

## UNCLASSIFIED

PE NUMBER: 0207445F

PE TITLE: FIGHTER TACTICAL DATA LINK

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006		
BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0207445F FIGHTER TACTICAL DATA LINK						
Cost (\$ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost		35.668	119.965	113.388	81.084	38.626	34.714	0.000	135.373	TBD
5043	Fighter Tactical Data Link	35.668	119.965	113.388	81.084	38.626	34.714	0.000	135.373	TBD

(U) **A. Mission Description and Budget Item Justification**

Tactical Data Links (TDL) are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs provide a jam-resistant; secure digital data transfer network capability with a standardized waveform and data format allowing Line of Sight (LOS) and Beyond Line of Sight (BLOS) intra- and inter-flight communications. TDLs are used by all Service theater Command and Control (C2) elements, weapons platforms, and sensors. TDLs include, but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), and Variable Message Format (VMF).

This effort provides for common development, integration, and interoperability of tactical data link aircraft, network, and weapon capability for all Air Force fighter platforms to include, but not limited to, A/OA-10, F-15A-E, F-16 Blocks 30/40/50, F/A-22, and F-35 aircraft. Keeps all fighter platforms and datalinked weapons current, interoperable in the network, and compatible with the USAF Global Strike Task Force (GSTF) concept beyond 2020. TDLs increase mission effectiveness, provide situational awareness, and provide positive identification of aircraft in the network, correlate on- and off-board sensor data sharing, target, and threat information, and provide the datalink to accomplish time critical targeting and other mission update functions. TDL efforts include incorporating changes and additions to the TDL message standard (MIL-STD-6016C) and applicable Interface Change Proposals (ICPs); assisting with AF and Joint interoperability certification testing; future development, integration, and verification of Operational Flight Programs (OFP) upgrade due to TDL integration and supports data gathering processes; studying and incorporating data link technologies to ensure effectiveness and efficiency of the Global Strike CONOPS; and incorporating Interoperable Systems Management and Requirements Transformation (iSMART), a process which enables network centric interoperability assessments to be made more quickly and effectively.

Fighter Tactical Data Link program is in Budget Activity 7, Operational System Development, since it supports integration of tactical data links into operational systems.

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(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	50.093	122.160	84.513
(U) Current PBR/President's Budget	35.668	119.965	113.388
(U) Total Adjustments	-14.425	-2.195	
(U) Congressional Program Reductions		-0.455	
Congressional Rescissions	-0.509	-1.740	
Congressional Increases			
Reprogrammings	-13.916		
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

In FY07, additional funds were programmed to develop a Link 16 transmit capability for the F/A-22 compatible with the Integrated Avionics Architecture.

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Exhibit R-2a, RDT&E Project Justification								DATE <b>February 2006</b>	
BUDGET ACTIVITY <b>07 Operational System Development</b>				PE NUMBER AND TITLE <b>0207445F FIGHTER TACTICAL DATA LINK</b>			PROJECT NUMBER AND TITLE <b>5043 Fighter Tactical Data Link</b>		
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5043 Fighter Tactical Data Link	35.668	119.965	113.388	81.084	38.626	34.714	0.000	135.373	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		
<p>(U) <b><u>A. Mission Description and Budget Item Justification</u></b></p> <p>Tactical Data Links (TDL) are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs provide a jam-resistant; secure digital data transfer network capability with a standardized waveform and data format allowing Line of Sight (LOS) and Beyond Line of Sight (BLOS) intra- and inter-flight communications. TDLs are used by all Service theater Command and Control (C2) elements, weapons platforms, and sensors. TDLs include, but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), and Variable Message Format (VMF).</p> <p>This effort provides for common development, integration, and interoperability of tactical data link aircraft, network, and weapon capability for all Air Force fighter platforms to include, but not limited to, A/OA-10, F-15A-E, F-16 Blocks 30/40/50, F/A-22, and F-35 aircraft. Keeps all fighter platforms and datalinked weapons current, interoperable in the network, and compatible with the USAF Global Strike Task Force (GSTF) concept beyond 2020. TDLs increase mission effectiveness, provide situational awareness, and provide positive identification of aircraft in the network, correlate on- and off-board sensor data sharing, target, and threat information, and provide the datalink to accomplish time critical targeting and other mission update functions. TDL efforts include incorporating changes and additions to the TDL message standard (MIL-STD-6016C) and applicable Interface Change Proposals (ICPs); assisting with AF and Joint interoperability certification testing; future development, integration, and verification of Operational Flight Programs (OFP) upgrade due to TDL integration and supports data gathering processes; studying and incorporating data link technologies to ensure effectiveness and efficiency of the Global Strike CONOPS; and incorporating Interoperable Systems Management and Requirements Transformation (iSMART), a process which enables network centric interoperability assessments to be made more quickly and effectively.</p> <p>Fighter Tactical Data Link program is in Budget Activity 7, Operational System Development, since it supports integration of tactical data links into operational systems.</p>									
(U) <b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>						<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
(U) Accomplishments/Planned Programs									
(U) Develop and incorporate Tactical Data Link technologies						3.000	3.000	3.000	
(U) Develop and integrate Link 16 capability across fighter platforms						15.168	60.351	55.953	
(U) Link 16 integration into F/A-22 avionics suite						10.600	26.483	27.541	
(U) Development of A/OA-10 EPLRS capability						3.900	25.131	17.724	
(U) Provide Link 16 system engineering, testing, and technical support						3.000	5.000	3.670	
(U) F/A-22 and A-10 Early Interoperability Test								5.500	

