is a stretch goal, but I think it is important to know where we are.

Mr. FICK. Yes.

Mr. KELLER. So, if we could get that information I would appreciate it.

The other thing I wanted to sort of followup on, we all know that it is important—an important program and looking at what we are doing, but I want to go back to the EELs and we know there has been reported issues, and I guess this would be for Ms. Lord.

There is, you know, issues associated with the electronic equipment logs and some of the data inaccuracies is due to human interface and, you know, some of those items, and we know that is going to happen no matter what you are doing when you are dealing with that.

Are there any strategies that have been identified that might help cut down on the manual inputting of data so that there might be accuracy, any kind of reducing the human interface?

Ms. LORD. Absolutely. There are two different pieces to that. One is ALIS has been relatively user unfriendly, a lot of training to get—to be able to learn how to use it. Our latest release helps that significantly.

However, in ODIN what we are doing is making sure it is much more automated in terms of data feeds and also prompting the user to input. So, those two things should be very helpful.

Mr. KELLER. And that is—you are going to be having this totally implemented or is there a phase in that we can see how this is working? How soon do you anticipate being able to see the benefits of this?

Ms. LORD. We will have the first system deployed in September 2021. A lot of testing will go on before that point in time, and then it will be throughout the fleet by December 2022 except for units that might be deployed on aircraft carriers, for instance, who are in very remote austere areas.

Mr. KELLER. OK. Also, there has been a lot of talk about different things, but can you speak to actions the department has taken in response to Section 192 of the fiscal 2020 NDAA related to the relief from failure to deliver ready-for-issue spare parts?

Ms. LORD. Absolutely. What we have done is put a whole team together to look at that. We have worked with the contractor. We have really gone back to look at what is the root cause, what is the fundamental issue.

And we believe, although there are many, many issues it fundamentally comes down to ALIS and that is part of what has really incentivized us to accelerate to the ODIN transition.

Mr. KELLER. OK. So, when we are talking about ALIS and the issues we are having, have these been issues that we have experi-

enced since the beginning of the implementation of the ALIS program?

Ms. LORD. Yes.

Mr. KELLER. So, over time, we should have—when we look at moving away from that, we should not be repeating the same issues or—

Ms. LORD. No, we should not, and in fact there actually have been large gains made with ALIS. There have been multiple releases, and if you talk to the maintenance units they will tell you that particularly 3.5.2 that we just put out has made a lot of difference. But, still, it is not as streamlined as it could be. It is not as easy to use.

Mr. KELLER. So, when did we begin using ALIS, if I can ask that question?

Ms. LORD. ODIN will start in 2021. We have an updated version of ALIS that just went out about a month ago.

Mr. KELLER. But when did the department start using ALIS? I mean—

Ms. LORD. Back in 2012 or—I defer to the program office.

Mr. FICK. I thought it was prior to that. Earlier, I said 2006. I will confirm, sir, for reference when we started actually operationally using it.

Mr. KELLER. I am just sort of—

Ms. LORD. It has been at least 10 years.

Mr. KELLER. Yes. I am just sort of curious of how quickly we can implement procedures, and if it has taken us this long I want to make sure that when we go over—you know, when we transition over that it doesn't take us that period of time.

Ms. LORD. But there are—

Mr. FICK. So, we will actually have the benefit, in this case, with ODIN of understanding what we don't like and using that to build what we do.

So, as the team collects metrics from the users associated with the performance of ALIS, we are using that to inform the capability needs statement associated with ODIN. So, we have a better idea, to the point that was made previously, of what—of what good looks like and what we really need ODIN to look like from a maintainer's and a war fighter's perspective, and we are driving that train this time. We are not leaving it up to somebody else.

Ms. LORD. But there were—

Mr. KELLER. So, in other words, we have learned from our past history of things we have done inappropriately to make sure that we don't repeat those same failures?

Mr. FICK. Yes, sir.

Mr. KELLER. All right. Thank you. I yield back.

Chairwoman MALONEY. Thank you very much.

I now recognize Representative Tlaib, and she is remote, online. Are you with us?

Ms. TLAIB. Thank you. Yes, thank you.

