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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	351.129	58.374	65.730	97.231	0.000	97.231	78.548	72.578	90.326	76.418	Continuing	Continuing
675346: <i>F-35</i>	14.940	2.294	24.091	76.083	0.000	76.083	56.976	50.694	68.180	53.471	0.000	346.729
675349: <i>HPSI</i>	24.524	12.255	20.746	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.525
676011: <i>JSF DUAL CAPABLE AIRCRAFT</i>	311.665	43.825	20.893	21.148	0.000	21.148	21.572	21.884	22.146	22.947	Continuing	Continuing

Program MDAP/MAIS Code: 198

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the United States Air Force (USAF), United States Navy, United States Marine Corps and International Partners countries. There are three variants: the F-35A Conventional Takeoff and Landing (CTOL) variant; the F-35B Short Take Off and Vertical Landing (STOVL) variant; and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize total air system life cycle costs.

PE 0207142F funding supports USAF-unique on-going User Information Data Exchange Service (UIDES), SEEK EAGLE, Quick Reaction Instrumentation Package (QRIP), Joint Simulation Environment/Virtual Test and Training Center (JSE/VTTC), Hybrid Product Support Integrator (HPSI), and Dual Capable Aircraft (DCA) requirements. These continuing efforts are not new starts.

The F-35A UIDES effort develops a system that supports Information Exchange Requirement (IER) data transfer. UIDES allows F-35 operations, maintenance, training, and financial data to be integrated within existing Air Force enterprise systems. The Autonomic Logistics Information System (ALIS) UIDES will transition to an Operational Data Integrated Network (ODIN) effort.

The Air Force SEEK EAGLE Office (AFSEO) delivers warfighting capability through aircraft/store compatibility testing and evaluation while providing accurate combat weapon delivery and mission planning software. Beginning in FY2020, the USAF supported Flight Test Instrumentation (FTI) wiring and weapons integration tasks related to SEEK EAGLE requests. These tasks include, but are not limited to, envelope expansion, mixed loads testing, adding additional stores, and F-35A specific risk reduction efforts and studies.

The QRIP system is a government off-the-shelf solution from the 59th Test and Evaluation Squadron (59 TES) for F-35A high-capacity data recording needs. Designed for operational test and evaluation, the system can serve multiple emerging needs for data collection. By capturing crowd sourced flight data (CSFD) from operational aircraft, QRIP reduces the need for deliberate regression flight testing and allows the test enterprise to focus on Block 4 and future capability development. In FY2024, the 59 TES will produce/install 25 QRIP data recording devices on F-35A aircraft and continue with approximately 25 QRIP devices annually thereafter. Also in FY2024, the Knowledge Management (KM) system for data processing and storage will be procured and deployed at Eielson AFB and RAF Lakenheath. A team of sixteen

UNCLASSIFIED

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<p>contractors at each base are required to sustain QRIP associated hardware and software. Cost share funding for this effort is in PE0604840F while the F-35A USAF-unique costs are located in this PE.</p> <p>The VTTC campus connects 5th Generation / 4th Generation fighter, C2ISR, and bomber simulators in a classified virtual battlespace that provides high end advanced tactics and training. In FY2024, this effort will fund F-35 aircraft and sensor models (F-35 Fighter In-A-Box (FIAB)) for JSE integration at the VTTC. This effort capitalizes on investments made by USAF and Navy in high fidelity sims for 5th Generation fighters and leverages the architecture and development made for test purposes setting the stage to connect Air Force and Navy JSE-based sims for joint training.</p> <p>The F-35 HPSI's primary role is to integrate support across the supply chain, maintenance, sustainment engineering, logistics information technology and training disciplines. It will deliver enduring, global support for fielded F-35s while preparing for future force expansion. USAF funding supports additional Program Management Activities (PMA) to transition to a final HPSI, which will support sustainment analysis with product support managers, focused on long-term strategic planning, and transition to a final integrated support plan.</p> <p>The F-35 JSF Operational Requirements Document (ORD) calls for the F-35A to have the capabilities and provisions for DCA operations in the first post-System Development and Demonstration (SDD) block upgrade. DCA is a NATO and US priority which is a critical capability in our collective defense and credible deterrence, with operational certification needed by January 2024. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operations for the F-35A is internal carriage of up to two B61-12s. Due to extensive certification requirements, the DCA capability planning and design, testing and certification will continue throughout Block 4. Funding in this PE will resource the following F-35A DCA activities: development, analysis, test, integration, certification and risk-reduction activities necessary to field and maintain F-35A DCA capabilities throughout post-SDD block upgrades; assessment of DCA weapon integration and certification impacts on the F-35 aircraft; identification and mitigation of potential technical and cost risks; definition of integration and certification trade-space to field the DCA capability with the B61-12 weapon; follow-on risk reduction efforts to ensure future integration alignment with the earliest feasible post-SDD block upgrade; and full integration efforts pending Service decisions.</p> <p>The FY 2024 funding request was reduced by \$8.285 million to account for the availability of prior year execution balances.</p> <p>This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 \$3.5M was expended for civilian pay expenses in this program element, and in FY2023 \$3.4M is forecasted for civilian pay expenses in this program element.</p> <p>This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.</p>		

