Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-454

Light Weapon Thermal Sight (LWTS) Medium Weapon Thermal Sight (MWTS) Heavy Weapon Thermal Sight (HWTS)

TWS

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Thermal Weapon Sight, AN/PAS-13(V) (TWS)

DoD Component

Army

Responsible Office

Responsible Office

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Date Assigned October 8, 2009

References

SAR Baseline (Production Estimate)

Under Secretary of the Army Approved Acquisition Program Baseline (APB) dated January 19, 2012

Approved APB

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated January 19, 2012

Mission and Description

The AN/PAS-13(V) Thermal Weapon Sight (TWS) allows the Soldier to acquire and engage targets in all weather conditions. The TWS program supports the Army's objectives by increasing the individual Soldier's situational awareness, lethality, mobility and survivability during periods of significantly reduced visibility. TWS is used with a variety of individual and crew served weapons. The TWS supports the tactical level of war enabling the individual Soldier to see, understand, and act first. The TWS program provides the Soldier with advanced imaging technologies today. The TWS consists of an uncooled thermal imaging device. It significantly improves mounted and dismounted operational capability and supports weapon system performance, by increasing target acquisition range and enabling both day and night vision through smoke, fog, battlefield obscurants and in extremely low light levels. The TWS is produced in three configurations (light, medium, and heavy) to support the target acquisition range of the varied weapon systems. The TWS satisfies an immediate capability gap providing thermal imagery for the individual Soldier and is poised to capitalize on advances in technology, providing enhancements in all operating environments as well as size, weight and power improvements.

Executive Summary

This is the initial SAR submission for the Thermal Weapon Sight (TWS) program.

The Army awarded contracts for the advanced development of the TWS to Hughes Aircraft Company and Rockwell International in 1981. Advanced development units were subjected to Developmental and Operations Test I (DT/OT) in 1986. A Milestone I/II In-Process Review (IPR) held in December 1990 provided approval for TWS to enter the Engineering and Manufacturing Development (EMD) phase. The Army awarded a contract to Hughes Aircraft Company in December 1990 for development, ruggedization, and production readiness of thirty TWS units. Pre-Production Qualification Test (PPQT) and Limited User Test (LUT) occurred in 1994. A Special In-Process Review (SIPR) held in February 1995 provided approval for the limited production of TWS systems. The Army conducted Initial Production Test (IPT) and Initial Operational Test and Evaluation (IOTE) October 1996-March 1997 on the Limited Production Units. The final TWS Operational Requirements Document (ORD) was approved April 1998. The Program Executive Office Intelligence, Electronic Warfare & Sensors (PEO IEW&S) approved the TWS Milestone III decision in June 1998. TWS was an Acquisition Category (ACAT) III program at that time.

A single five year full rate production contract was awarded to Raytheon Company in June 1998, and was referred to as the Thermal Omnibus contract. The First Unit Equipped (FUE) date was March 1999. Following the Thermal Omnibus contract, two firm fixed priced five year production contracts were awarded in March 2004 to BAE Systems and DRS Optronics for continued procurement of additional TWS systems. These contracts were referred to as TWS II. Due to increases in the Army Acquisition Objective (AAO) following program inception and corresponding increases in procurement funding, TWS was designated as an ACAT II program in May 2007. By the fourth program year of the TWS II contracts, the maximum quantity ceiling had been awarded, resulting in the need for award of new production contracts. Three firm fixed priced five year production contracts were awarded in June 2007 to BAE Systems, DRS Optronics, and Raytheon Company for procurement of additional TWS systems. These contracts are referred to as TWS II Bridge. Due to continued increases to the TWS AAO, TWS was designated as an ACAT IC program in March 2011 based on total procurement funding. At present, the total procurement requirement for TWS is 237,788 systems. This includes the AAO of 215,411 plus authorized replacement of 22,377 unsupportable Thermal Omnibus and Limited Procurement TWS systems.

