



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-293



MP-RTIP

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Multi-Platform Radar Technology Insertion Program (MP-RTIP)

DoD Component

Air Force

Responsible Office

Responsible Office

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References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 4, 2003

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 1, 2005

Mission and Description

The Multi-Platform Radar Technology Insertion Program (MP-RTIP) is the result of a restructuring of the Joint Surveillance Target Attack Radar System (Joint STARS) Radar Technology Insertion Program, formerly a Pre-Planned Product Improvement to Joint STARS. MP-RTIP is developing modular, scalable, surveillance and reconnaissance radar(s) to be installed on the RQ-4B Block 40 Global Hawk Unmanned Aerial Vehicle (UAV). Under current OUSD/AT&L direction, the E-10A Technology Development Program and the associated MP-RTIP Wide Area Surveillance development were terminated, receiving zero funds in FY 2008 and beyond. The MP-RTIP Selected Acquisition Report includes only Research, Development, Test and Evaluation funding since radars will be procured and budgeted by the host platforms. At this time, the North Atlantic Treaty Organization (NATO) has chosen the Global Hawk Block 40 UAV platform for the NATO Alliance Ground Surveillance program.

MP-RTIP will be accomplished in two phases: (Phase I) Pre-System Development and Demonstration (SDD) for Global Hawk radar design, (Phase II) SDD for radar development, fabrication, test and integration.

When installed on the Global Hawk Block 40 UAV, MP-RTIP will provide improved Ground Moving Target Indicator and Synthetic Aperture Radar imaging over current capability on a long endurance platform.

Executive Summary

This is the final SAR submission for the Multi-Platform Radar Technology Insertion Program (MP-RTIP), because the program is 90% or more expended.

The FY 2008 President's Budget (PB) eliminated funding for the E-10A version of the MP-RTIP Wide Area Surveillance radar in FY 2008 and beyond. Global Hawk MP-RTIP execution continued and the FY 2009 through FY 2012 PBs included funding to continue developmental and operational testing of the Global Hawk MP-RTIP variant on the Global Hawk Block 40 air vehicle platform. The Global Hawk program office is responsible for all MP-RTIP production, platform integration, developmental test and fielding.

Several Global Hawk program dates, including Initial Operation Test & Evaluation (IOT&E), have independently slipped, causing sensor and platform budgets and schedules to extend to FY 2014. The contractor proposed cost to support this extended integration ground and flight testing through FY 2014 was \$84.1M. Subsequently, the MP-RTIP program office issued a revised Statement of Work and schedule to contain costs within currently available budget. From the contractor's most recent schedule extension proposal received August 26, 2011, this will require \$48.1M in FY 2012 and FY 2013. The MP-RTIP program office awarded the contract extension on March 8, 2012. The MP-RTIP and Global Hawk program offices continue to pursue options to accelerate IOT&E to provide capability to the Warfighter sooner and significantly reduce the overall program cost.

The final Concurrent Mode Contractor Development Test & Evaluation and Dedicated Mode regression test flight was flown on the surrogate test vehicle, Proteus, on November 18, 2010, the culmination of over 270 test flights. Production Unit (PU)-1 was removed from Proteus on November 19, 2010 and returned to the Global Hawk program for Block 40 integration and testing efforts. The MP-RTIP hardware baseline is stable with platform integration and subsequent Global Hawk Block 40 system test and evaluation beginning in December 2010. Certain advanced modes, such as Air Moving Target Indicator and High Range Resolution continue to be deferred.

In July 2010, the Command and Control/Combat Support Program Executive Officer commissioned an Independent Review Team (IRT) to assess MP-RTIP sensor testing to date, the readiness of the sensor for Global Hawk integration testing, and the state of program management cost accounting and external communications. The IRT found there were no significant testing issues and the sensor was deemed ready for integration; however, they did find an issue with the prime contractor's management cost accounting system. The IRT in conjunction with the Earned Value Management (EVM) Center of Excellence, identified several areas of concern with Northrop Grumman's (NG) EVM data for the MP-RTIP program. Defense Contract Management Agency (DCMA) issued a Level-3 Corrective Action Request (CAR) to NG on November 24, 2010. The prime contractor submitted their Corrective Action Plan (CAP) to DCMA which was approved on March 31, 2011. Monitoring for compliance to the CAP is an ongoing activity. The prime contractor has made sufficient progress, however several deficiencies still remain open pending further action by NG. Final closure for the CAR is dependent on EVM Operation Directorate concurrence.