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Exhibit R-2a (PE 0207445F)

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(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2005	FY 2006	FY 2007
(U) Total Cost	35.668	119.965	113.388

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) AF RDT&E									
(U) 0207434F (Link 16 Sup & Sus)	120.633	161.345	172.625	142.449	152.320	154.994	156.665	Continuing	TBD
(U) 0207446F (Bomber TDL)	76.568	142.800	168.168	94.889	0.000	0.000	0.000		482.425
(U) 0207448F (C2ISR TDL)	24.420	14.627	4.338	1.801	1.731	1.697	1.633	Continuing	TBD
(U) 0401839F (Airlift TDL)	0.000	0.000	32.099	0.000	0.000	0.000	0.000		32.099
(U) Other APPN									
(U) Procurement (3010)									
(U) 0207423F (JTRS I&I)	0.000	0.000	0.000	19.472	26.521	66.948	42.346	Continuing	TBD
(U) 0207434F (Link 16 Sup & Sus)	2.046	2.996	2.783	0.000	9.598	9.846	9.962	Continuing	TBD
(U) 0207445F (Fighter TDL)	95.934	89.222	61.623	12.688	0.000	0.000	0.000		259.467
(U) 0207446F (Bomber TDL)	44.245	21.940	11.818	4.456	0.000	0.000	0.000		82.459
(U) 0401839F (Airlift TDL)	0.000	24.118	11.539	14.616	12.603	26.263	26.591	Continuing	TBD
(U) O&M (3400)									
(U) 0207434F (Link 16 Sup & Sus 3400)	9.549	21.112	10.156	12.279	16.177	16.629	16.975	16.975	TBD
(U) 0401839F (Airlift TDL)	0.596	2.731	5.708	11.783	16.499	17.178	17.721	Continuing	TBD
(U) Other Procurement (3080)									
(U) 0207434F (Link 16 Sup & Sus)	26.231	42.462	30.740	12.777	8.435	8.508	8.612	Continuing	TBD

(U) **D. Acquisition Strategy**

The Air Force Tactical Data Links System Program Office (SPO) provides for common development of integration and interoperability across all Air Force platforms and ensures that Link 16 is procured and maintained as a joint, end-to-end, command and control system.

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## Exhibit R-3, RDT&amp;E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
Link 16 EMD Terminal Purchases	MIPR to Navy	BAe Systems, Rockwell Collins DLS, Cedar Rapids, IA; Via-Sat, Carlsbad, CA managed by SPAWAR, San Diego CA									0.000	TBD
Link 16 Integration into F/A-22 avionics	MIPR to Navy	SPAWAR, San Diego, CA				26.483	Nov-05	27.541	Nov-06	Continuing	TBD	TBD
Fighter Link 16 Development Contractors **	MIPR to AFMC	Various contractors managed by ASC, WPAFB OH		32.668	Jan-05	88.482	Jan-06	76.677	Jan-07	Continuing	TBD	TBD
MITRE	SS/FFP	MITRE, Bedford MA		1.700	Dec-04	2.660	Dec-05	2.000	Dec-06	Continuing	TBD	TBD
Subtotal Product Development			0.000	34.368		117.625		106.218		Continuing	TBD	TBD
Remarks:	**MIPR funding to Fighter Platform System Program Offices for scheduled contract awards and development efforts.											
(U) <u>Test &amp; Evaluation</u>												
46th Development Test Facility	MIPR to AFMC	46th Development Test Facility, Eglin AFB FL		0.000		0.000		5.500	Apr-07	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.000		0.000		5.500		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u>												
Program Office and Contractor Support	C/FFP	Various		1.300	Dec-04	2.340	Dec-05	1.670	Dec-06	Continuing	TBD	TBD
Subtotal Management			0.000	1.300		2.340		1.670		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	35.668		119.965		113.388		Continuing	TBD	TBD

