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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force **Date:** May 2021

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	94.731	114.621	69.365	0.000	69.365	-	-	-	-	-	-
675346: <i>F-35</i>	0.000	11.850	7.678	4.890	0.000	4.890	-	-	-	-	-	-
675349: <i>HPSI</i>	0.000	16.754	18.415	19.659	0.000	19.659	-	-	-	-	-	-
676011: <i>JSF DUAL CAPABLE AIRCRAFT</i>	0.000	66.127	88.528	44.816	0.000	44.816	-	-	-	-	-	-

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, United States Navy, United States Marine Corps and International Partners countries. There are three variants: the F-35A Conventional Takeoff and Landing variant; the F-35B Short Take Off and Vertical Landing variant; and the F-35C Aircraft Carrier suitable variant. Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize total air system life cycle costs.

Beginning in FY 2020, Continuous Capability Development & Delivery (C2D2) efforts designated as Block 4 that are not USAF-unique (US Service and International Partner common requirements) are requested in PE 0604840F. Remaining funding in PE 0207142F supports USAF-unique on-going User Information Data Exchange Service (UIDES), SEEK EAGLE, Hybrid Product Support Integrator (HPSI) and Dual Capable Aircraft (DCA) requirements. These continuing efforts are not new starts.

JSF C2D2 efforts provide incremental warfighting capability improvements to maintain joint air dominance against evolving threats. Requirements designated as Block 4 include a robust weapons integration portfolio and provide new opportunities for International Partners to assess, integrate, and field unique capabilities based on global sovereign requirements. 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-SDD block upgrade. DCA is a NATO and US priority which is a critical capability in our collective defense and credible deterrence, with certification needed by Jan 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 JSF 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; full integration efforts pending Service decisions. This is not a new start effort.

The Air Force SEEK EAGLE Office (AFSEO) is the AF organization chartered to perform the compatibility mission and manage the compatibility enterprise. AFSEO delivers warfighting capability through aircraft/store compatibility testing and evaluation and provides accurate combat weapon delivery and mission planning software.

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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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Beginning in FY2020, the USAF will support 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. This is not a new start effort.

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 only will fund 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 is not a new start effort.

USAF F-35 User Information Data Exchange Service (UIDES) provides for Air Force development of a F-35 Autonomic Logistics Information System (ALIS) - UIDES that supports current and future Information Exchange Requirement (IER) data transfer capability from the F-35 ALIS into data reports and configurable tables to receive, store and integrate F-35 operations, maintenance, training and financial data within existing Air Force enterprise views and systems to support the growing fleet of AF F-35 aircraft, the ability to feed F-35 training and operations data to ALIS, and support modification of an enhanced data sharing capability (ability to consume increased volume and variety of ALIS IER data) to support operations planning, pilot and maintainer training, and depot data configuration and integration requirements. Activities also include studies and analysis to support both current program/project planning and execution and future program/project planning. This is not a new start effort.

This program element includes necessary civilian pay and travel expenses required to manage, execute, and deliver F-35 weapon system capability. The use of such program funds would be in addition to the civilian pay and travel expenses.

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 0605831F.

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.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	99.943	132.229	70.054	0.000	70.054
Current President's Budget	94.731	114.621	69.365	0.000	69.365
Total Adjustments	-5.212	-17.608	-0.689	0.000	-0.689
• Congressional General Reductions	0.000	-0.209			
• Congressional Directed Reductions	0.000	-17.399			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-2.505	0.000			
• SBIR/STTR Transfer	-2.707	0.000			
• Other Adjustments	0.000	0.000	-0.689	0.000	-0.689

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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force		Date: May 2021
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>	

Change Summary Explanation

FY20 adjustments include \$2.707M for Small Business Innovative Research (SBIR) and a reprogramming for M-Code
FY21 Congressional reduction of 17.399M to DCA for unjustified growth.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force										Date: May 2021		
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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
675346: F-35	0.000	11.850	7.678	4.890	0.000	4.890	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Total cost, including International partner contributions, USN, USMC, and USAF funding: FY 2019 \$1,062.771M; FY 2020 USAF only \$11.850M; FY 2021 USAF only \$7.678M. Other ongoing efforts previously included in this PE continue in PE 0604840F.