Significant Accomplishments:

On July 21, 2011 at Edwards Air Force Base, Global Hawk Block 40 test aircraft #2025 conducted the first successful flight tests with an AN-ZPY2 (MP-RTIP) sensor on-board representing the first time the sensor was in flight on a Global Hawk Block 40 platform.

Preliminary integration testing continued through the end of the year. Radar System Level Performance Verification remains on track to begin in March 2012.

There are no significant software-related issues with this program at this time.

Threshold Breaches

APB Breaches

Schedule		<input checked="" type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Explanation of Breach

Breach was previously reported in the December 2010 SAR.

Nunn-McCurdy Breaches

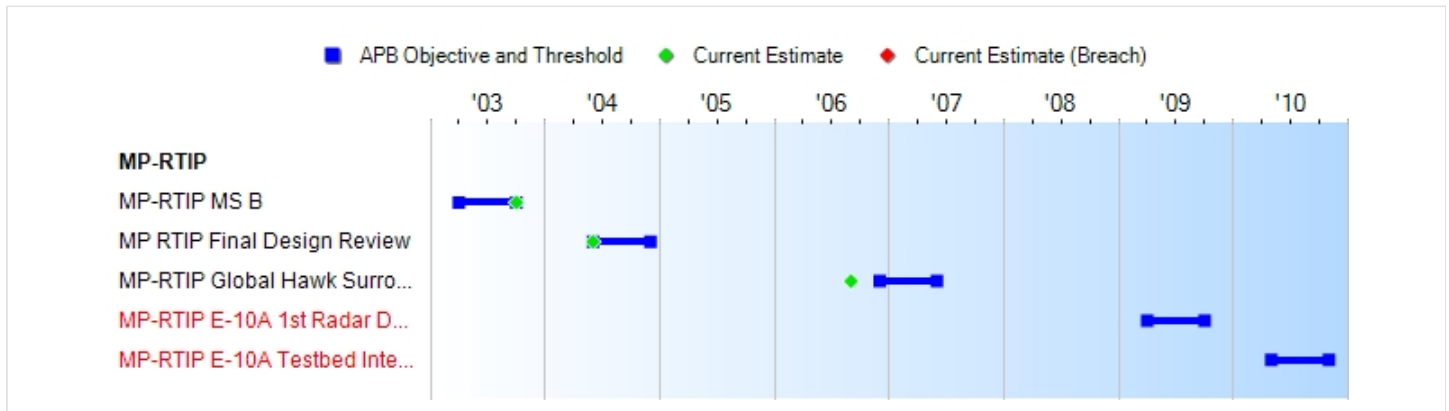
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate
MP-RTIP MS B	APR 2003	APR 2003	OCT 2003	OCT 2003
MP RTIP Final Design Review	JUN 2004	JUN 2004	DEC 2004	JUN 2004
MP-RTIP Global Hawk Surrogate Testbed Integration and First Flight	DEC 2006	DEC 2006	JUN 2007	SEP 2006
MP-RTIP E-10A 1st Radar DU Build/SIL Test	MAY 2008	APR 2009	OCT 2009	N/A ¹
MP-RTIP E-10A Testbed Integration and First Flight	OCT 2009	MAY 2010	NOV 2010	N/A ¹

¹APB Breach

Acronyms And Abbreviations

DU - Development Unit
 MP-RTIP - Multi-Platform Radar Technology Insertion Program
 MS - Milestone
 SIL - System Integration Lab

Change Explanations

None

Memo

There are no MP-RTIP sensor Acquisition Program Baseline (APB) milestones associated with the Global Hawk Block 40.