Chairwoman MALONEY. OK. Great.

Ms. TLAIB. Yes, I am. Can you hear me OK?

Chairwoman MALONEY. Yes, we can.

Ms. TLAIB. Thank you, Chairwoman. Thank you for allowing me to serve my residents in a safe environment, and I just want to appreciate everyone being available to us.

I know, and I apologize if some of this was asked but I think it is really important, especially these are things that I am hearing from my community, but only about two days ago the House adopted my amendment to the NDAA focused on care for crew members who have experienced unexplained psychological episodes while operating the F-35.

So, Lieutenant Fick, do you know what is causing these psychological episodes? And, again, if you would answer because I think it is really important for folks to understand that.

And then the second question, what has Department of Defense done to protect the service members from some of these safety issues?

Mr. FICK. So, we are working very closely with the services and with the medical community to understand each and every one of the physiological events that occurs.

We have seen over the course of the last three years I think I would characterize as a decrease in the occurrence of PE within the F-35 enterprise. But to say there is a common root cause between all of them I think—I don't think that we have come to that—to that conclusion at this time. More work to go.

Ms. TLAIB. Ms. Lord, as we know, the F-35 sustainment contracts included a clause that said the government may require the contractor to replace or correct any supplies that are nonconforming at the time of delivery.

So, Ms. Lord, problems with the electronic logs—this is really important here—can happen through the life cycle of a part, correct?

Ms. LORD. Yes, and that is why we need to look at contract language and make sure it reflects the experience that we have had so that, as you point out, at the time of delivery is not the entirety of the time it goes through the EEL system. We have to recognize that.

Ms. TLAIB. Well, if a problem developed following delivery, would it be even be possible for the Department of Defense to reject that spare part or would DOD need to keep that part and wait for Lockheed Martin personnel to fix it?

Ms. LORD. We have ongoing discussions about those kinds of issues. But if it is after the point at which we initially accept it that becomes more complicated.

Ms. TLAIB. Well, in order to be cleared for flight, F-35 policy states that an aircraft must be electronically complete—quote, “complete”—in ALIS, meaning that all the electronic records from each installed F-35 part must be functioning in ALIS.

When a part missing its electronic log, ALIS signals that the aircraft should be grounded. According to Joint Program Office officials, quote—this is what they said—“On any given day, over 50 percent of the F-35 fleet is flying with non-RFI spare parts.”

Do you find that concerning, Ms. Lord?

Ms. LORD. I have faith in our maintenance unit leaders who look at each part and determine whether the aircraft is fit to fly. They are well versed in safety and would never make any safety compromises.

All of that being said, I have faith in all of our maintainers. I would like our systems to be 100 percent correct and effective.

Ms. TLAIB. Yes. No, and I think the American public would agree.

Ms. MAURER, in March the GAO reported that it is common for F-35s to fly with over 20 inaccurate or missing electronic records, even though ALIS signals that the plane should be grounded.

So, Ms. Maurer, briefly, how can service members be 100 percent sure that ALIS signals are due to defective electronic logs and not a potentially dangerous issue within the aircraft?

Ms. MAURER. I think that gets to the heart of the matter. I think what we found is when we talked to folks, maintainers on the flight line who work on the aircraft in the flight line is that they are—I agree with Under Secretary Lord on this—they are doing their level best to ensure that the plane—that the plane is safe to fly.

Having said that, when the system that we have spent hundreds of millions of dollars to develop and deploy, that is designed to help tell them with the system the plane can be allowed to fly, isn't trusted that is the problem.

So, we are using these cuff (?) records. We are using spreadsheets. It injects another level of risk into those decisions, and that is one of the many reasons why ALIS needs to be improved.

Ms. TLAIB. Well, I think it is—so, essentially, our pilots are being forced to fly aircraft that neither the DOD or Lockheed Martin can verify are 100 percent safe due to electronic log problems and ALIS, coupled with potential or human error and work around the tracking.

I simply think it is outrageous that after spending millions of dollars and thousands of hours in manpower that our pilots are still being asked to risk their lives because of malfunctioning equipment.