## Exhibit R-4, RDT&amp;E Schedule Profile

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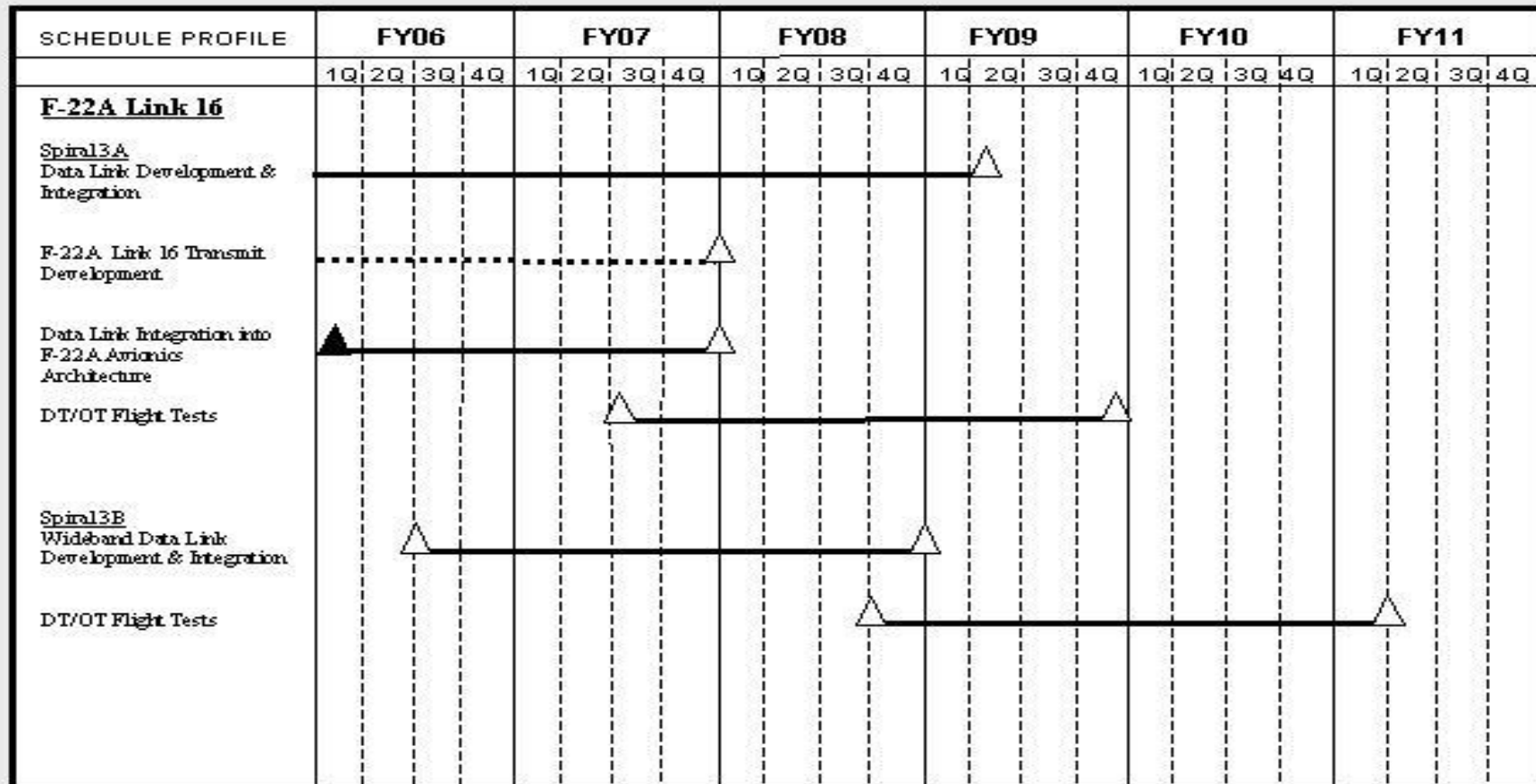
PE NUMBER AND TITLE

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PROJECT NUMBER AND TITLE

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## F-22A Data Links - Long-Term Schedule

