

UNCLASSIFIED

PE NUMBER: 0207446F

PE TITLE: Bomber Tactical Data Link

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0207446F Bomber Tactical Data Link
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	133.836	100.744	37.130	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
5041 Bomber Tactical Data Link	133.836	100.744	37.130	0.000	0.000	0.000	0.000	0.000	Continuing	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), Variable Message Format (VMF), Integrated Broadcast Service (IBS), and Tactical Targeting Network Technology (TTNT).

This effort provides for common development, integration and interoperability of tactical data link aircraft, network, and weapon capabilities for all Air Force bomber platforms to include, but not limited to B-1B, B-2, and B-52 aircraft. Keeps all bomber platforms and datalinked weapons current, interoperable in the network, and compatible with the USAF Global Strike Task Force (GSTF) concept beyond 2020. Also expands LOS and BLOS data link capabilities. TDLs increase mission effectiveness, provide situational awareness, provide positive identification of aircraft in the network, correlate on- and off-board sensor data sharing, target, and threat information, and provide the data link to accomplish time critical targeting and other mission update functions. The BLOS data link capability works with Link 16 to extend the range of local Link 16 networks to other areas/theaters. 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 Program (OFP) upgrades due to TDL integration; support of data gathering processes; studying and incorporating data link technologies to ensure effectiveness and efficiency of the Global Strike CONOPS and Global Persistent Attack 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.

Bomber 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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	142.800	168.168	94.889	0.000
(U) Current PBR/President's Budget	133.836	100.744	37.130	0.000
(U) Total Adjustments	-8.964	-67.424		
(U) Congressional Program Reductions		-67.042		
Congressional Rescissions	-0.007	-0.382		
Congressional Increases				
Reprogrammings	-4.984			
SBIR/STTR Transfer	-3.973			
(U) <u>Significant Program Changes:</u>				
In FY08, funding was removed due to B-52 CONECT/Integrated Data Link program restructuring				

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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5041 Bomber Tactical Data Link	133.836	100.744	37.130	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(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), Variable Message Format (VMF), Integrated Broadcast Service (IBS), and Tactical Targeting Network Technology (TTNT).

This effort provides for common development, integration and interoperability of tactical data link aircraft, network, and weapon capabilities for all Air Force bomber platforms to include, but not limited to B-1B, B-2, and B-52 aircraft. Keeps all bomber platforms and datalinked weapons current, interoperable in the network, and compatible with the USAF Global Strike Task Force (GSTF) concept beyond 2020. Also expands LOS and BLOS data link capabilities. TDLs increase mission effectiveness, provide situational awareness, provide positive identification of aircraft in the network, correlate on- and off-board sensor data sharing, target, and threat information, and provide the data link to accomplish time critical targeting and other mission update functions. The BLOS data link capability works with Link 16 to extend the range of local Link 16 networks to other areas/theaters. 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 Program (OFP) upgrades due to TDL integration; support of data gathering processes; studying and incorporating data link technologies to ensure effectiveness and efficiency of the Global Strike CONOPS and Global Persistent Attack 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.

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

(U) B. Accomplishments/Planned Program (\$ in Millions)	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Purchase LOS Link 16 terminals and BLOS radios for labs and integration testing	1.440	1.440		
(U) Common Bomber Tactical Data Link (TDL) analysis, systems engineering, testing, and technical support	4.472	4.000	0.520	
(U) B-1 FIDL System Development and Demonstration (SDD)	65.611	63.320	36.610	
(U) B-52 CONECT/Integrated Data Link System Development and Demonstration (SDD)	62.313	31.984		
(U) Total Cost	133.836	100.744	37.130	0.000