So, in case anything here wasn't clear, fix this now, I think my chairwoman would agree, before you have blood on your hands. I think it is really important that you have actual lives, human beings, that are behind these flights that we are—it is our responsibility to make sure they are safe.

With that, I yield the rest of my time, Chairwoman. Thank you so much.

Chairwoman MALONEY. Thank you so very much for your important observations.

I would now like to recognize Congressman Steube.

Congressman Steube—is he here or online? Pardon?

Mr. STEUBE. Yes. I mean, I am virtual.

Chairwoman MALONEY. OK. Great.

Mr. STEUBE. Thank you, Madam Chair.

Mr. Ulmer, first, I would like to give you the opportunity to respond to what Ms. Tlaib just said as it regards to the safety of the aircraft.

Mr. ULMER. Congressman, as we have mentioned, the parts are not of concern. It is the electronic file associated with the part. So, we have processes in place. The maintainers have processes in place relative to part integrity.

We are—each part is delivered, DD-250'd. It goes through a formal inspection process relative to that. The aircraft also has diagnostic systems onboard relative to the health of the platform itself once the parts are installed. So, there are several layers of protection relative to part integrity.

Mr. STEUBE. Can Lockheed Martin ARRW solve the EELs functionality and data issues on its own or is that a broader issue?

Mr. ULMER. It needs to be done as an enterprise and I think we collectively have engaged that issue relative to we need to listen to the war fighter, how they operate, sustain, and maintain the aircraft. We need to incorporate that information, that learned information, relative to the implementation within ALIS and as we go forward into ODIN's system.

So, those requirements need to be defined by the user and then industry and government needs to understand that requirement and then we can—we can work to solve that problem. We will be able to do that.

Mr. STEUBE. The F-35 program has been referred to as a concurrent development program. How does concurrent development affect the sustainment portion of the program?

Mr. ULMER. So, as the product has been developed, we have also begun production. So, in the early phases of the program, development was ongoing while we still produced the aircraft.

Just two years ago, we received what is called full war fighter capability with a 3-F capability. So, as that capability was released, the fleet has grown approximately 300 aircraft in the last three years.

So, there has been a lot of planning, of how we plan to sustain the aircraft, and now there is a lot of learning as we actually implement and sustain the airplane in the fleet.

We then take and apply that learning, relative to the experience that has occurred, and update the system accordingly, and we have seen significant improvement.

I made comments in my opening remarks the sustainment from a mission capable rate in the last two years has increased from the low 50's to the mid-70 percentile from a mission capable release, and we also see the other sustainment metrics in terms of health of supply and maintenance activities also significantly improved.

So, we can measure our performance at a system level relative to how the system is improving.

Mr. STEUBE. General Fick, can you—how do you feel about our pilots being safe and flying the F-35?

Mr. FICK. Sir, I have full faith and confidence in our maintenance group commanders and the troops that they command and giving a ready-for-flight aircraft to our aircraft.

I mentioned in my opening remarks I have a son who is flying for the Air Force. He doesn't fly F-35s, to his dismay. But I know that he trusts his maintainers implicitly and explicitly to deliver to him an aircraft that is safe to fly.

I believe that as the maintenance group commanders assess the parts that are put onto the aircraft they are making sure that any aircraft they clear to fly is safe to fly.

Mr. STEUBE. General, can you please provide to the committee an overview of how the F-35 is performing when deployed and talk to

the capabilities that the aircraft is providing to the men and women in uniform?

Mr. FICK. So, as a fifth generation Strike Fighter platform, the F-35 relies upon stealth, sensor fusion, and interoperability to allow it to penetrate and persist and to punish in a way that no other air system is capable of doing today.

I think if you talk to a war fighter who flies the F-35 in operations or in training you will find that they are very, very happy with the plane. They are very, very happy with the system that they have got.

They always want more, and we need to give them more because the threat is not slowing down. The threat is not stopping. We need to continue to move the program forward from a development perspective, from a production perspective, and from a sustainment perspective.

Mr. STEUBE. And what do you think can be done to take on—to ensure that the F-35 is ready to take on emerging threats?