F-35 C2D2 Includes:

PE 0207142F BPAC 675346

PE 0604840F BPAC 675346

FY13: USN PE 0604800N Project Unit 2261

FY14: USN PE 0604800N Project Unit 9999

FY15-18: USN PE 0604810N Project Unit 2936

FY19: USN PE 0604840N Project Unit 2936

FY13: USMC PE 0604800M Project Unit 2262

FY14: USMC PE 0604800M Project Unit 9999

FY15-18: USMC PE 0604810M Project Unit 2935

FY19: USMC PE 0604840M Project Unit 3410

International Partner Contributions

A. Mission Description and Budget Item Justification

The Air Force SEEK EAGLE Office (AFSEO) is the AF organization chartered to perform the compatibility mission and manage the compatibility enterprise. 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 will support 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.

USAF F-35 User Information Data Exchange Service (UIDES) provides for Air Force development of a F-35 Autonomic Logistics Information System (ALIS) - UIDES that supports current and future Information Exchange Requirement (IER) data transfer capability from the F-35 ALIS into data reports and configurable tables to receive, store and integrate F-35 operations, maintenance, training and financial data within existing Air Force enterprise views and systems to support the growing fleet of AF F-35 aircraft, the ability to feed F-35 training and operations data to ALIS, and support modification of an enhanced data sharing capability (ability to consume increased volume and variety of ALIS IER data) to support operations planning, pilot and maintainer training, and depot data configuration and integration requirements.

Neither the SEEK EAGLE nor UIDES effort is a new start.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021		
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 2020	FY 2021	FY 2022
<p>Title: Autonomic Logistics Information System (ALIS) User Information Data Exchange Service (UIDES)</p> <p>Description: Beginning in FY 2020, the USAF unique ALIS User Information Data Exchange Service (UIDES) requirement will be broken out separately from the remaining systems engineering. USAF F-35 UIDES provides for Air Force development of a F-35 Autonomic Logistics Information System (ALIS) - User IT Data Exchange Service (UIDES) that supports current and future Information Exchange Requirement (IER) data transfer capability from the F-35 ALIS into data reports and configurable tables to receive, store and integrate F-35 operations, maintenance, training and financial data within existing Air Force enterprise views and systems to support the growing fleet of AF F-35 aircraft, the ability to feed F-35 training and operations data to ALIS, and support modification of an enhanced data sharing capability (ability to consume increased volume and variety of ALIS IER data) to support operations planning, pilot and maintainer training, and depot data configuration and integration requirements. Activities also include studies and analysis to support both current program/project planning and execution and future program/project planning.</p> <p>FY 2021 Plans: Continue to support/develop companion USAF F-35 UIDES projects to support the IER updates and related new functionality.</p> <p>FY 2022 Plans: Continue to support/develop companion USAF F-35 UIDES projects to support the IER updates and related new functionality.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: N/A</p>		2.550	2.588	2.596
<p>Title: Test and Evaluation</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 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). Efforts include non-recurring engineering and procurement of a test article to evaluate service life of F-35B STOVL Aircraft.</p> <p>Beginning in FY2020, the USAF will support 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.</p> <p>FY 2021 Plans:</p>		9.300	5.090	2.294

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
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 2020	FY 2021	FY 2022
USAF only funding will continue supporting SEEK EAGLE requests by providing FTI wiring and supporting weapons integration tasks.			
FY 2022 Plans: USAF only funding will continue supporting SEEK EAGLE requests by providing FTI wiring and supporting weapons integration tasks initiated in FY21, in addition to emergent SEEK EAGLE tasks.			
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease due to changes in SEEK EAGLE requirements.			
Accomplishments/Planned Programs Subtotals	11.850	7.678	4.890

