

BUDGET ITEM JUSTIFICATION SHEET

P-40

DATE:

FEBRUARY 2004

APPROPRIATION/BUDGET ACTIVITY

OTHER PROCUREMENT, NAVY

BA-4: ORDNANCE SUPPORT EQUIPMENT

P-1 ITEM NOMENCLATURE

Rolling Airframe Missile (RAM) 5238

Program Element for Code B Items:

Other Related Program Elements

	Prior Years	ID Code		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Complete	Total
QUANTITY	65	A		6	2	0	8	8	2	0	3	94
COST (In Millions)	518.8	A		27.1	31.1	23.0	78.0	69.8	34.8	11.0	63.8	857.4
SPARES COST (In Millions)												

Rolling Airframe Missile (RAM) - MK-49 Guided Missile Launching System (GMLS)

RAM is a NATO cooperative project with the Federal Republic of Germany, produced under a series of production MOUs/MOAs executed between the U.S. and the Federal Republic of Germany. The latest was signed on 18 December 2001.

The MK-31 Guided Missile Weapons System (GMWS) is a lightweight, quick-reaction, high firepower missile system designed to provide anti-ship missile defense. The system is comprised of a MK-44 Guided Missile Round Pack (GMRP) and the MK-49 Guided Missile Launching System (GMLS), which holds 21 RAM missiles. The 21-round launcher is compatible with various platforms ranging from large USN aircraft carriers to S-143 type German patrol boats. This system is designed to counter high density anti-ship, cruise missile raids and provide for ship survivability with accurate terminal guidance, proven lethality and no fire control channel dependence. The SeaRAM configuration, which holds 11 RAM missiles, provides Anti-Air Warfare and Anti-Surface Warfare mission capability with a multi-spectral detect, control and engage system.

Approval for Full Rate Production was granted 6 May 1993. The total RAM GMLS procurement program is 188 launchers (94 OPN (including one trainer, one LBTF, and 21 SeaRAM configured systems), 41 SCN, and 53 German systems). One hundred eight launchers (56 OPN, 9 SCN and 43 German) were procured in FY99 and prior, under joint U.S./German production contracts. A five year multi-year contract for 45 systems (17 OPN and 28 SCN) was awarded in FY00; ten German systems were added to the multi-year in April 2002; two SCN launchers were added in FY03; and the remaining 23 launchers (two SCN and 21 OPN) are scheduled for procurement outside the multi-year contract.

P-1 SHOPPING LIST

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**BUDGET ITEM JUSTIFICATION SHEET
P-40 (CONTINUATION)**

**DATE:
FEBRUARY 2004**

**APPROPRIATION/BUDGET ACTIVITY
OTHER PROCUREMENT, NAVY
BA-4 : ORDNANCE SUPPORT EQUIPMENT**

**P-1 ITEM NOMENCLATURE/LINE ITEM #

Rolling Airframe Missile (RAM) 5238**

RAM is installed on or planned for installation on the following ship classes:

<u>CLASS</u>	<u>SHIPS</u>	<u>LAUNCHERS</u>
LHA (OPN)	5	10
LSD (OPN)	11	23 (LSD-52 (1 OPN & 1 SCN))
DD 963 (OPN)	11	11
LHD (OPN)	4	8
CV (OPN)	2	4
CVN (OPN)	7	15
FFG (OPN)*	21	21
TRAINER (OPN)**		1
LBTF 1 (OPN)**		1
OPN TOTAL	<u>61</u>	<u>94</u> <small>** (Only 92 shipboard installations)</small>
LSD (SCN)	1	1 (LSD-52 (1 OPN & 1 SCN))
LHD (SCN)	4	8
CVN (SCN)	4	8
LPD 17 (SCN)	<u>12</u>	<u>24</u>
SCN TOTAL	<u>21</u>	<u>41</u>

The NSWC Port Hueneme provides installation oversight support as the ISEA for the RAM system. RAM is/will be installed on LHA, LSD, LHD, DD-963, CV/CVN, FFG and LPD ship classes.

*FFGs will receive SeaRAM configuration.

DD Form 2454, JUN 86

Note: No funds were received through the Emergency Response Fund, Defense (ERF,D).