Mr. FICK. So, sir, we are deliberately moving the program into a new paradigm for development that you may have heard of referred to as continuous capability development and delivery, working to transition a legacy departmental or a legacy industry style of development and delivery in huge tranches into a more incremental and agile focus development paradigm where we bring capabilities to the war fighters faster.

That is going to be important as we work our way forward, and the threat continues to change. Our ability to be agile or, to not overuse that word, to be nimble in the things that we can do with and on the platform will be critical.

Mr. STEUBE. My time has expired. Thank you, General, for your service to our country.

Chairwoman MALONEY. The chair now recognizes Congresswoman Porter.

Ms. PORTER. Hello. Mr. Ulmer, does Lockheed Martin owe the government money—the Federal Government money?

Mr. ULMER. Congresswoman, we are negotiating that today with the Defense Contract Management Agency relative to the issues associated with electronic EELs.

Ms. PORTER. You are negotiating today. How much does Lockheed Martin owe taxpayers?

Mr. ULMER. Congresswoman, we are going through that. The figures that were provided, \$303 million, have been reduced—\$183 million I heard today. So, I think we are collectively working to understand from an accountability point of view what those numbers are.

Ms. PORTER. Why were the figures reduced? The Federal Government found that the F-35 defective parts cost the government \$300 million. Why is that amount being reduced?

Mr. ULMER. I don't know the specifics, ma'am. But I do know that not—

Ms. PORTER. Is it the government's idea to reduce the amount you owe them or is it Lockheed Martin's idea to try to pay less?

Mr. ULMER. Ma'am, that came from the government. It came from the government.

Ms. PORTER. OK. Then I will ask Ms. Lord about this in a minute.

So, you are negotiating over what was \$300 million to \$350 million but has somehow been reduced to about half that. How is Lockheed doing financially?

Mr. ULMER. Ma'am, we just released our quarterly earnings yesterday. So, net sales \$16.2 billion, net earnings \$1.6 billion, and our cash \$2.2 billion.

Ms. PORTER. OK. I want to make sure I have this right. From that quarterly investor call, which we also listened to, profit is up 15 percent over this time last year, more than \$3.5 billion in profit so far in 2020. Ten times that \$3.5 billion in profit is ten times what you owe the taxpayers.

One recent headline—I hope you saw this good publicity for your company—one recent headline called Lockheed Martin a pandemic star for your ability to be earning money even as taxpayers and everyday families and small businesses struggle.

So, I am not sure why the amount is being reduced. I am going to ask Ms. Lord about that. But I also want to know more about why, given that Lockheed is a pandemic star, Lockheed is writing a letter to the White House—just wrote a letter to the White House asking taxpayers to give Lockheed bailout funds.

Mr. ULMER. I am not aware of that letter, Congresswoman.

Ms. PORTER. So, you are telling me that it is Lockheed Martin's statement on the record that there is no request for additional money related to things like the Main Street Lending Program or the money set aside specifically in CARES for national security companies?

Mr. ULMER. Ma'am, I am not aware of a specific letter. I am aware relative to COVID-19 in the CARES Act, relative to the disruption to aerospace and defense.

I don't know the specifics of the letter you are mentioning, ma'am.

Ms. PORTER. Did Lockheed Martin request money under the CARES Act?

Mr. ULMER. Yes, ma'am.

Ms. PORTER. Why?

Mr. ULMER. Because of the disruption associated with COVID-19.

Ms. PORTER. Because of the disruption that caused you to have a profit of 15 percent over the prior year when we didn't have COVID-19?

That doesn't—maybe making gobs of money is disruption for you, but I think for most everyday Americans if they see their income go up 15 percent this year, if they were making—if they were making \$3.5 billion in profit in 2020, they wouldn't call that a disruption.

They would call that a miracle and they would not be coming to the government trying to take more taxpayer dollars at the same time that you are failing to pay the U.S. taxpayers back what you owe for breach of contract with regard to the F-35 Joint Strike Force.

I am unable to understand why you need this additional money when your profits are up and you have breached your contracts

with regard to producing defective parts. Why should the taxpayer foot the bill the help Lockheed Martin at this time?