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</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>	624.973	695.869	985.404	-	985.404	-	-	-	-	-	-
• RDTE 07 PE 0207142F <i>6011: Dual Capable Aircraft (DCA), BPAC 676011</i>	66.127	88.737	44.816	-	44.816	-	-	-	-	-	-
• RDTE 07 PE 0604840N 2936: <i>F-35C Continuous Capability Development and Delivery (CV)</i>	354.960	413.875	284.709	-	284.709	-	-	-	-	-	-
• RDTE 07 PE 0604840M 3410: <i>F-35B Continuous Capability Development and Delivery (STOVL)</i>	391.165	379.549	323.597	-	323.597	-	-	-	-	-	-
• RDTE 07 International: <i>International Continuous Capability Development and Delivery</i>	281.887	339.139	224.501	-	224.501	-	-	-	-	-	-

Remarks
This is a joint program with no executive service. Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air Force and currently resides with the Navy.

PE 0207142F common Block 4 requirements moved in FY20 to PE 0604840F to separate USAF unique requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 675346 / F-35

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

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
Block 4 Planning and System Engineering, Technology Refresh 3 (TR-3), Infrastructure and Support Costs, and Autonomic Logistic Information System (ALIS) Development continues in PE 0604840F beginning in FY20.											

D. Acquisition Strategy

The C2D2 acquisition strategy is to employ 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 2022 Air Force **Date:** May 2021

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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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
USAF SEEK EAGLE	Various	Various : Various	0.000	9.300	Mar 2020	5.090	Mar 2021	2.294	Mar 2022	-		2.294	-	-	-
USAF UIDES	MIPR	Various : Various	0.000	2.550	Feb 2020	2.588	Feb 2021	2.596	Feb 2022	-		2.596	-	-	-
Subtotal			0.000	11.850		7.678		4.890		-		4.890	-	-	N/A

Remarks
 Cost Category Item Removed due to realignment to BPAC 675346, PE 0604840F or no longer funding in FYDP Support
 NAWC Paxutent River
 NAWC China Lake
 IPT Development Support
 Technical Development Support
 JRE Development Support
 ALIS DevOps Development
 ALIS Next Development

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	11.850	7.678	4.890	-	4.890	-	-	N/A

Remarks
 The Project information shown here reflects USN, USMC, USAF and International Partner funding total for each contract. By agreement, USN and USMC funding shares are approximately equal and when combined are equal to the USAF share. Partner funding share is based upon future aircraft procurement numbers updated annually in accordance with the Production, Sustainment, Continuous Capability Development and Delivery (C2D2) (formerly Follow-on Modernization (FoM)) Memorandum of Agreement.

Subtotals and totals may not add due to rounding.

FY 2020 reflects \$11.850M USAF only; remaining efforts continue in PEs 0604840F/M/N
 FY 2021 reflects \$7.678M USAF only; remaining efforts continue in PEs 0604840F/M/N

F-35 C2D2 Includes:

PE 0207142F BPAC 675346 - ends FY19
 USAF PE 0604840F BPAC 675346 - begins FY20
 FY13: USN PE 0604800N Project Unit 2261
 FY14: USN PE 0604800N Project Unit 9999
 FY15-18: USN PE 0604810N Project Unit 2936
 FY19: USN PE 0604840N Project Unit 2936

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

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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	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
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FY13: USMC PE 0604800M Project Unit 2262 FY14: USMC PE 0604800M Project Unit 9999 FY15-18: USMC PE 0604810M Project Unit 2935 FY19: USMC PE 0604840M Project Unit 3410 International Partner Contributions									
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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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 UIDES and SEEK EAGLE</i>	
Ongoing support activities	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force **Date:** May 2021

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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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F-35 UIDES and SEEK EAGLE</i>				
Ongoing support activities	1	2020	4	2026

Note

Schedule for Block 4 efforts reflected in FY19 and continuing in PE 0604840F is depicted in R-4/R-4A exhibits for PE 0604840F

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force **Date:** May 2021

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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
675349: HPSI	0.000	16.754	18.415	19.659	0.000	19.659	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F-35 Hybrid Product Support Integrator's (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 only will fund 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.

Funding for HPSI was previously programmed for in PE 27142F/BPAC 675346. This is not a new start.