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PROJECT NUMBER AND TITLE

5041 Bomber Tactical Data Link

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) AF RDT&E										
(U) 0207434F (Link 16 Sup & Sus)	156.851	173.216	199.363	207.268	166.987	184.448	201.611	193.745	Continuing	TBD
(U) 0207445F (Fighter TDL)	115.818	112.755	39.545	74.312	91.577	0.000	0.000	0.000		343.735
(U) 0207448F (C2ISR TDL)	14.219	4.322	1.809	1.741	1.711	1.643	1.675	1.709	Continuing	TBD
(U) 0401839F (Airlift TDL)	0.000	22.000	0.000	0.000	0.000	0.000	0.000	0.000		31.466
(U) Other APPN										
(U) Procurement (3010)										
(U) 0207434F (Link 16 Sup & Sus)	2.996	2.773	0.001	9.708	46.296	99.938	104.173	75.826	Continuing	TBD
(U) 0207445F (Fighter TDL)	89.222	61.399	35.676	5.865	9.879	0.785	0.783	0.000		419.662
(U) 0207446F (Bomber TDL)	21.940	11.775	4.518	0.000	0.000	0.000	0.000	0.000		38.233
(U) 0401839F (Airlift TDL)	24.118	11.497	14.818	12.744	26.521	26.853	27.384	27.929	Continuing	TBD
(U) O&M (3400)										
(U) 0207434F (Link 16 Sup & Sus)	8.341	9.895	13.203	4.760	13.054	14.986	17.550	18.923	Continuing	TBD
(U) 0207445F (Fighter TDL)	0.000	0.000	0.289	0.287	0.286	0.283	0.288	0.293		
(U) 0401839F (Airlift TDL)	3.220	5.445	5.726	6.603	17.381	17.460	17.815	18.177	Continuing	TBD
(U) Other Procurement (3080)										
(U) 0207434F (Link 16 Sup & Sus)	41.362	36.886	21.993	28.301	41.932	43.948	56.337	39.173	Continuing	TBD