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Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	69.365	70.730	58.879	0.000	58.879
Current President's Budget	58.374	65.730	97.231	0.000	97.231
Total Adjustments	-10.991	-5.000	38.352	0.000	38.352
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-5.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-9.999	0.000			
• SBIR/STTR Transfer	-0.992	0.000			
• Other Adjustments	0.000	0.000	38.352	0.000	38.352

Change Summary Explanation

FY22 reduction includes .992 for Small Business Innovative Research (SBIR) and a -\$9.999M below threshold reprogramming to AFDW
 FY23 Congressional decrease is due to a program decrease
 FY24 increase can be attributed to the JSE/VTTC Capability Development

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force										Date: March 2023		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 675346 / F-35			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675346: F-35	14.940	2.294	24.091	76.083	0.000	76.083	56.976	50.694	68.180	53.471	0.000	346.729
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35A UIDES effort develops a system that supports IER data transfer. UIDES allows F-35A operations, maintenance, training and financial data to be integrated within existing Air Force enterprise systems. The ALIS UIDES will resume efforts in FY2024 in support of the ODIN baseline transition.

The AFSEO delivers warfighting capability through aircraft/store compatibility testing and evaluation and provides accurate combat weapon delivery and mission planning software. Beginning in FY2020, the USAF supported FTI wiring and weapons integration tasks related to SEEK EAGLE requests. These tasks include, but are not limited to, envelope expansion, mixed loads testing, adding additional stores, and F-35A specific risk reduction efforts and studies.

The QRIP / CSFD system is a government-owned, off-the-shelf solution from the 59 TES for F-35 high-capacity data recording needs. Designed for operational test and evaluation, the system serves multiple emerging needs for data collection. By capturing CSFD from operational aircraft, QRIP reduces the need for deliberate regression flight testing and allows the test enterprise to focus on Block 4 and future capability development. In FY2024, the 59 TES will produce and install 25 QRIP data recording devices on F-35A aircraft and continue producing/installing approximately 25 QRIP devices annually thereafter. Also in FY2024, the KM system for data processing and storage will be procured and deployed at Eielson AFB (AK) and RAF Lakenheath (UK). Tyndall AFB (FL) is scheduled for modifications and KM in FY2025. These bases are prioritized in accordance with the CSFD Program Roadmap. A team of sixteen contractors at each base are required to sustain CSFD associated hardware and software at Full Operating Capability. Meanwhile, the 59 TES will continue studying means to increase the operational viability of CSFD, including the use of data science teams, artificial intelligence, and machine learning algorithms.

The VTTC campus connects 5th Generation / 4th Generation fighter, C2ISR, and bomber simulators in a classified virtual battlespace that provides high end advanced tactics and training. In FY2024, this will fund F-35 FIAB, a digital version of the F-35 aircraft and sensors for JSE integration at the VTTC. This capitalizes on investments made by Air Force and Navy in high fidelity sims for 5th Generation fighters and leverages the architecture and development made for test purposes setting the stage to connect Air Force and Navy JSE-based sims for joint training.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 \$3.5M was expended for civilian pay expenses in this program element, and in FY2023 \$3.4M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Autonomic Logistics Information System (ALIS) User Information Data Exchange Service (UIDES)	0.000	0.000	2.821	0.000	2.821