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

	FY 2020	FY 2021	FY 2022
Title: Management Services	16.754	18.415	19.659
Description: This funding provides for the transition of the F-35 HPSI from multiple locations to Wright-Patterson Air Force Base (AFB). The funding supports HPSI AFLCMC civilian pay, contractor support and travel.			
FY 2021 Plans: The HPSI organization will continue to transition to Wright-Patterson AFB. This funding provides for HSPI AFLCMC civilian pay, contractor support and travel.			
FY 2022 Plans: The HPSI organization will continue to transition to Wright-Patterson AFB. This funding provides for HSPI AFLCMC civilian pay, contractor support and travel.			
FY 2021 to FY 2022 Increase/Decrease Statement: Increase due to greater number of personnel at Wright-Patterson AFB as HSPI transition continues			
Accomplishments/Planned Programs Subtotals	16.754	18.415	19.659

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

N/A

Remarks

HPSI is an effort supporting F-35, a joint program with no executive service. Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air force and currently resides with the Navy.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
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>

D. Acquisition Strategy

The HPSI will deliver enduring, global support for fielded F-35s, integrating sustainment support across the supply chain, maintenance sustainment engineering, logistics, information technology and training.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.000	10.902	Oct 2019	12.001	Oct 2020	12.939	Oct 2021	-		12.939	-	-	-
Other Core Contractor Support	Various	Various : TBD	0.000	5.279	Oct 2019	5.783	Oct 2020	6.235	Oct 2021	-		6.235	-	-	-
Travel	Various	Various : TBD	0.000	0.573	Oct 2019	0.631	Oct 2020	0.485	Oct 2021	-		0.485	-	-	-
Subtotal			0.000	16.754		18.415		19.659		-		19.659	-	-	N/A
Project Cost Totals			0.000	16.754		18.415		19.659		-		19.659	-	-	N/A

Remarks
 Prior years reflect no funding because funding for HPSI in prior years was programmed under PE 27142F/BPAC 675346.
 Cost Category Item "Management Services" was removed due to no funding from FY19 and beyond.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

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 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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 2022 Air Force		Date: May 2021
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	2020	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force **Date:** May 2021

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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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
676011: JSF DUAL CAPABLE AIRCRAFT	0.000	66.127	88.528	44.816	0.000	44.816	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

F-35 C2D2 Includes:

- USAF PE 0207142F BPAC 675346 - ends FY19
- USAF PE 0604840F BPAC 675346 - begins FY20
- FY13: USN PE 0604800N Project Unit 2261
- FY14: USN PE 0604800N Project Unit 9999
- FY15-18: USN PE 0604810N Project Unit 2936
- FY19: USN PE 0604840N Project Unit 2936
- FY13: USMC PE 0604800M Project Unit 2262
- FY14: USMC PE 0604800M Project Unit 9999
- FY15-18: USMC PE 0604810M Project Unit 2935
- FY19: USMC PE 0604840M Project Unit 3410
- International Partner Contributions

F-35 DCA Includes:

- USAF PE 0207142F BPAC 676011

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 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.

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

	FY 2020	FY 2021	FY 2022
Title: Dual Capable Aircraft (DCA) (F-35 JSF)	66.127	88.528	44.816
Description: This effort provides for the assessment of Dual Capable Aircraft (DCA) weapon integration and certification impacts on the Joint Strike Fighter (JSF) 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons	Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2020	FY 2021	FY 2022
<p>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.</p> <p>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.</p> <p>FY 2021 Plans: Continue execution of the Phase 2 C2D2 contract: DCA Software Development, Separation Flight Testing, DCA Pratt Whitney Propulsion Mission Support for Flight Test Operations, Mission System Flight Testing, and Preliminary AMAC Testing. The NSAR, TNSA, MICD, and EICD documentation for the initial nuclear certification will be completed. 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 nuclear certification hardware and software development and testing by the prime contractor, Lockheed Martin. In addition, the capability is considered MFR (Military Flight Release) complete and ready for graduation certification events ramp up in FY2021. Initiate the DCA monitor and control on a production aircraft as well as monitor and control graduation event on production aircraft. Complete full-up guide weapons test drops using production aircraft, initiate interim operational plan data document, and complete the final aircraft nuclear safety analysis report.</p> <p>FY 2022 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 NSAR, TNSA, MICD, and 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, the capability is considered MFR (Military Flight Release) complete and ready for graduation certification events ramp up in FY2022. Initiate AMAC on a production aircraft as well as AMAC graduation event on production aircraft. Initiate interim operational plan data documents, and complete the interim aircraft nuclear safety analysis report.</p> <p>This program element includes necessary civilian pay and travel expenses required to manage, execute, and deliver F-35 weapon system capability. The use of such program funds would be in addition to the civilian pay and travel expenses.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease from FY21 to FY22 due to Lot 13 DCA Testing Completion.</p>				
Accomplishments/Planned Programs Subtotals		66.127	88.528	44.816