Mr. ULMER. Ma'am, the disruption associated with COVID-19 requires many different aspects relative to health and welfare of employees, the supply base associated with—

Ms. PORTER. Use—pardon me. Reclaiming my time.

Use your 15 percent increase in profit to pay to protect your workers during COVID.

Mr. ULMER. Congresswoman, we are doing that.

Ms. PORTER. Why are we footing the bill to help a company that is having an uber profitability moment and is a pandemic star?

Mr. ULMER. Congresswoman, no funds have been provided relative to the CARES Act.

Ms. PORTER. But you have asked?

Mr. ULMER. Yes, just like many aerospace and defense companies.

Ms. PORTER. One wrong doesn't make a right.

With that, I yield back.

Chairwoman MALONEY. The gentlelady yields back.

And I now recognize Representative Grothman.

Mr. GROTHMAN. Ms. Hull, we will start with you.

Your report found that as a result of receiving not-ready-for-issue spare parts, the Department of Defense spent \$303 million in labor costs since 2015.

If that figure is right, that is kind of a big number. Can you explain how you arrived at that number?

Ms. HULL. The \$303 million is just the cost of DOD labor. So, it costs about \$7,000 to \$11,000 per issue to fix or to resolve. So, that figure is just for the labor attributed to the action request at the time.

Mr. GROTHMAN. So, it is really a larger number in cost overall?

Ms. HULL. Yes. It only reflects DOD labor. It does not take into account the additional amount that Lockheed charged back to the government to get the parts that—you know, back ready for issue.

Mr. GROTHMAN. Do you know how much that was?

Ms. HULL. Unfortunately, because of the way data was not tracked regarding that, we were unable to obtain that information.

Mr. GROTHMAN. OK. Hmm, are you trying to get it or they are just—would Lockheed give you the information or—

Ms. HULL. We requested the information from Lockheed Martin during the course of the audit. But they did not provide it.

Mr. GROTHMAN. Hmm. Do you have recourse or you just got to tolerate it?

Ms. HULL. Lockheed Martin shared with our audit team that they do not track the information in a manner in which they could provide that cost to us.

Mr. GROTHMAN. Well, they are—I guess they are saving costs, huh. In the year since your report has been released, have you continued to monitor the delivery of non-RFI parts?

Ms. HULL. Since our issue—since our report was issued, we are currently tracking the recommendations that we made to the Joint Program Office.



The Joint Program Office agreed with all four recommendations and we are in the process of waiting for information to validate the actions taken.

Mr. GROTHMAN. Do you have any update for us or just we got to keep waiting?

Ms. HULL. Currently, we are waiting for documentation to validate actions taken.

Mr. GROTHMAN. OK. We will give General Fick a question here. What has your office done to address that problem and what type of changes do you think we need as we move forward?

Mr. FICK. So, relative to the EEL issue and non-RFI parts, we have worked very, very closely with the field and with Lockheed Martin to put process and practice in place to ensure that the number of parts that arrive are—that require an EEL actually have that EEL.

One of the specific technical moves that the group made was to provide what they call an advanced shipping notice that, in some ways, significantly reduces the errors associated with manual entry of data when a part arrives at a base.

So it, effectively, prepopulates the system to allow for an easier transmittal of the EEL and the easier acceptance and arrival of that EEL on the base.

That is a large part of the reason that we are now at an 83 percent EEL RFI number.

Mr. GROTHMAN. OK. Well, can I ask a similar question, Mr. Ulmer? From your perspectives, have the issues that were raised on non-RFI spare parts in the June 2019 Inspector General report seen improvements?

Mr. ULMER. Yes, sir, they have. As we alluded to in the opening comments, ready-for-issue effectiveness rate has increased from, I believe, 43 percent—45 percent to about 83 percent the last six months.

Mr. GROTHMAN. OK. Thank you very much.

I yield the rest of my time.

Chairwoman MALONEY. The gentleman yields back, and the chair recognizes Congresswoman Miller.

Mrs. MILLER. Thank you, Madam Chairman and Ranking Member Comer, and thank you all for being here today to testify before our committee.