The final execution year of the TWS II Bridge contracts is FY 2012. A Period of Performance extension request for the TWS II Bridge contracts is currently in process to allow for procurement of the final 5% of TWS quantities over the FY 2013-2015 timeframe under the existing contracts. The period of performance extension would avoid the potential of having to qualify another TWS vendor if a new competition were to be required for the FY 2013-2015 requirements. Delivery orders for the Army's FY 2012 TWS requirements are expected to be awarded by May 2012 under the current TWS II Bridge contracts.

There are no software-related issues with this program.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule

Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate
MS III	JUN 1998	JUN 1998	JUN 1998	JUN 1998
Full Rate Production (FRP) Decision	JUN 1998	JUN 1998	JUN 1998	JUN 1998
First Unit Equipped (FUE)	MAR 1999	MAR 1999	MAR 1999	MAR 1999

Acronyms And Abbreviations

FRP - Full Rate Production
FUE - First Unit Equipped
MS - Milestone

Change Explanations

None

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Target Acquisition (L/M/H)	700/1500/2800 meters	700/1500/2800 meters	550/1100/2200 meters	839/1441/2690 meters	839/1441/2690 meters
System Weight (L/M/H)	3.00/4.50/5.50 lbs	3.00/4.50/5.50 lbs	3.25/5.00/6.00 lbs	2.12/3.27/3.94 lbs	2.12/3.27/3.94 lbs
Power Consumption (operational hours per 24 hour period with 1 non-rechargeable battery set change, L/M/H)	14/14/14 hrs	14/14/14 hrs	7/7/7 hrs	16.6/14.4/14.4 hrs	16.6/14.4/14.4 hrs
Field of View LWTS	15 degrees	15 degrees	14 degrees	16.5 degrees	16.5 degrees
Field of View MWTS	6/18 degrees (narrow/wide)	6/18 degrees (narrow/wide)	6/18 degrees (narrow/wide)	6/19 degrees (narrow/wide)	6/19 degrees (narrow/wide)
Field of View HWTS	3/9 degrees (narrow/wide)	3/9 degrees (narrow/wide)	3/9 degrees (narrow/wide)	3/9 degrees (narrow/wide)	3/9 degrees (narrow/wide)
Reliability (MTBOMF)	500 hours	500 hours	250 hours	856 hours	856 hours

Requirements Source:
Operational Requirements Document (ORD) dated 14 April 1998.

Acronyms And Abbreviations

hrs - hours
HWTS - Heavy Weapon Thermal Sight
L/M/H - Light/Medium/Heavy Weapon Thermal Sight
lbs - pounds
LWTS - Light Weapon Thermal Sight
MTBOMF - Mean Time Between Operational Mission Failure
MWTS - Medium Weapon Thermal Sight
ORD - Operational Requirements Document

Change Explanations

None

Memo

1/Battery consumption based on 20/60/20 hot/basic/cold composite per Operation Mode Summary.
2/Degrees narrow/wide derived from Operational Requirements Document width of view requirement.
3/Demonstrated Performance represents average of all TWS manufacturers.

Track To Budget

General Memo

The Procurement line for TWS is a shared line. Through FY 2014, all funds in this line are for TWS. During the period FY 2015-2017, the procurement funds are shared between TWS and the Family of Weapon Sights (FWS) program. Beyond FY 2017, all funds in this line will be used for FWS.

The RDT&E line is also a shared line which supports various other Project Manager Soldier, Sensors and Lasers (PM SSL) development activities.

RDT&E

APPN 2040	BA 05	PE 0604710A	(Army)
	Project L67	Soldier Night Vision Devices	(Shared)

This budget line is shared with Project Manager Soldier Sensors & Lasers

Procurement

APPN 2035	BA 02	PE 0311100A	(Army)
	ICN K22900	Communications & Electronic Systems	(Shared)

Budget line shared with Project Manager Soldier Sensors & Lasers and Communications & Electronic Systems

K22900 is the Standard Study Number for Procurement funding.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY1998 $M			BY1998 $M	TY $M		
Appropriation	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	72.1	72.2	79.4	72.1	72.6	72.6	72.6
Procurement	2395.5	2395.5	2638.2	2383.9	2883.5	2883.5	2881.1
Flyaway	2240.9	--	--	2217.5	2696.4	--	2677.9
Recurring	2236.3	--	--	2212.9	2691.3	--	2672.8
Non Recurring	4.6	--	--	4.6	5.1	--	5.1
Support	154.6	--	--	166.4	187.1	--	203.2
Other Support	12.8	--	--	12.8	13.9	--	13.9
Initial Spares	141.8	--	--	153.6	173.2	--	189.3
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	2467.6	2467.7	N/A	2456.0	2956.1	2956.1	2953.7