As of 12 January 06<sup>1</sup>

## Exhibit R-4, RDT&amp;E Schedule Profile

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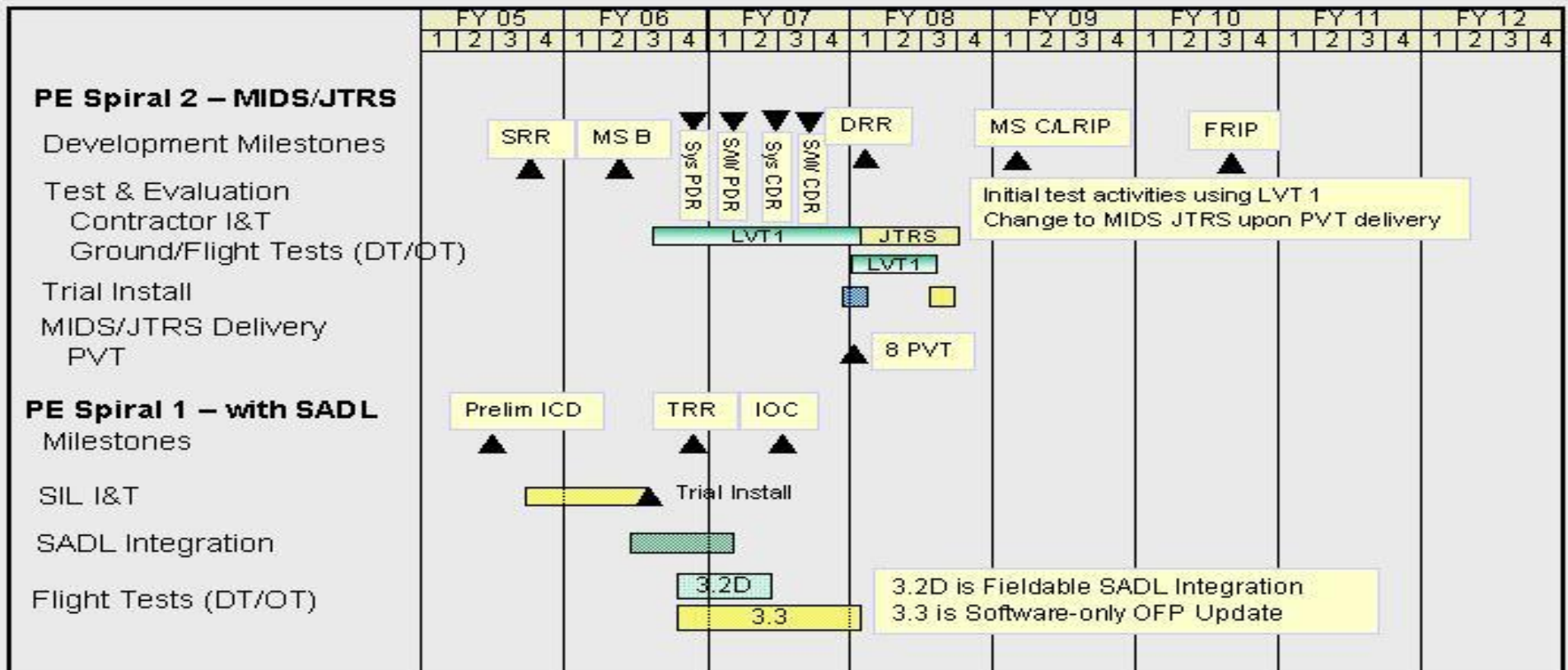
PE NUMBER AND TITLE

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## A/O-10 16- Long Term Schedule



As of 12 January 06

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Exhibit R-4a, RDT&E Schedule Detail			DATE <b>February 2006</b>	
BUDGET ACTIVITY <b>07 Operational System Development</b>		PE NUMBER AND TITLE <b>0207445F FIGHTER TACTICAL DATA LINK</b>	PROJECT NUMBER AND TITLE <b>5043 Fighter Tactical Data Link</b>	
<b>(U) <u>Schedule Profile</u></b>		<b><u>FY 2005</u></b>	<b><u>FY 2006</u></b>	<b><u>FY 2007</u></b>
(U) A-10 Spiral 2 SRR		3Q		
(U) A-10 Spiral 2 MS B			2Q	
(U) A-10 Spiral 2 Development			3-4Q	1-4Q
(U) A-10 Spiral 2 Ground/Flight Tests			3-4Q	1-4Q
(U) MIDS-J PVT Deliveries				4Q
(U) A-10 Spiral 2 Trail Install				4Q
(U) A-10 Prelim Spiral 1 ICD		3Q		
(U) A-10 Spiral 1 EPLRS Software-in-the-Loop Testing		4Q	1-3Q	
(U) A-10 Spiral 1 EPLRS Radio Integration			3-4Q	1Q
(U) A-10 Spiral 1 Test Readiness Review			4Q	
(U) A-10 Spiral 1 Flight Tests			4Q	1-4Q
(U) F-22 Spiral 3A Data Link Development and Integration		1-4Q	1-4Q	1-4Q
(U) F-22 Spiral 3A Link 16 Transmit Development		1-4Q	1-4Q	1-4Q
(U) F-22 Spiral 3A Data Link Integration into Avionics Architecture			1-4Q	1-4Q
(U) F-22 Spiral 3A DT/OT Flight Tests				3-4Q
(U) F-22 Spiral 3B Wideband Data Link Development and Integration			3-4Q	1-4Q

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Exhibit R-4a (PE 0207445F)

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