As all of my committees today understand—all of my colleagues today understand, the F-35 program is one of the most essential tools in our Nation's armed forces disposal.

I strongly support the continued investment in the F-35 program and I believe that it will play a major role in defending the United States and our allies for decades to come.

I applaud the work that the Department of Defense, Lockheed Martin, and the thousands of suppliers around the country, including those in my home state of West Virginia, have done to ensure that the F-35 program will continue to be cost efficient, mission capable, and effective.

I am encouraged by the progress that has been made, especially in the last year, to reduce the cost per flight and to ensure ready-for-issue parts compliance are at a much higher rate.

Again, I want to thank you all for being here today for questions and showing the committee and the American people the importance of the F-35 program.

Mr. Ulmer, how has the coronavirus pandemic and the shutdown and the sustained economic shutdown impacted the supply chain for the F-35 program?

Mr. ULMER. Congresswoman, it is a bit of a mixed bag. So, we have suppliers that have shut down for periods of time. I think weeks, I think a month. We have had suppliers that have had little impact. We have had suppliers that their work force has been significantly impacted.

For example, we have had a supplier that have reduced their work force for periods of time from 100 percent down to 20 or 30 percent.

So, it has been a bit of diverse impact to our supply base. We have also had suppliers that provide commercial material as well as military hardware to the platform. So, from a commercial aviation point of view, they have been significantly impacted from a finance health point of view.

There are just many different aspects of how COVID has impacted supply base and industry across the aerospace and defense sector.

Mrs. MILLER. Thank you.

General Fick, how does the mission-capable rate for the F-35 fighters compare to a year ago or even six months ago?

Mr. FICK. Ma'am, the mission-capable rate of the F-35 over the course of the last year has come up from, as I recall, in the mid-50's to the low to mid-70's.

As I look back at the data today, it actually seems relatively flat in the mid-70's at the fleet level. Below the fleet level, as we look individually at the F-35A, which is doing a little bit better than the B and the C, which are doing a little bit worse, we do see variations caused by differences in the—in some of the systems on the aircraft, and we see the impact of different fleet sizes as well on the mission-capability rates.

We are taking a wide variety of initiatives and issues that are articulated in our life cycle sustainment plan to drive mission-capability rates and to drive F-35 sustainment outcomes in the right direction.

Fixing ALIS is only one of those issues. We have 12 different lines of effort that we are undertaking to include the establishment and the accelerated standup of organic depots; the use of increased maintenance authorities on the flight line and a wide variety of other issues that all together will continue to move the needle in the right direction.

Mrs. MILLER. Good. General Fick and Mr. Ulmer, what does the future look like for the F-35 production and how does Lockheed and your suppliers think you will be able to scale?

Mr. FICK. So, we are—as you are aware, ma'am, we signed the Lot 12 through Lot 14 production contracts over the course of the last fall and we are currently entering negotiations for the Lots 15 through 17 contracts.

I can't talk to the specific details of those negotiations. But I will tell you that, overall, as you look into the service budgets and as

you look into the service spend plans, we see the numbers of aircraft in those years are not rising as they did over the course of Lots 10 through 14. But they are a little bit more flat.

Some of the flatness of the profile in those years is going to challenge our ability to continue to drive price down by tail. But we are committed to continuing to work hard with the department to establish the best value for our taxpayers and war fighters.

Mrs. MILLER. Thank you.

Mr. Ulmer?

Mr. ULMER. Congresswoman, over the last three years we really have been ramping upward. So in 2017, we delivered 61. In 2018, we delivered 91. Last year, we delivered 134.

This year, prior to COVID we were on track to deliver 141 aircraft. So, you can see the progression of production rate, and then we will actually continue that production rise as we go forward to approximately 165 aircraft, and then, as General Fick alluded to, we will see a slight decline in production quantities, probably around 155 or so in the three lots coming after that.

So, just kind of an overview. Within that production rate, we have been able to reduce the price of the airplane significantly. So, we were on a plan or a trajectory to get to what we call an \$80 million aircraft by Lot 14.

We were able to achieve that one lot early in Lot 13, and what that really—what that allows is we are now able to produce and deliver a fifth gen capability aircraft really at the price of what a fourth gen legacy fighter would cost.