Confidence Level for Current APB Cost 50% - In accordance with Army policy and guidance from the Office of the Deputy Assistant Secretary of the Army for Cost and Economics, the confidence level of the Thermal Weapon Sight Acquisition Program Baseline (APB) cost estimate (approved on January 19, 2012) is 50%. It is difficult to calculate mathematically the precise confidence levels associated with life cycle cost estimates prepared for Major Defense Acquisition Programs (MDAPs). Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

Notes:
(1) Baseline approved January 2012 in BY98 $M.
(2) TWS Program Acquisition Unit Cost (PAUC) and Average Procurement Unit Cost (APUC) values represent notional generic TWS system. PAUC & APUC values for Light, Medium, & Heavy variants allocate Non-Production Other Procurement Army and Research & Development funding on a quantity percentage basis.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	237788	237788	237788
Total	237788	237788	237788

Currently, the total procurement requirement for TWS is 237,788 systems, which includes the Army Acquisition Objective of 215,411 plus authorized replacement of 22,377 unsupportable Thermal Omnibus and Limited Production systems (per December 2010 Acquisition Decision Memorandum).

TWS Quantities Required per variant:
TWS Light 64,904
TWS Medium 89,998
TWS Heavy 82,886

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	71.2	0.0	0.0	1.4	0.0	0.0	0.0	0.0	72.6
Procurement	2479.0	186.9	82.2	79.7	46.2	4.2	2.9	0.0	2881.1
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	2550.2	186.9	82.2	81.1	46.2	4.2	2.9	0.0	2953.7
	--	--	--	--	--	--	--	--	--

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	210023	14990	4244	5551	2980	0	0	0	237788
PB 2013 Total	0	210023	14990	4244	5551	2980	0	0	0	237788
	--	--	--	--	--	--	--	--	--	--

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1991	--	--	--	--	--	--	9.5
1992	--	--	--	--	--	--	18.9
1993	--	--	--	--	--	--	8.4
1994	--	--	--	--	--	--	3.5
1995	--	--	--	--	--	--	1.0
1996	--	--	--	--	--	--	0.5
1997	--	--	--	--	--	--	0.5
1998	--	--	--	--	--	--	0.1
1999	--	--	--	--	--	--	0.2
2000	--	--	--	--	--	--	0.3
2001	--	--	--	--	--	--	3.0
2002	--	--	--	--	--	--	2.6
2003	--	--	--	--	--	--	1.2
2004	--	--	--	--	--	--	0.9
2005	--	--	--	--	--	--	0.4
2006	--	--	--	--	--	--	5.2
2007	--	--	--	--	--	--	5.7
2008	--	--	--	--	--	--	3.8
2009	--	--	--	--	--	--	4.3
2010	--	--	--	--	--	--	1.2
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	1.4
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**72.6**

Annual Funding BY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1998 $M	Non End Item Recurring Flyaway BY 1998 $M	Non Recurring Flyaway BY 1998 $M	Total Flyaway BY 1998 $M	Total Support BY 1998 $M	Total Program BY 1998 $M
1991	--	--	--	--	--	--	10.6
1992	--	--	--	--	--	--	20.7
1993	--	--	--	--	--	--	9.0
1994	--	--	--	--	--	--	3.7
1995	--	--	--	--	--	--	1.0
1996	--	--	--	--	--	--	0.5
1997	--	--	--	--	--	--	0.5
1998	--	--	--	--	--	--	0.1
1999	--	--	--	--	--	--	0.2
2000	--	--	--	--	--	--	0.3
2001	--	--	--	--	--	--	2.9
2002	--	--	--	--	--	--	2.5
2003	--	--	--	--	--	--	1.1
2004	--	--	--	--	--	--	0.8
2005	--	--	--	--	--	--	0.4
2006	--	--	--	--	--	--	4.4
2007	--	--	--	--	--	--	4.8
2008	--	--	--	--	--	--	3.1
2009	--	--	--	--	--	--	3.5
2010	--	--	--	--	--	--	1.0
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	1.0
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**72.1**