(U) **D. Acquisition Strategy**

The 640th Electronic Systems Squadron (ELSS), formerly the Tactical Data Links System Program Office, provides for common development, integration and interoperability across all Air Force platforms and ensures that data links are procured and maintained as a joint, end-to-end, command and control system. Platform acquisition strategies vary by program, but the majority of development and integration is normally accomplished by the weapon system prime contractor.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>														
Link 16 Development Terminal Purchases	MIPR	SPAWAR, San Diego CA		1.440	Jun-06	1.440	Jun-07					0.000	2.880	1.800
B-1 FIDL System Development and Demonstration (SDD) *	SS/CPIF	Boeing		62.811	Nov-05	59.533	Nov-06	29.642	Nov-07			0.000	151.986	194.234
B-52 System Development and Demonstration (SDD) *	CPFF	Boeing, Wichita, KS		62.313	Feb-06	31.984	Feb-07					0.000	94.297	
Bomber TDL analysis, systems engineering & technical support/MITRE	Various	Various		3.132	Dec-05	2.660	Dec-06	0.220	Dec-07			Continuing	TBD	TBD
B-1 Training System	C/FPIF	Rockwell Collins				2.400	Jan-07	1.440	Jan-08			0.000	3.840	
Subtotal Product Development			0.000	129.696		98.017		31.302		0.000		Continuing	TBD	TBD
Remarks:	*MIPR funding to Bomber platform program offices for scheduled contract awards and development efforts.													
(U) <u>Management</u>														
Program Office and Contractor Support	C/FFP	Various		1.340	Dec-05	1.340	Dec-06	0.300	Dec-07			Continuing	TBD	TBD
Subtotal Management			0.000	1.340		1.340		0.300		0.000		Continuing	TBD	TBD
Remarks:														
(U) <u>Test & Evaluation</u>														
B-1 FIDL Testing	Project Order	AF Flight Test Center, Edwards AFB, CA		2.800	Nov-05	1.387	Nov-06	5.528	Nov-07			0.000	9.715	
Subtotal Test & Evaluation			0.000	2.800		1.387		5.528		0.000		0.000	9.715	0.000
Remarks:														
(U) Total Cost			0.000	133.836		100.744		37.130		0.000		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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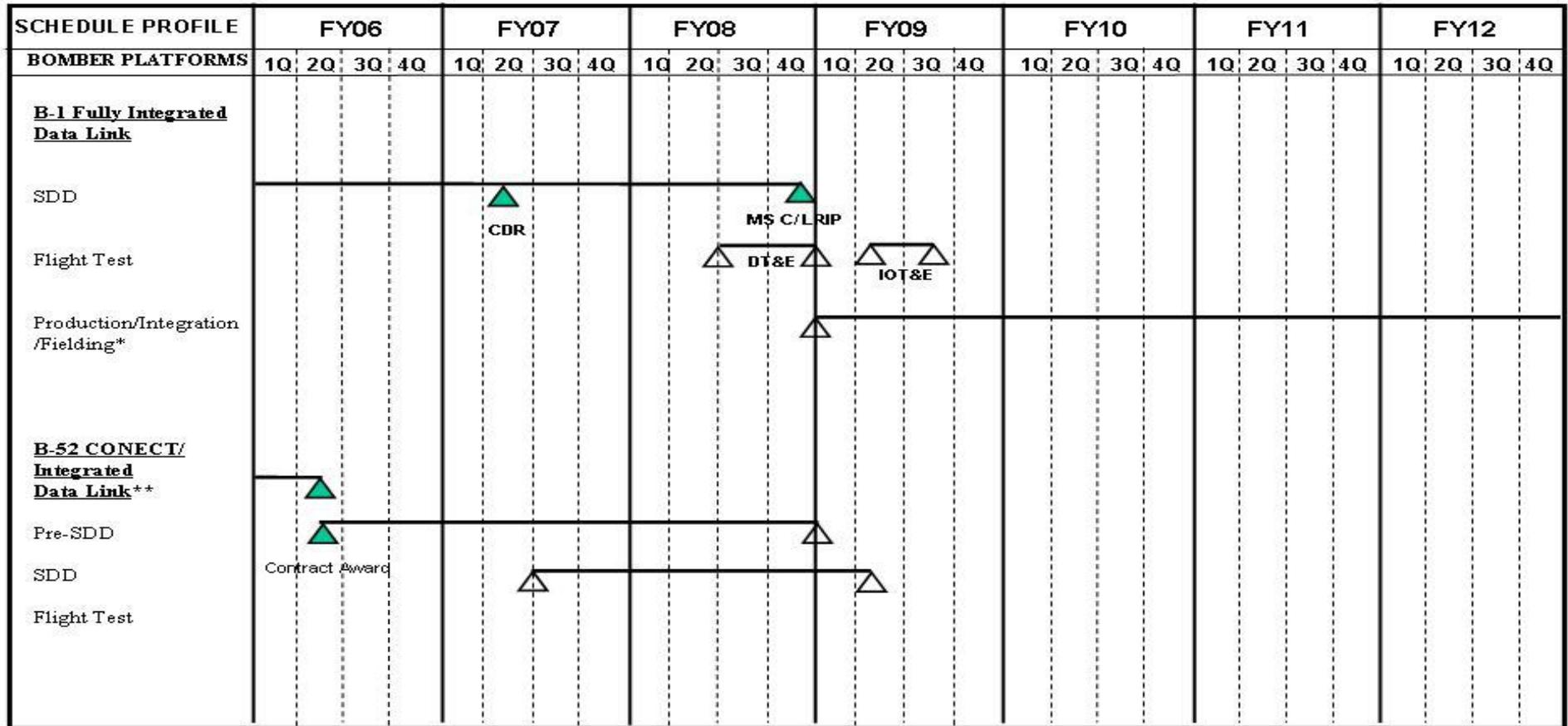
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PROJECT NUMBER AND TITLE
5041 Bomber Tactical Data Link

BOMBER TACTICAL DATA LINK SCHEDULE
(As of 4 January 2007)



* Production/Integration/Feilding are funded in JTRS & B-1 PE
 ** Efforts in FY08 and beyond are funded in the B-52 PE

Exhibit R-4a, RDT&E Schedule Detail

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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) B-1 Fully Integrated Data Link SDD	1-4Q	1-4Q	1-4Q	
(U) B-1 Fully Integrated Data Link Flight Test (DT&E & IOT&E)			3-4Q	1-3Q
(U) B-1 Fully Integrated Data Link Milestone C (LRIP)			4Q	
(U) B-52 Integrated Data Link Pre-SDD	1-2Q			
(U) B-52 Integrated Data Link Contract Award (SDD)	2Q			
(U) B-52 Integrated Data Link SDD*	2-4Q	1-4Q	1-4Q	
(U) B-52 Integrated Data Link Flight Test*		3-4Q	1-4Q	1Q
* Funded in B-52 PE starting FY08				