Under Secretary of Defense for Acquisition, Technology, & Logistics Acquisition Decision Memorandum of May 30, 2007 terminated the E-10A Technology Development Program. However, it directed the Air Force to continue a limited risk reduction effort in Wide Area Surveillance radar development through May 2008. Because of the termination direction, the final two E-10A APB Milestones are no longer valid.

Performance

Memo

The MP-RTIP program is a System Development & Demonstration program. System Key Performance Parameters are documented with the Global Hawk Block 40 host weapon system.

Track To Budget**RDT&E**

APPN 3600	BA 07	PE 0207449F	(Air Force)	
	Project 675065	C2 Constellation (Sensors)		(Sunk)
APPN 3600	BA 05	PE 0207450F	(Air Force)	
	Project 655132	E-10 Squadrons (Sensors)		(Sunk)
APPN 3600	BA 07	PE 0207581F	(Air Force)	
	Project 670003	JSTARS (JSTARS)	(Shared)	(Sunk)
	Project 674995	JSTARS (MP-RTIP)		(Sunk)
APPN 3600	BA 07	PE 0305220F	(Air Force)	
	Project 675144	RQ-4 UAV (Global Hawk)	(Shared)	(Sunk)
	Project 67RTIP	RQ-4 UAV (MP-RTIP)		

E-10 Airframe utilized one Program Element (PE) 0207450F with two Budget Program Activity Code (BPAC). 655131 (Airframe) and 655132 (E-10 Squadrons Sensor). Upon termination of E-10A, PE 0305220F/BPAC 675144 (RQ-4 UAV Global Hawk) funds were used in FY 2009 for remaining existing MP-RTIP requirements. Subsequently, a new BPAC, 67RTIP, was created within PE 0305220F for FY 2010 and beyond.

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY2000 \$M			BY2000 \$M	TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	1449.3	1449.3	1594.2	1158.9	1568.4	1568.4	1303.8
Procurement	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	0.0	--	--	0.0	0.0	--	0.0
Recurring	0.0	--	--	0.0	0.0	--	0.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
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	1449.3	1449.3	N/A	1158.9	1568.4	1568.4	1303.8

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E		0	0
Procurement		0	0
Total		0	0

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	1197.7	40.3	17.7	11.6	11.9	12.2	12.4	0.0	1303.8
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	1197.7	40.3	17.7	11.6	11.9	12.2	12.4	0.0	1303.8
PB 2012 Total	1197.5	40.3	17.7	11.6	11.9	12.0	0.0	0.0	1291.0
Delta	0.2	0.0	0.0	0.0	0.0	0.2	12.4	0.0	12.8

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	0	0	0	0	0	0	0	0	0
PB 2013 Total	0	0	0	0	0	0	0	0	0	0
PB 2012 Total	0	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY\$

3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

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
2000	--	--	--	--	--	--	6.9
2001	--	--	--	--	--	--	41.8
2002	--	--	--	--	--	--	73.3
2003	--	--	--	--	--	--	200.6
2004	--	--	--	--	--	--	145.6
2005	--	--	--	--	--	--	192.3
2006	--	--	--	--	--	--	131.5
2007	--	--	--	--	--	--	198.1
2008	--	--	--	--	--	--	67.3
2009	--	--	--	--	--	--	40.2
2010	--	--	--	--	--	--	72.2
2011	--	--	--	--	--	--	27.9
2012	--	--	--	--	--	--	40.3
2013	--	--	--	--	--	--	17.7
2014	--	--	--	--	--	--	11.6
2015	--	--	--	--	--	--	11.9
2016	--	--	--	--	--	--	12.2
2017	--	--	--	--	--	--	12.4
Subtotal	--	--	--	--	--	--	1303.8