Annual Funding TY$
2035 | Procurement | Other Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1995	468	22.8	--	--	22.8	--	22.8
1996	696	23.1	--	--	23.1	--	23.1
1997	1600	45.0	--	--	45.0	--	45.0
1998	1820	33.6	2.6	--	36.2	3.6	39.8
1999	1019	29.7	2.6	--	32.3	4.6	36.9
2000	1299	25.9	7.2	--	33.1	6.9	40.0
2001	1288	25.9	5.8	1.0	32.7	3.3	36.0
2002	2132	28.4	2.8	--	31.2	3.7	34.9
2003	3808	63.7	6.4	--	70.1	3.7	73.8
2004	8247	161.1	4.9	4.1	170.1	7.3	177.4
2005	7526	65.4	2.4	--	67.8	5.7	73.5
2006	19107	166.5	7.1	--	173.6	7.1	180.7
2007	31652	284.5	24.6	--	309.1	2.9	312.0
2008	37307	331.7	18.0	--	349.7	30.2	379.9
2009	40172	341.9	59.7	--	401.6	35.5	437.1
2010	30643	265.0	33.7	--	298.7	21.3	320.0
2011	21239	187.2	22.1	--	209.3	36.8	246.1
2012	14990	156.9	14.3	--	171.2	15.7	186.9
2013	4244	48.5	28.8	--	77.3	4.9	82.2
2014	5551	64.6	8.6	--	73.2	6.5	79.7
2015	2980	35.2	7.5	--	42.7	3.5	46.2
2016	--	--	4.2	--	4.2	--	4.2
2017	--	--	2.9	--	2.9	--	2.9
Subtotal	**237788**	**2406.6**	**266.2**	**5.1**	**2677.9**	**203.2**	**2881.1**

Annual Funding BY$
2035 | Procurement | Other Procurement, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1998 $M	Non End Item Recurring Flyaway BY 1998 $M	Non Recurring Flyaway BY 1998 $M	Total Flyaway BY 1998 $M	Total Support BY 1998 $M	Total Program BY 1998 $M
1995	468	23.1	--	--	23.1	--	23.1
1996	696	23.2	--	--	23.2	--	23.2
1997	1600	44.6	--	--	44.6	--	44.6
1998	1820	33.0	2.5	--	35.5	3.6	39.1
1999	1019	28.8	2.5	--	31.3	4.5	35.8
2000	1299	24.9	6.9	--	31.8	6.6	38.4
2001	1288	24.6	5.5	0.9	31.0	3.1	34.1
2002	2132	26.6	2.6	--	29.2	3.5	32.7
2003	3808	58.6	5.9	--	64.5	3.4	67.9
2004	8247	144.7	4.5	3.7	152.9	6.5	159.4
2005	7526	57.1	2.1	--	59.2	5.0	64.2
2006	19107	141.7	5.9	--	147.6	6.1	153.7
2007	31652	236.4	20.4	--	256.8	2.4	259.2
2008	37307	271.0	14.7	--	285.7	24.7	310.4
2009	40172	275.7	48.1	--	323.8	28.6	352.4
2010	30643	209.7	26.6	--	236.3	16.9	253.2
2011	21239	145.4	17.2	--	162.6	28.5	191.1
2012	14990	119.8	10.9	--	130.7	12.0	142.7
2013	4244	36.3	21.6	--	57.9	3.7	61.6
2014	5551	47.6	6.3	--	53.9	4.8	58.7
2015	2980	25.5	5.4	--	30.9	2.5	33.4
2016	--	--	3.0	--	3.0	--	3.0
2017	--	--	2.0	--	2.0	--	2.0
Subtotal	**237788**	**1998.3**	**214.6**	**4.6**	**2217.5**	**166.4**	**2383.9**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	2/15/1995	2/15/1997
Approved Quantity	2000	2764
Reference	ADM	ADM
Start Year	1995	1997
End Year	1997	1998