Mrs. MILLER. Thank you. I yield back.

Chairwoman MALONEY. Well, I want to thank everybody. This is the last questioner, and I want to thank our panelists for their remarks and I also want to commend my colleagues on both sides of the aisle for their really informed and passionate concern and for participating in this important conversation.

I would like to yield to my colleague and good friend, Ranking Member Comer, for his closing remarks.

Mr. COMER. Thank you, Madam Chair, and again I want to thank all of our witnesses who were here.

Our side of the aisle here has been focused on oversight. It is good to have a bipartisan hearing where we all share the same goals and those goals are, No. 1, to ensure that our troops have the absolute best.

No. 2 is to ensure that the taxpayers get their dollar's worth, and you will find no group in Congress more in support of the private sector than our side of the aisle.

We know that parts and contracting and aircraft can be produced in the private sector significantly more—significantly cheaper than the government could.

Having said that, we expect the private sector to deliver on their end of the bargain. And with respect to Lockheed Martin, I appreciate the fact that Lockheed Martin has a significant footprint in America.

Lockheed Martin employs a lot of people and they pay excellent wages to their employees. It is a great place to work. I appreciate that.

But, Mr. Ulmer, we have had this discussion about the issues with the EELs and the issues with the F-35s, and considering the significant percentage that this product is with your total sales for Lockheed Martin, I certainly hope that, moving forward, we can get these issues resolved for the sake of our military, for the sake of our servicemen and women, and for the sake of the American taxpayer.

So, I am confident that we can get this resolved. But I will look forward to continued discussions with Lockheed Martin, with our United States military, and with the majority in this committee.

With that, Madam Chair, I yield back.

Chairwoman MALONEY. Well, I really want to thank you and your staff and all of your members for joining us in a bipartisan way to work on this challenge, and I join my colleagues in saying that I am very pleased that Lockheed Martin has said they are dedicated to resolving these challenges.

And Mr. Ulmer mentioned that he or, rather, Lockheed Martin had already spent over \$30 million trying to correct this problem.

But I want to point out that that is just a small percentage of the cost of one plane, especially when you add the \$50 million that they say is needed to maintain the program yearly now because of the challenges.

I do want to say how pleased many of us are to learn about the ODIN contract that the government will be putting forward and that the intellectual property and the data components will be owned by the American taxpayer and the American government.

I believe this should be the standard for any military contract, going forward. I consider this a national security challenge because there have been so many reports that the information has been stolen from our contractors through hacking, including allegations that the F-35 has been compromised and the information stolen.

So, to have it controlled by the government to protect this information, I believe, is a very good step in the right direction.

We are looking forward to learning more about the ODIN program and the contract and exactly how you are going to spell it out so that these challenges do not happen in the future in order to, first of all, protect the safety of our men and women in the Air Force but also to protect the dollars of our taxpayers.

Our next meeting will be held in September on the F-35 and I am hopeful that the DCMT, who reported that there was \$183 million owed to the American taxpayers, that the report said they are in negotiations.

I hope by September this issue will be resolved and that we can learn more about what DOD is doing to modernize our military contracting process.

It is important, first and foremost, for the safety and security of our men and women in uniform but also the safety and security of the tax dollars in this country.

I really want to thank, again, all of the panelists for their life's work, for their dedication, their testimony today, and I must say I believe this is the best participation of any hearing this year that I have seen on both sides of the aisle, showing deep concern and commitment to resolving this issue in a positive way for the private sector, the military, the government, and the taxpayer.

I yield back. And I thank the staff on both sides of the aisle. This was a joint effort. Every single meeting was held in conjunction with both parties. Every interview, every report has been a bipartisan effort on this important issue.

In closing, I want to thank our panelists for their remarks and I want to commend my colleagues for participating.

With that, and without objection, all members will have five legislative days within which to submit additional written questions for the witnesses to the chair, which will be forwarded to the witnesses for their response.

I ask our witnesses to please respond as promptly as you are able. This hearing is adjourned.

[Whereupon, at 1 p.m., the committee was adjourned.]