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force **Date:** May 2021

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 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 07 PE 0207142F 5346: JSF Follow on Modernization, BPAC 675346	11.850	7.678	4.890	-	4.890	-	-	-	-	-	-
• RDTE 07 PE 0604840F: F-35A Continuous Capability Development and Delivery	624.973	695.869	985.404	-	985.404	-	-	-	-	-	-
• RDTE 07 PE 0604840N 2936: F-35C Continuous Capability Development and Delivery (CV)	354.960	413.875	284.709	-	284.709	-	-	-	-	-	-
• RDTE 07 PE 0604840M 3410: F-35B Continuous Capability Development and Delivery (STOVL)	391.165	379.549	323.597	-	323.597	-	-	-	-	-	-
• RDTE 07 International: International Continuous Capability Development and Delivery	258.004	359.626	285.969	-	285.969	-	-	-	-	-	-

Remarks

Service Acquisition Executive (SAE) authority alternates between the Department of the Navy and the Department of the Air Force and currently resides with the Navy.

The United Kingdom, Italy, Netherlands, Canada, Australia, Denmark and Norway are international participants in the SDD and C2D2 phases of JSF.

Department of Navy funding in PEs 0604810N/M in FY18 and prior continue in 0604840N/M as the budget moved from BA05 to BA07.

D. Acquisition Strategy

The DCA effort will leverage contracting vehicles for the overall Block 4 F-35 C2D2 effort. The C2D2 acquisition strategy is to employ 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 2022 Air Force **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.000	28.988	Feb 2020	32.701	Feb 2021	5.000	Feb 2022	-		5.000	-	-	-
DCA Prime PW Propulsion	SS/CPFF	Pratt Whitney - East : Hartford, CT	0.000	-		-		2.000	Feb 2022	-		2.000	-	-	-
DCA TE Prime LM DT AC Viability	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		-		2.000	Dec 2021	-		2.000	-	-	-
DCA TE Prime LM Developmental Foundation Contract	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	9.524	Mar 2020	5.000	Dec 2020	0.000		-		0.000	-	-	-
Delta Certification	SS/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	4.315	Mar 2020	14.000	Mar 2021	5.050	Mar 2022	-		5.050	-	-	-
SEI&T	SS/CPAF	Not specified : TBD	0.000	-		-		1.563	Oct 2021	-		1.563	-	-	-
Subtotal			0.000	42.827		51.701		15.613		-		15.613	-	-	N/A

Remarks
 Added DCA Prime PW Propulsion, DCA TE Prime LM DT AC Viability, and DCA TE Prime LM Developmental Foundation Contract - Broke out from Delta Certification and Test and Evaluation Edwards & OGC to account for DCA's cost share of Block 4 Prime Contracts.

 Added SEI&T - Broke out from Delta Certification to account for DCA's cost share of SEI&T Contract.