A Special In Process Review held February 1995 type classified TWS Limited Procurement Urgent and provided approval for the limited production of up to 2000 systems. The Army awarded a total of 1164 systems to Hughes Aircraft beginning in April 1995. The Army conducted Initial Production Test and Initial Operational Test and Evaluation October 1996-March 1997. Based on favorable results from these tests and a Statement of Urgent Need for TWS from the US Army Infantry Center, the Army increased the limited production quantity threshold to 3000 units. The Army awarded an additional 1600 systems to Hughes Aircraft in April 1997, bringing the total number of limited production systems awarded to 2764.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Thailand	8/20/2002	33	0.6	33 Thermal Weapon Sights (Medium variant) to Thailand. Unit Cost $19,316. Contract DAAB07-98-C-J815. MOD P00080.
Czech Republic	8/2/2002	2	0.0	2 Thermal Weapon Sights (Heavy variant) to Czech Republic. Unit Cost $21,197. Contract DAAB07-98-C-J815. MOD P00080.
Thailand	8/2/2002	4	0.1	2 Thermal Weapon Sights (Heavy variant) to Thailand. Unit Cost $21,197. Contract DAAB07-98-C-J815. MOD P00080.

Nuclear Cost

None

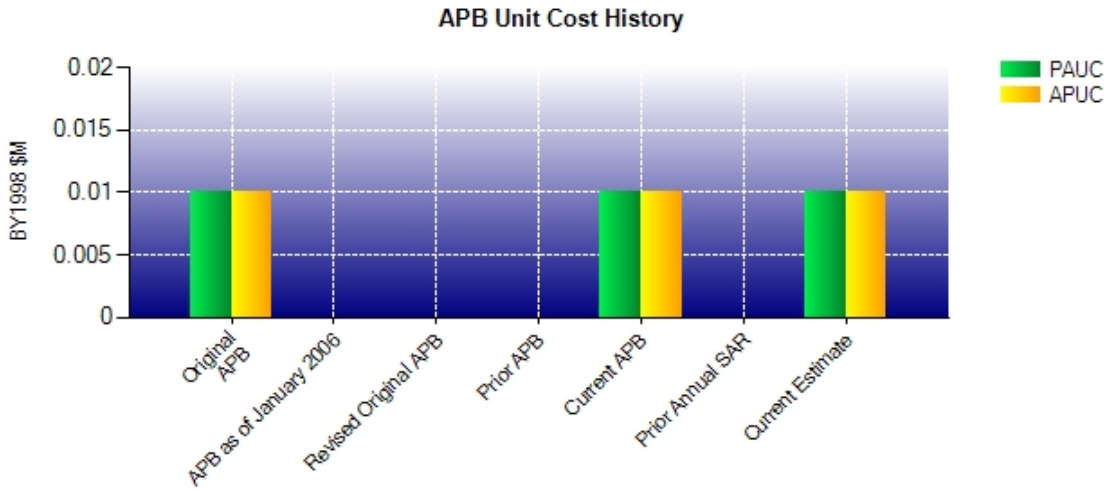
Unit Cost

Unit Cost Report

Unit Cost	BY1998 $M Current UCR Baseline (JAN 2012 APB)	BY1998 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	2467.7	2456.0	
Quantity	237788	237788	
Unit Cost	0.010	0.010	0.00
Average Procurement Unit Cost (APUC)			
Cost	2395.5	2383.9	
Quantity	237788	237788	
Unit Cost	0.010	0.010	0.00

Unit Cost	BY1998 $M Original UCR Baseline (JAN 2012 APB)	BY1998 $M Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	2467.7	2456.0	
Quantity	237788	237788	
Unit Cost	0.010	0.010	0.00
Average Procurement Unit Cost (APUC)			
Cost	2395.5	2383.9	
Quantity	237788	237788	
Unit Cost	0.010	0.010	0.00

Unit Cost History



		BY1998 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	JAN 2012	0.010	0.010	0.012	0.012
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	JAN 2012	0.010	0.010	0.012	0.012
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2011	0.010	0.010	0.012	0.012