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>Description: Beginning in FY2020, the USAF unique ALIS UIDES requirement was broken out separately from the remaining systems engineering. USAF F-35 UIDES provides for Air Force development of a F-35 ALIS - UIDES that supports IER data transfer capability from the F-35 ALIS into existing Air Force enterprise systems. Activities also include studies and analysis to support both current program/project planning and execution and future program/project planning.</p> <p>FY 2023 Plans: Postpone ALIS UIDES efforts until the new ODIN baseline is ready.</p> <p>FY 2024 Base Plans: Resume ALIS UIDES efforts to prepare for the ODIN baseline transition.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased due to preparation efforts for the ODIN baseline transition.</p>					
<p>Title: Air Force SEEK EAGLE Office and Low Observable Sustainability Over Time</p> <p>Description: Integrated Test activities in support of Block 4, to include Lockheed Martin and Pratt & Whitney support at all test sites. Non-recurring engineering required to plan for the service life extension of existing Developmental Test (DT) aircraft and modification necessary to bring DT aircraft fleet to a more production representative and sustainable configuration, and to develop flight test instrumentation and release test software to meet Block 4 requirements. Additional upgrades required to support development and evaluation of improvements driven by changes in the threat environment and as identified in the Electronic Warfare Initial Capability Document (ICD), the Fifth Generation Fighter Modernization ICD, and the Block 4 Capability Development Document (CDD).</p> <p>Beginning in FY2020, the USAF has supported FTI wiring and weapons integration tasks related to AFSEO requests. These tasks include, but are not limited to, envelope expansion, mixed loads testing, adding additional stores and F-35A specific risk reduction efforts and studies.</p> <p>As an alternative to flight test, AFSEO will procure 1/6th scale models of the F-35A to be tested in wind tunnels at Arnold Engineering Development Complex (AEDC) to fulfill F-35A weapons integration objectives. Wind tunnel testing would increase AFSEO throughput three hundred percent.</p>	2.294	4.591	5.079	0.000	5.079

UNCLASSIFIED

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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>To ensure the F-35A fleet's Low Observable Sustainability Over Time (LOSOT), 12 F-35A aircraft must undergo radar cross section (RCS) testing annually. The only facility at NAS Patuxent River does not have the capacity to support LOSOT test requirements. The National Radar Test Facility (NRTF) at White Sands Missile Range (WMSR) has the capability, but must procure and install Multifunction Advanced Data Link (MADL) antennae to adapt the range for F-35A testing. These MADL antennae capture F-35A time, space, and position information to direct their radar.</p> <p>FY 2023 Plans: USAF only funding will continue supporting SEEK EAGLE requests by providing FTI wiring and supporting weapons integration tasks initiated in FY2021, in addition to emergent SEEK EAGLE tasks. Procure 1/6th scale models of F-35A and conduct wind tunnel testing for weapons integration. Procure, install, and sustain MADL antennae at NRTF in support of LOSOT testing.</p> <p>FY 2024 Base Plans: USAF only funding will continue supporting AFSEO requests by providing FTI wiring and supporting weapons integration tasks initiated in FY2021, in addition to emergent AFSEO tasks. Procure 1/6th scale models of F-35A and conduct wind tunnel testing for weapons integration. Procure, install, and sustain MADL antennae at NRTF in support of LOSOT testing.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased due to Test & Evaluation capacity for AFSEO and LOSOT efforts.</p>					
<p>Title: Quick Reaction Instrumentation Package (QRIP) / Crowd Sourced Flight Data (CSFD)</p> <p>Description: The QRIP / Crowd Sourced Flight Data (CSFD) system is a government-owned, off-the-shelf solution from the 59 TES for F-35 high-capacity data recording needs. Designed for operational test and evaluation, the system serves multiple emerging needs for data collection. By capturing CSFD from operational aircraft, QRIP reduces the need for deliberate regression flight testing and allows the test enterprise to focus on Block 4 and future capability development.</p> <p>FY 2023 Plans: In FY2023, the 59 TES will produce and install 36 QRIP data recording devices on as many F-35A aircraft and will produce/install approximately 25 QRIP devices annually thereafter. Also in FY2023, the KM system for data</p>	0.000	19.500	25.927	0.000	25.927