Annual Funding BY\$**3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2000 \$M	Non End Item Recurring Flyaway BY 2000 \$M	Non Recurring Flyaway BY 2000 \$M	Total Flyaway BY 2000 \$M	Total Support BY 2000 \$M	Total Program BY 2000 \$M
2000	--	--	--	--	--	--	6.8
2001	--	--	--	--	--	--	40.9
2002	--	--	--	--	--	--	70.9
2003	--	--	--	--	--	--	191.4
2004	--	--	--	--	--	--	135.5
2005	--	--	--	--	--	--	174.5
2006	--	--	--	--	--	--	115.9
2007	--	--	--	--	--	--	170.1
2008	--	--	--	--	--	--	56.6
2009	--	--	--	--	--	--	33.4
2010	--	--	--	--	--	--	59.2
2011	--	--	--	--	--	--	22.4
2012	--	--	--	--	--	--	31.8
2013	--	--	--	--	--	--	13.7
2014	--	--	--	--	--	--	8.9
2015	--	--	--	--	--	--	8.9
2016	--	--	--	--	--	--	9.0
2017	--	--	--	--	--	--	9.0
Subtotal	--	--	--	--	--	--	1158.9

Low Rate Initial Production

There is no LRIP for this program.

Foreign Military Sales

None

Nuclear Cost

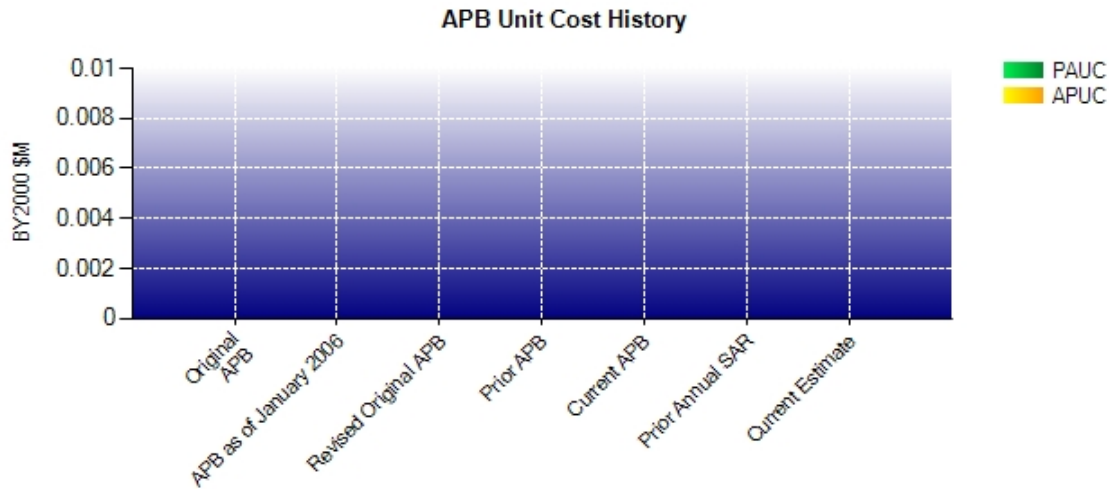
None

Unit Cost**Unit Cost Report**

	BY2000 \$M	BY2000 \$M	
Unit Cost	Current UCR Baseline (MAR 2005 APB)	Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1449.3	1158.9	
Quantity	0	0	
Unit Cost	--	--	--
Average Procurement Unit Cost (APUC)			
Cost	--	0.0	
Quantity	--	0	
Unit Cost	--	--	--

	BY2000 \$M	BY2000 \$M	
Unit Cost	Original UCR Baseline (DEC 2003 APB)	Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1449.3	1158.9	
Quantity	0	0	
Unit Cost	--	--	--
Average Procurement Unit Cost (APUC)			
Cost	--	0.0	
Quantity	--	0	
Unit Cost	--	--	--

Unit Cost History



	Date	BY2000 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	DEC 2003	N/A	N/A	N/A	N/A
APB as of January 2006	MAR 2005	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	DEC 2003	N/A	N/A	N/A	N/A
Current APB	MAR 2005	N/A	N/A	N/A	N/A
Prior Annual SAR	DEC 2010	N/A	N/A	N/A	N/A
Current Estimate	DEC 2011	N/A	N/A	N/A	N/A

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)

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

Current SAR Baseline to Current Estimate (TY \$M)

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

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	APR 2003	N/A	OCT 2003
Milestone C	N/A	N/A	N/A	N/A
IOC	N/A	N/A	N/A	N/A
Total Cost (TY \$M)	N/A	1568.4	N/A	1303.8
Total Quantity	N/A	0	N/A	0
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	N/A	N/A