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	N/A	N/A
Milestone III	N/A	N/A	JUN 1998	JUN 1998
FUE	N/A	N/A	MAR 1999	MAR 1999
Total Cost (TY $M)	N/A	N/A	2956.1	2953.7
Total Quantity	N/A	N/A	237788	237788
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	0.012	0.012

Cost Variance

Cost Variance Summary

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	72.6	2883.5	--	2956.1
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	+12.6	--	+12.6
Quantity	--	--	--	--
Schedule	--	-0.1	--	-0.1
Engineering	--	--	--	--
Estimating	--	-30.0	--	-30.0
Other	--	--	--	--
Support	--	+15.1	--	+15.1
Subtotal	--	-2.4	--	-2.4
Total Changes	--	-2.4	--	-2.4
CE - Cost Variance	72.6	2881.1	--	2953.7
CE - Cost & Funding	72.6	2881.1	--	2953.7

Summary Base Year 1998 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	72.1	2395.5	--	2467.6
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-23.4	--	-23.4
Other	--	--	--	--
Support	--	+11.8	--	+11.8
Subtotal	--	-11.6	--	-11.6
Total Changes	--	-11.6	--	-11.6
CE - Cost Variance	72.1	2383.9	--	2456.0
CE - Cost & Funding	72.1	2383.9	--	2456.0

Previous Estimate:

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+12.6
Acceleration of procurement buy profile. Funding increase in FY 2013 President's Budget enabled Thermal Weapon Sight program office to accelerate system buy. (Schedule)	0.0	-0.1
Estimating variance due to decreased hardware cost, decreased ancillary overhead and adjusted funding profile per President's Budget FY 2013. No impact to program execution. (Estimating)	-16.6	-21.3
Adjustment for current and prior escalation. (Estimating)	-6.8	-8.7
Adjustment for current and prior escalation. (Support)	-0.6	-0.6
Increase in Initial Spares since the January 2012 Acquisition Program Baseline. Current estimate reports actuals for FY 2011 and includes Initial Spares for Helmet Mounted Devices (HMD). (Support)	+12.4	+15.7
Procurement Subtotal	-11.6	-2.4

Contracts

General Contract Memo

This is the first time this program is being reported, therefore this is the first time each of the current three TWS contracts is being reported.

Appropriation: Procurement

Contract Name	**Thermal Weapon Sight II Bridge**
Contractor	Raytheon Company
Contractor Location	2501 W University Drive M/S 8064 PO Box 801 M/S 8064 McKinney, TX 75070-0801
Contract Number, Type	W91CRB-07-D-0029, FFP
Award Date	June 26, 2007
Definitization Date	July 01, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
63.4	N/A	5049	361.9	N/A	39400	419.4	419.4

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to increases in quantity. The total quantity of TWS systems procured on the 0029 contract as of January 31, 2012 is:
Direct Army 39,400

Raytheon's Thermal Weapon Sight II Bridge contract is a five year firm fixed price Indefinite Delivery Indefinite Quantity contract for procurement of Light, Medium, and Heavy Weapon Thermal Sights, associated spare parts, special tools, and test equipment. Annual delivery orders are competed among the three Thermal Weapon Sight II Bridge contractors (BAE, DRS, and Raytheon), with each acceptable offeror receiving a minimum quantity order, and the balance of each year's requirements awarded to the offeror deemed to be the best value to the Government.

Appropriation: Procurement

Contract Name	**Thermal Weapon Sight II Bridge**
Contractor	BAE Systems Information and Electronic Systems Integration Inc
Contractor Location	2 Forbes Road Lexington, MA 02421-7306
Contract Number, Type	W91CRB-07-D-0030, FFP
Award Date	June 26, 2007
Definitization Date	July 01, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
183.2	N/A	9322	774.4	N/A	72711	832.0	832.0

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to increases in quantity. Total TWS system quantity procured under contract 0030 thru January 31, 2012 is:
Direct Army 72,711
Army Long Range Sniper Night Sight 1930
USMC/Navy 5330
Air Force 33
Other 364

BAE's Thermal Weapon Sight II Bridge contract is a five year firm fixed price Indefinite Delivery Indefinite Quantity contract for procurement of Light, Medium, and Heavy Weapon Thermal Sights, associated spare parts, special tools, and test equipment. Annual delivery orders are competed among the three Thermal Weapon Sight II Bridge contractors (BAE, DRS, and Raytheon), with each acceptable offeror receiving a minimum quantity order, and the balance of each year's requirements awarded to the offeror deemed to be the best value to the Government.