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>processing and storage will be procured and deployed at Eielson AFB (AK) and continued support at Nellis AFB (NV), Hill AFB (UT), MCAS Yuma (AZ), and Edwards AFB (CA). FY2023 will also increase the required contractors toward the Full Operational Capability (FOC) objective of 16 as more F-35As become modified and KM nodes stand-up across Hill AFB and Eielson AFB.</p> <p>FY 2024 Base Plans: In FY2024, the 59 TES will produce and install 25 QRIP data recording devices on F-35A aircraft and continue producing/installing approximately 25 QRIP devices annually. Also in FY2024, the KM system for data processing and storage will be procured and deployed at RAF Lakenheath (UK) and continued support at Nellis AFB (NV), Hill AFB (UT), MCAS Yuma (AZ), Edwards AFB (CA), and Eielson (AK). FY2024 will continue to increase the required contractors toward the FOC objective of 16 as more F-35As become modified and KM nodes stand-up.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased due to the success of CSFD recognized in FY2022, which drives an increased demand by ACC, PACAF, and USAFE-AFAFRICA in QRIPs produced and installed from 20 to 36 in FY2023, and from 20 to 25 in FY2024. Additional increases account for manpower from CSFD locations to go from eight contractor personnel to sixteen which allows for FOC for Hill AFB (UT).</p>					
<p>Title: Joint Simulator Environment (JSE) / Virtual Test and Training Center (VTTC)</p> <p>Description: The VTTC campus connects 5th Generation / 4th Generation fighter, C2ISR, and bomber simulators in a TS/SCI/SAR virtual battlespace that provides opportunities for high end advanced tactics and training. In FY2024, this will fund F-35 FIAB, a digital version of the F-35 aircraft and sensors for JSE integration at the VTTC. This capitalizes on investments made by Air Force and Navy in high fidelity sims for 5th Generation fighters and leverages the architecture and development made for test purposes setting the stage to connect Air Force and Navy JSE based sims for joint training.</p> <p>FY 2023 Plans: N/A</p> <p>FY 2024 Base Plans:</p>	0.000	0.000	42.256	0.000	42.256

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Procure, integrate, and sustain 8x F-35 Fighter In-A-Box (FIABs) and required human system interface components in support of JSE training at the VTTC. FY 2024 OCO Plans: N/A FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased due to efforts to support F-35 FIABs High End Advanced Tactics and Training (HEAT2) for the USAF Weapons School and joint training in preparation for Night 1 in a low latency, high fidelity facility on the VTTC campus.					
Accomplishments/Planned Programs Subtotals	2.294	24.091	76.083	0.000	76.083

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 07 PE 0604840F: <i>F-35A Continuous Capability Development and Delivery</i>	985.404	1,014.708	901.922	-	901.922	947.332	855.290	786.153	706.123	0.000	6,196.932
• RDTE 07 PE 0207142F <i>6011: Dual Capable Aircraft (DCA), BPAC 676011</i>	44.816	20.893	21.100	-	21.100	21.446	21.673	21.971	22.740	0.000	174.639
• RDTE 07 PE 0604840N 2936: <i>F-35C Continuous Capability Development and Delivery (CV)</i>	486.962	491.513	386.118	-	386.118	324.490	295.983	300.659	-	0.000	2,285.725
• RDTE 07 PE 0604840M 3410: <i>F-35B Continuous Capability Development and Delivery (STOVL)</i>	515.746	525.338	409.610	-	409.610	349.243	316.760	321.569	-	0.000	2,438.266
• RDTE 07 International: <i>International Continuous Capability Development and Delivery</i>	358.159	346.820	306.563	-	306.563	265.912	215.209	193.862	-	0.000	1,686.525

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675346 / <i>F-35</i>
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D. Acquisition Strategy

The C2D2 acquisition strategy employs both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. A new modernization contract structure will be established for all post SDD Block 4 efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future C2D2 capabilities.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675346 / <i>F-35</i>
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FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<i>F-35 SEEK EAGLE and LOSOT</i>	
Ongoing support activities	
<i>F-35 UIDES</i>	
Ongoing support activities	
<i>F-35A QRIP / CSFD</i>	
Ongoing support activities	
<i>JSE/VTTC F35 FIAB</i>	
Ongoing support activities	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675346 / <i>F-35</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-35 SEEK EAGLE and LOSOT</i>				
Ongoing support activities	1	2022	4	2028
<i>F-35 UIDES</i>				
Ongoing support activities	1	2024	4	2024
<i>F-35A QRIP / CSFD</i>				
Ongoing support activities	2	2023	4	2028
<i>JSE/VTTC F35 FIAB</i>				
Ongoing support activities	2	2024	4	2028