Cost Variance**Cost Variance Summary**

Summary Then Year \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	1568.4	--	--	1568.4
Previous Changes				
Economic	+43.1	--	--	+43.1
Quantity	--	--	--	--
Schedule	+222.1	--	--	+222.1
Engineering	-351.0	--	--	-351.0
Estimating	-191.6	--	--	-191.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-277.4	--	--	-277.4
Current Changes				
Economic	+1.9	--	--	+1.9
Quantity	--	--	--	--
Schedule	+12.6	--	--	+12.6
Engineering	--	--	--	--
Estimating	-1.7	--	--	-1.7
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+12.8	--	--	+12.8
Total Changes	-264.6	--	--	-264.6
CE - Cost Variance	1303.8	--	--	1303.8
CE - Cost & Funding	1303.8	--	--	1303.8

Summary Base Year 2000 \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	1449.3	--	--	1449.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+165.7	--	--	+165.7
Engineering	-289.7	--	--	-289.7
Estimating	-174.0	--	--	-174.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-298.0	--	--	-298.0
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+9.1	--	--	+9.1
Engineering	--	--	--	--
Estimating	-1.5	--	--	-1.5
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+7.6	--	--	+7.6
Total Changes	-290.4	--	--	-290.4
CE - Cost Variance	1158.9	--	--	1158.9
CE - Cost & Funding	1158.9	--	--	1158.9

Previous Estimate: December 2010

RDT&E	\$M	
	Base Year	Then Year
Current Change Explanations		
Revised escalation indices. (Economic)	N/A	+1.9
Funding was added for FY 2013 President's Budget. (Schedule)	+9.1	+12.6
Revised estimate to reflect actuals. (Estimating)	-0.5	-0.5
Adjustment for current and prior escalation. (Estimating)	-1.0	-1.2
RDT&E Subtotal	+7.6	+12.8

Contracts

Appropriation: RDT&E

Contract Name	MP-RTIP - SDD Phase II
Contractor	Northrop Grumman
Contractor Location	El Segundo, CA 90245
Contract Number, Type	F19628-00-C-0100/2, CPAF/CPFF
Award Date	April 30, 2004
Definitization Date	April 30, 2004

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
887.9	N/A	0	917.9	N/A	0	1012.0	1003.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/30/2011)	-1.0	-0.8
Previous Cumulative Variances	+1.8	-2.0
Net Change	-2.8	+1.2

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to contractor inefficiencies during qualification testing and integration activities. This variance is against an Over Target Baseline (OTB) of \$62.8M. The OTB is due to Contractor Developmental Test and Evaluation (CDT&E) delays.

The favorable net change in the schedule variance is due to progress for sensor to platform integration activities.

Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

The difference between the initial contract price target and the current contract price target is due to several Engineering Change Proposals and Contract Change Proposals.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	0	0	--
Total Program Quantities Delivered	0	0	0	--

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	1303.8	Years Appropriated	13
Expenditures To Date	1183.5	Percent Years Appropriated	72.22%
Percent Expended	90.77%	Appropriated to Date	1238.0
Total Funding Years	18	Percent Appropriated	94.95%

Operating and Support Cost

Assumptions And Ground Rules

The Multi-Platform Radar Technology Insertion Program (MP-RTIP) effort includes the Research, Development, Test and Evaluation of radars for the Global Hawk (Block 40). This is in accordance with the MP-RTIP Single Acquisition Management Plan, Milestone B, and revised Acquisition Program Baseline. The cost for MP-RTIP Production and Operations and Support is allocated in the respective host weapon system.

Costs BY2000 \$M		
Cost Element	MP-RTIP	Antecedent System
Unit-Level Manpower	--	--
Unit Operations	--	--
Maintenance	--	--
Sustaining Support	--	--
Continuing System Improvements	--	--
Indirect Support	--	--
Other	--	--
Total Unitized Cost (Base Year 2000 \$)	--	--

Total O&S Costs \$M	MP-RTIP	Antecedent System
Base Year	--	--
Then Year	--	--