 Cost Category Removed:
 Product Development - No funding in FYDP
 Block 4 Phase 1 - DCA Requirements Decomposition - Item completed and no funding in FYDP
 Block 4 Phase 2.1- DCA to PDR - Completion in FY19, no funding in FYDP
 Prior Year - no longer funded in FYDP - No funding in FYDP
 Prior Year - Block 4 Realignment - No funding in FYDP

Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.000	17.040	Feb 2020	18.591	Feb 2021	15.988	Feb 2022	-		15.988	-	-	-
B61-12 AUR/Tail-kit Program Office	MIPR	AUR/TKA SPO : Kirtland/Eglin AFB, NM	0.000	4.900	Feb 2020	3.800	Mar 2021	2.000	Mar 2022	-		2.000	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force **Date:** May 2021

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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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			
AFNWC/AFSEC Support	MIPR	Various : TBD	0.000	1.360	Feb 2020	4.000	Feb 2021	3.801	Feb 2022	-		3.801	-	-	-
Subtotal			0.000	23.300		26.391		21.789		-		21.789	-	-	N/A

Remarks
 Cost Category Removed:
 Support - No funding in FYDP
 Prior Year - no longer funded in FYDP - No funding in FYDP

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.000	-		4.000	Feb 2021	2.000	Dec 2021	-		2.000	-	-	-
Air Force SEEK EAGLE Office (Combat Weapons Delivery Software)	MIPR	Testing : Eglin, FL	0.000	-		1.000	Feb 2021	2.000	Feb 2022	-		2.000	-	-	-
Subtotal			0.000	-		5.000		4.000		-		4.000	-	-	N/A

Remarks
 Test and Evaluation Edwards was renamed to Test and Evaluation Edwards & OGC to reflect OGC cost and not include DTV Prime Contract.

 Cost Category Removed:
 Prior Year - no longer funded in FYDP - No funding in FYDP

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 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	0.000	0.000		5.436	Feb 2021	3.000	Mar 2022	-		3.000	-	-	-
AFLCMC Civilian Pay	Allot	Not specified. : TBD	0.000	0.000		0.000		0.314	Oct 2021	-		0.314	-	-	-
Travel	Various	Not specified. : TBD	0.000	0.000		0.000		0.100	Oct 2021	-		0.100	-	-	-
Subtotal			0.000	0.000		5.436		3.414		-		3.414	-	-	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force								Date: May 2021			
Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0207142F / F-35 Squadrons				Project (Number/Name) 676011 / JSF DUAL CAPABLE AIRCRAFT			
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	0.000	66.127	88.528	44.816	-	44.816	-	-	N/A		

Remarks

F-35 C2D2 Includes:
 USAF PE 0207142F BPAC 675346 - ends FY19
 USAF PE 0604840F BPAC 675346 - begins FY20
 FY13: USN PE 0604800N Project Unit 2261
 FY14: USN PE 0604800N Project Unit 9999
 FY15-18: USN PE 0604810N Project Unit 2936
 FY19: USN PE 0604840N Project Unit 2936
 FY13: USMC PE 0604800M Project Unit 2262
 FY14: USMC PE 0604800M Project Unit 9999
 FY15-18: USMC PE 0604810M Project Unit 2935
 FY19: USMC PE 0604840M Project Unit 3410
 International Partner Contributions

F-35 DCA Includes:
 USAF PE 0207142F BPAC 676011

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force **Date:** May 2021

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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FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
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

676011: JSF Dual Capable Aircraft	
Nuclear Certification - NNSA & B61-12 AUR/TKA SPO	
Phase 1 (Nuclear Certification Tasks) Requirements Decomposition	
Phase 2.1 (Nuclear Certification Tasks) DCA to Preliminary Design Review (PDR)	
Phase 2.3 (Nuclear Certification Tasks) DCA to DT Complete	
Delta Certification of Hardware/Software Upgrades/DT Prime Contractor Support/SEI&T	

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
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	2021	4	2026
Phase 1 (Nuclear Certification Tasks) Requirements Decomposition	1	2021	4	2021
Phase 2.1 (Nuclear Certification Tasks) DCA to Preliminary Design Review (PDR)	1	2021	4	2022
Phase 2.3 (Nuclear Certification Tasks) DCA to DT Complete	1	2021	4	2024
Delta Certification of Hardware/Software Upgrades/DT Prime Contractor Support/ SEI&T	1	2021	4	2026

Note

Schedule details reflect fiscal years