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 675349 / HPSI			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
675349: HPSI	24.524	12.255	20.746	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	57.525
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 HPSI is the sustainment execution arm of the F-35 Program Office. The HPSI's primary role is to integrate sustainment support across the supply chain, maintenance, sustaining engineering, logistics information technology and training disciplines. HPSI personnel are from the US Services, F-35 Partners, Lockheed Martin, Pratt & Whitney, Rolls Royce, BAE Systems, and Northrop Grumman. USAF funding supports additional PMA to transition to a final HPSI, which will support sustainment analysis with product support managers, focused on long-term strategic planning, and transition to a final integrated support plan.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 \$3.5M was expended for civilian pay expenses in this program element, and in FY2023 \$3.4M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Management Services	12.255	20.746	0.000	-	0.000
Description: This funding supports the transition of the F-35 HPSI from multiple locations to Wright-Patterson Air Force Base (AFB), Ohio (OH). The funding supports HPSI AFLCMC civilian pay, contractor support, and travel.					
FY 2023 Plans: The HPSI organization will continue to transition to Wright-Patterson AFB, OH. This funding provides for HPSI AFLCMC civilian pay, contractor support, and travel.					
FY 2024 Base Plans: N/A					
FY 2023 to FY 2024 Increase/Decrease Statement: Funding decreased due to the completion of transitioning personnel to the HPSI organization at Wright-Patterson AFB, OH.					
Accomplishments/Planned Programs Subtotals	12.255	20.746	0.000	-	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675349 / <i>HPSI</i>

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675349 / HPSI
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Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AFLCMC Civilian Pay	Allot	AFLCMC : TBD	17.903	5.535	Oct 2021	13.568		-		-		-	0.000	37.006	-
Other Core Contractor Support	Various	Various : TBD	5.617	6.235	Oct 2021	6.465		-		-		-	0.000	18.317	-
Travel	Various	Various : TBD	1.004	0.485	Oct 2021	0.713		-		-		-	0.000	2.202	-
Subtotal			24.524	12.255		20.746		-		-		-	0.000	57.525	N/A
Project Cost Totals			24.524	12.255		20.746		-		-		-	0.000	57.525	N/A

Remarks
 Prior years reflects funding in FY20 and FY21. HPSI funding prior to FY20 was programmed under PE 0207142F, Project 675346.

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675349 / HPSI
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	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Hybrid Product Support Integrator	
Management Support Activities	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 675349 / <i>HPSI</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Hybrid Product Support Integrator</i>				
Management Support Activities	1	2022	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force										Date: March 2023		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
676011: JSF DUAL CAPABLE AIRCRAFT	311.665	43.825	20.893	21.148	0.000	21.148	21.572	21.884	22.146	22.947	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Operational Requirements Document (ORD) calls for the F-35A variant to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post System Development and Demonstration (SDD) block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of either one or two B61-12 weapons.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2022 \$3.5M was expended for civilian pay expenses in this program element, and in FY2023 \$3.4M is forecasted for civilian pay expenses in this program element.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Dual Capable Aircraft (DCA) (F-35 JSF)	43.825	20.893	21.148	0.000	21.148
Description: This effort provides for the assessment of Dual Capable Aircraft (DCA) weapon integration and certification impacts on the F-35A aircraft. It identifies and mitigates potential technical and cost risks, as well as defines the integration and certification trade-space to field the DCA capability with the B61-12 weapon. This effort also supports follow-on risk reduction efforts that will ensure future integration alignment with the earliest feasible post-SDD block upgrade, and is expected to include full integration efforts pending Service decisions.					
Integrated Test activities in support of Block 4, to include Lockheed Martin and Pratt & Whitney support at all test sites. Non-Recurring engineering required to plan for the service life extension of existing DT aircraft and modification necessary to bring DT aircraft fleet to a more production representative and sustainable configuration.					
FY 2023 Plans: Continue execution of the Phase 2 C2D2 contract: DCA Software Regression Testing, Flyable Test Assets Testing, DCA Propulsion Mission Support for Flight Test Operations, Mission System Flight Testing, and Preliminary Aircraft Monitor and Control (AMAC) Testing. The Nuclear Safety Analysis Report (NSAR), Technical Nuclear Safety Analysis (TNSA), Mechanical Interface Control Drawing (MICD), and Electrical Interface Control					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
<p>Drawing (EICD) documentation for the initial TR-3 nuclear certification. Delta Nuclear Certification activities continue in order to certify Lot 14 F-35As, that contain additional DCA hardware and software, as well as Lot 15 F-35As which comprises of a major hardware upgrade, TR-3. Continue initial TR-3 nuclear certification hardware and software development and testing by the prime contractor, Lockheed Martin. In addition, receive a MFR (Military Flight Release) for Lot 14. Initiate TR-3 dry run AMAC on a DT aircraft and initiate interim operational plan data documents, and complete the interim aircraft nuclear safety analysis report.</p> <p>FY 2024 Base Plans: Continue execution of the Phase 2 C2D2 contract: DCA Software Regression Testing, Flyable Test Assets Testing, DCA Propulsion Mission Support for Flight Test Operations, Mission System Flight Testing, and Aircraft Monitor and Control (AMAC) Testing. The NSAR, TNSA, MICD, and EICD documentation for the initial TR-3 nuclear certification. Delta Nuclear Certification activities continue in order to certify TR-2 F-35As (30P08 and 30P09 software), that contain additional DCA hardware and software, as well as Lot 15 F-35As with TR-3. Continue initial TR-3 nuclear certification hardware and software development and testing by the prime contractor, Lockheed Martin. In addition, receive MFR (Military Flight Release) for TR-3. Initiate AMAC on TR-3 production aircraft as well as AMAC graduation event on production aircraft. Initiate interim operational plan data documents, and complete the final aircraft nuclear safety analysis report. Delta Nuclear Certification activities continue in order to certify Lot 16 F-35As, NSAR, TNSA, MICD, and EICD documentation for nuclear certification.</p> <p>FY 2024 OCO Plans: N/A</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased due to inflation.</p>					
Accomplishments/Planned Programs Subtotals	43.825	20.893	21.148	0.000	21.148