Appropriation: Procurement

Contract Name	**Thermal Weapon Sight II Bridge**
Contractor	DRS Sensors and Targeting Systems Ic
Contractor Location	2330 Commerce Park Drive NE Suite 2 Palm Bay, FL 32905-7721
Contract Number, Type	W91CRB-07-D-0031, FFP
Award Date	June 26, 2007
Definitization Date	July 01, 2007

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
14.4	N/A	1000	480.3	N/A	32747	537.8	537.8

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to increases in quantities. Total TWS system quantity procured on the 0031 contract as of January 31, 2012 is:
Direct Army 32,747
Air Force 1407
USMC 6991

DRS' Thermal Weapon Sight II Bridge contract is a five year firm fixed price Indefinite Delivery Indefinite Quantity contract for procurement of Light, Medium, and Heavy Weapon Thermal Sights, associated spare parts, special tools, and test equipment. Annual delivery orders are competed among the three Thermal Weapon Sight II Bridge contractors (BAE, DRS, and Raytheon), with each acceptable offeror receiving a minimum quantity order, and the balance of each year's requirements awarded to the offeror deemed to be the best value to the Government.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	199404	195864	237788	82.37%
Total Program Quantities Delivered	199404	195864	237788	82.37%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	2953.7	Years Appropriated	22
Expenditures To Date	2550.3	Percent Years Appropriated	81.48%
Percent Expended	86.34%	Appropriated to Date	2737.1
Total Funding Years	27	Percent Appropriated	92.67%

Data is through December 31, 2011.

Operating and Support Cost

Assumptions And Ground Rules

The Thermal Weapon Sight (TWS) Operating and Support (O&S) costs assume a Peacetime Operating Tempo of 84 hours per annum (84 hours per Operational Mode Summary/Mission Profile [OMS/MP]). O&S costs assume an average system life of 20 years, and reflect an average annual sustainment cost of BY1998 $K 0.084 for each of the three Thermal Weapon Sight variants (Light, Medium & Heavy). O&S costs are based on the Program Office Estimate (POE) dated October 31, 2011, and validated by Suffciency Review conducted by the Office of Deputy Assistant Secretary Army - Cost & Economics.

TWS O&S **Maintenance** includes Contractor Logistics Support (CLS) provided by Regional Support Centers (RSCs).
TWS O&S **Sustaining Support** includes Sustainment Support & Technical Services.
TWS O&S **Other** includes Second Destination Transportation, Replacement Batteries, Chargers, Testers and Brackets, as well as Disposal Costs at the end of system life.

Costs BY1998 $K		
Cost Element	**TWS Thermal Weapon Sight**	**AN/PVS-4 & AN/TVS-5 Sights**
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	0.066	--
Sustaining Support	0.001	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	0.017	--
Total Unitized Cost (Base Year 1998 $)	0.084	--

Total O&S Costs $M	TWS	AN/PVS-4 & AN/TVS-5 Sights
Base Year	398.3	--
Then Year	580.4	--

Operating & Support costs for the antecedent systems - AN/PVS-4 & AN/TVS-5 Sights - are not currently available. Per Operational Requirements Document (ORD) for the Thermal Weapons Sight (TWS) dated April 14, 1998, the TWS family will replace AN/PVS-4 & AN/TVS-5 Sights. Communications & Electronics Command (CECOM) has directed units to discontinue expending funds on maintenance of AN/PVS-4 & AN/TVS-5 Sights. TWS is the authorized substitute for the AN/PVS-4 & AN/TVS-5 Sights. TWS systems should be requisitioned in lieu of repairing the antecedent systems.

Disposal costs are estimated to total $187K BY 1998 / $324K TY and are included in the O&S costs shown above.