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 07 PE 0207142F 5346: JSF Follow on Modernization, BPAC 675346	4.912	24.091	31.006	-	31.006	31.677	33.582	34.489	35.619	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Air Force	Date: March 2023
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Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 07 PE 0604840F: <i>F-35A Continuous Capability Development and Delivery</i>	1,085.909	1,032.528	1,273.888	-	1,273.888	1,325.094	1,160.028	1,096.268	909.909	Continuing	Continuing
• RDTE 07 PE 0604840N 2936: <i>F-35C Continuous Capability Development and Delivery (CV)</i>	473.749	503.365	543.834	-	543.834	534.928	435.450	417.632	417.465	Continuing	Continuing
• RDTE 07 PE 0604840M 3410: <i>F-35B Continuous Capability Development and Delivery (STOVL)</i>	501.609	531.032	544.625	-	544.625	550.377	462.193	415.339	430.007	Continuing	Continuing
• RDTE 07 International: <i>International Continuous Capability Development and Delivery</i>	358.159	346.820	306.563	-	306.563	265.912	215.209	193.862	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

The DCA effort will leverage contracting vehicles for the overall Block 4 F-35 C2D2 effort. The C2D2 acquisition strategy employs both Cost and Fixed Price Incentive contracts for the Block 4 engineering and development efforts. A new modernization contract structure will be established for all post SDD Block 4 efforts. In addition, a separate Basic Ordering Agreement or Indefinite Quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft and supporting technology maturation for future C2D2 capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Block 4 Phase 2.3 - DCA to DT Complete	SS/CPFF	Lockheed Martin : Ft. Worth, TX	83.697	7.020	Oct 2021	1.500	Feb 2023	2.000	Mar 2024	-		2.000	Continuing	Continuing	-
DCA Prime PW Propulsion	SS/CPFF	Pratt Whitney - East : Hartford, CT	0.000	2.000	Feb 2022	0.300	Feb 2023	0.310	Mar 2024	-		0.310	0.000	2.610	-
DCA TE Prime LM DT AC Viability	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	7.020	Mar 2022	0.900	Mar 2023	1.000	Dec 2023	-		1.000	Continuing	Continuing	-
DCA TE Prime LM Developmental Foundation Contract	C/CPFF	Lockheed Martin : Ft. Worth, TX	14.524	4.500	Apr 2022	2.000	Mar 2023	1.000	Dec 2023	-		1.000	Continuing	Continuing	-
Delta Certification	SS/CPFF	Lockheed Martin : Ft. Worth, TX	28.979	7.910	Feb 2022	2.000	Feb 2023	2.000	Feb 2024	-		2.000	Continuing	Continuing	-
SEI&T	SS/CPAF	Not specified : TBD	0.000	0.000	Oct 2021	0.000	Oct 2022	1.500	Oct 2023	-		1.500	0.000	1.500	-
Block 4 Phase 1 DCA Requirements Decomposition	SS/CPFF	Lockheed Martin : Ft. Worth, TX	21.572	-		-		-		-		-	0.000	21.572	-
Block 4 Phase 2.1 DCA to PDR	SS/CPFF	Lockheed Martin : Ft. Worth, TX	28.070	-		-		-		-		-	0.000	28.070	-
Prior Year - no longer funded in FYDP	Various	Not specified: TBD : TBD	1.739	-		-		-		-		-	0.000	1.739	-
Prior Year - Block 4 Realignment	Various	Not specified: TBD : TBD	14.676	-		-		-		-		-	0.000	14.676	-
Subtotal			193.257	28.450		6.700		7.810		-		7.810	Continuing	Continuing	N/A

Remarks

SEI&T: Accounts for DCA share of Systems Engineering Integration and Test (SEI&T) contract.

Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
B61-12/F-35 Certification	Various	Various : TBD	83.327	0.000	Oct 2021	0.500	Feb 2023	0.000	Oct 2023	-		0.000	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Air Force **Date:** March 2023

Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT
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Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
B61-12 AUR/Tail-kit Program Office	MIPR	AUR/TKA SPO : Kirtland/Eglin AFB, NM	13.900	0.180	Dec 2021	1.800	Dec 2022	2.500	Dec 2023	-		2.500	Continuing	Continuing	-
AFNWC/AFSEC Support	MIPR	Various : TBD	9.130	9.900	Nov 2021	6.000	Nov 2022	8.974	Nov 2023	-		8.974	Continuing	Continuing	-
Prior Year - no longer funded in FYDP	Various	Various : TBD	0.791	-		-		-		-		-	0.000	0.791	-
Subtotal			107.148	10.080		8.300		11.474		-		11.474	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation Edwards & OGC	MIPR	Testing : Edwards, CA	4.000	0.400	Feb 2022	1.193	Mar 2023	0.250	Feb 2024	-		0.250	Continuing	Continuing	-
Air Force SEEK EAGLE Office (Combat Weapons Delivery Software)	MIPR	Testing : Eglin, FL	1.000	0.000	Oct 2021	0.000	Oct 2022	0.100	Feb 2024	-		0.100	Continuing	Continuing	-
Prior Year - no longer funded in FYDP	Various	TBD : TBD	0.824	-		-		-		-		-	0.000	0.824	-
Subtotal			5.824	0.400		1.193		0.350		-		0.350	Continuing	Continuing	N/A

Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Services	C/CPAF	Not specified. : TBD	5.436	4.695	Mar 2022	4.500	Dec 2022	1.000	Mar 2024	-		1.000	Continuing	Continuing	-
AFLCMC Civilian Pay	Allot	Not specified. : TBD	0.000	0.000	Oct 2021	0.000	Oct 2022	0.314	Oct 2023	-		0.314	Continuing	Continuing	-
Travel	Various	Not specified. : TBD	0.000	0.200	Feb 2022	0.200	Feb 2023	0.200	Oct 2023	-		0.200	Continuing	Continuing	-
Subtotal			5.436	4.895		4.700		1.514		-		1.514	Continuing	Continuing	N/A

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Air Force		Date: March 2023
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / <i>F-35 Squadrons</i>	Project (Number/Name) 676011 / <i>JSF DUAL CAPABLE AIRCRAFT</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
676011: JSF Dual Capable Aircraft				
Nuclear Certification - NNSA & B61-12 AUR/TKA SPO	1	2022	4	2028
Phase 1 (Nuclear Certification Tasks) Requirements Decomposition	1	2022	4	2022
Phase 2.1 (Nuclear Certification Tasks) DCA to Preliminary Design Review (PDR)	1	2022	4	2022
Phase 2.3 (Nuclear Certification Tasks) DCA to DT Complete	1	2022	4	2024
Delta Certification of Hardware/Software Upgrades/DT Prime Contractor Support/ SEI&T	1	2022	4	2028

Note

Schedule details reflect fiscal years