SEA01 SUBMIT TO FMB

WEAPONS SYSTEM COST ANALYSIS P-5				Weapon System									FEBRUARY 2004		
APPROPRIATION/BUDGET ACTIVITY OTHER PROCUREMENT, NAVY BA/4: ORDNANCE SUPPORT EQUIPMENT				ID Code	P-1 ITEM NOMENCLATURE/SUBHEAD ROLLING AIRFRAME MISSILE (RAM) 5238							SUBHEAD: A4UR			
COST CODE	ELEMENT OF COST	ID Code	TOTAL COST IN THOUSANDS OF DOLLARS												
			Prior Years	FY 2003			FY 2004			FY 2005					
			Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost			
	Sponsor: N86														
UR006	RAM MK-49 GMLS (Annual Procurement)	A	274,239												
UR006	Multiyear RAM MK-49 GMLS	A	35,600				6	3923.00	23,538	2	4011.00	8,022			
UR006	Multiyear RAM EOQ Material	A	15,536						(11,622)			(3,914)			
UR006	RAM 11 Round GMLS	A	5,543												
UR006	RAM ECP's	A	36,235						1,797			1,561			1,174
UR006	SEARAM Production NRE/PLI Testing	A	0												
UR006	RAM GMLS ORDALTS	A	14,105				2	533.29	1,067	10	805.20	8,052			
UR006	SEARAM System	A	0												
UR777	RAM ENGINEER SERVICES (Contractor)	A	29,183						2,948			3,300			3,423
UR007	RAM GMLS PRODUCTION SUPPORT	A	39,745						3,432			4,383			4,473
UR900	RAM - CSS	A	7,472						1,026			545			557
UR006	RAM GMLS/ORDALT Install (Non-FMP)	A	556						1,095			142			750
UR5IN	RAM GMLS AIT Install (FMP)	A	60,590						3,834			8,977			12,591
UR5IN	SEARAM AIT Install (FMP)	A													
			518,804						27,115			31,068			22,968

WEAPONS SYSTEM COST ANALYSIS P-5 (Continued)							Weapon System							DATE: FEBRUARY 2004					
APPROPRIATION/BUDGET ACTIVITY Other Procurement, Navy BA-4: ORDNANCE SUPPORT EQUIPMENT							ID Code		P-1 ITEM NOMENCLATURE/SUBHEAD Rolling Airframe Missile (RAM) 5238							SUBHEAD: A4UR			
COST CODE	ELEMENT OF COST	FY 2006		FY 2007			FY 2008			FY 2009			To Complete		Total				
		Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost	Quantity	Cost	Quantity	Cost		
			Sponsor: N86																
UR006	RAM MK-49 GMLS (Annual Procurement)															55	274,239		
UR006	Multiyear RAM MK-49 GMLS															17	67,160		
UR006	Multiyear RAM EOQ Material																		
UR006	RAM 11 Round GMLS															1	5,543		
UR006	RAM ECP's													N/A	3,722		48,480		
UR006	SEARAM Production NRE/PLI Testing																4,000		
UR006	RAM GMLS ORDALTS													6	5,838	48	34,525		
UR006	SEARAM System													3	23,850	21	152,719		
UR777	RAM ENGINEER SERVICES (Contractor)													N/A	9,993		61,265		
UR007	RAM GMLS PRODUCTION SUPPORT													N/A	13,738		82,844		
UR900	RAM - CSS													N/A	1,864		13,779		
UR006	RAM GMLS/ORDALT Install (Non-FMP)													6	818	48	4,648		
UR5IN	RAM GMLS AIT Install (FMP)															71	90,053		
UR5IN	SEARAM AIT Install (FMP)													5	3,948	21	18,121		
															63,771		857,376		

BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)					Weapon System			A. DATE FEBRUARY 2004		
B. APPROPRIATION/BUDGET ACTIVITY OTHER PROCUREMENT, NAVY BA/4: ORDNANCE SUPPORT EQUIPMENT					C. P-1 ITEM NOMENCLATURE ROLLING AIRFRAME MISSILE (RAM) 5238				SUBHEAD A4UR	
Cost Element/ FISCAL YEAR	QUANTITY	UNIT COST (000)	LOCATION OF PCO	RFP ISSUE DATE	CONTRACT METHOD & TYPE	CONTRACTOR AND LOCATION	AWARD DATE*	DATE OF FIRST DELIVERY	SPECS AVAILABLE NOW	DATE REVISIONS AVAILABLE
UR006 FISCAL YEAR (03) RAM GMLS (MK-49)	6	3,923	NAVSEA	N/A	SS/FPM-5(4)	Raytheon Company, Louisville, KY	11/02	01/05	YES	
UR006 FISCAL YEAR (04) RAM GMLS (MK-49)	2	4,011	NAVSEA	N/A	SS/FPM-5(5)	Raytheon Company, Louisville, KY	11/03	10/05	YES	
D. REMARKS										
<p>The RAM Multiyear Procurement contract was awarded in FY00; subsequent years (through FY04) do not have award dates, but rather the date of funding for that fiscal year's buy. The Multiyear contract is for a mix of OPN and SCN launchers.</p>										

P3A **INDIVIDUAL MODIFICATION** **FEBRUARY 2004**

ROLLING AIRFRAME MISSILE (RAM)

TYPE MODIFICATION: MK-49 GMLS

MODIFICATION TITLE:

DESCRIPTION/JUSTIFICATION:

The Rolling Airframe Missile is a lightweight, quick-reaction, high firepower missile system designed to provide anti-ship missile defense. The system (MK-31 GMWS), is comprised of a MK-44 Guided Missile Round Pack (GMRP) and the MK-49 Guided Missile Launching System (GMLS), which holds 21 RAM missiles. The 21-round launcher is compatible with various platforms, ranging from large USN amphibious assault ships to S-143-type German patrol boats. This system is designed to counter high density anti-ship, cruise missile raids and provide for ship survivability with accurate terminal guidance, proven lethality and no fire control channel dependence. The SeaRAM configuration, which holds 11 RAM missiles, provides Anti-Air Warfare and Anti-Surface Warfare mission capability with a multi-spectral detect, control and engage system.

DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:

Milestone III, January 2000

	<u>FY 2002 & Prior</u>		<u>FY 2003</u>		<u>FY 2004</u>		<u>FY 2005</u>		<u>FY 2006</u>		<u>FY 2007</u>		<u>FY 2008</u>		<u>FY 2009</u>		<u>TC</u>		<u>TOTAL</u>		
	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	<u>QTY</u>	<u>\$</u>	
FINANCIAL PLAN (IN MILLIONS)																					
<i>RDT&E</i>																					
<i>PROCUREMENT</i>																					
INSTALLATION KITS	24	14.7	2	2.2	10	8.2	0	0.8	5	5.0	1	1.6	0	0.1	0	0.0		6	6.7	48	39.2
INSTALLATION KITS - UNIT COST		0.6		0.5		0.8		0.0		0.9		1.0		0.0		0.0			1.0		
INSTALLATION Kits/GMLS		0.6		1.1		0.1		0.8		0.5		0.6		0.1		0.0			0.8		4.6
EQUIPMENT	65	315.4	6	23.5	2	8.0	0	0.0	8	56.3	8	57.3	2	15.3	0	0.0		3	23.9	94	499.7
EQUIPMENT NONRECURRING																					
ENGINEERING CHANGE ORDERS		36.2		1.8		1.6		1.2		0.9		1.0		1.2		0.8			3.7		48.5
SEARAM NRE/PLI TESTING								0.0		4.0											4.0
TRAINING EQUIPMENT																					
SUPPORT EQUIPMENT																					
ENGINEERING SERVICES (Contractor)		29.2		2.9		3.3		3.4		3.0		3.1		3.1		3.2			10.0		61.3
PRODUCTION SUPPORT		39.7		3.4		4.4		4.5		4.1		4.2		4.3		4.4			13.7		82.8
ECONOMIC ORDER QUANTITY		15.5		-11.6		-3.9		0.0		0.0		0.0		0.0		0.0			0.0		0.0
INTERIM CONTRACTOR SUPPORT		7.5		1.0		0.5		0.6		0.6		0.6		0.6		0.6			1.9		13.8
INSTALL COST	57	60.6	2	3.8	4	9.0	6	12.6	2	4.1	2	2.0	8	10.1	8	2.0		5	3.9	94	108.2
TOTAL PROCUREMENT		518.8		27.1		31.1		23.0		78.0		69.8		34.8		11.0			63.8		857.4

P3A (Continued)		INDIVIDUAL MODIFICATION (Continued)										FEBRUARY 2004																				
<u>Rolling Airframe Missile (RAM) MK-49 GMLS</u>										MODIFICATION TITLE: _____																						
INSTALLATION INFORMATION:																																
METHOD OF IMPLEMENTATION:		Shipyard/AIT																														
ADMINISTRATIVE LEADTIME:		7 Months				PRODUCTION LEADTIME: 21 Months																										
CONTRACT DATES:		FY 2003: 11/02				FY 2004: 11/03				FY 2005: _____																						
DELIVERY DATE:		FY 2005: 01/05				FY 2005: 10/05				FY 2007: _____																						
(\$ in Millions)																																
Cost:	FY2002 & Prior		FY 2003		FY 2004		FY 2005		FY 2006		FY 2007		FY 2008		FY 2009				To Complete		Total											
	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$	Qty	\$			Qty	\$	Qty	\$										
FY02 & PRIOR YEAR	57	60.6	2	3.8	4	9.0		0.0		0.0		0.0		0.0		0.0					63	73.4										
FY 2003 EQUIPMENT							6	12.6	0	0.0	0	0.0	0	0.0	0	0.0					6	12.6										
FY 2004 EQUIPMENT							0	0.0	2	4.1											2	4.1										
FY 2005 EQUIPMENT							0	0.0	0	0.0	0	0.0										0.0										
FY 2006 EQUIPMENT												2.0	8	4.6							8	6.6										
FY 2007 EQUIPMENT													6	5.5	2	1.5					8	7.0										
FY 2008 EQUIPMENT															0	0.5			2	1.2	2	1.7										
FY 2009 EQUIPMENT																						0.0										
TO COMPLETE																			3	2.7	3	2.7										
TOTAL	57	60.6	2	3.8	4	9.0	6	12.6	2	4.1	0	2.0	14	10.1	2	2.0			5	3.9	92	108.1										
INSTALLATION SCHEDULE:																																
	FY 2002 & Prior	FY 2003				FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				TC	TOTAL	
In	57	2	0	0	0	2	2	0	0	0	3	3	0	2	0	0	0	0	0	0	0	0	0	5	5	4	2	0	0	0	5	92
Out	57	0	2	0	0	0	2	2	0	0	0	3	3	0	2	0	0	0	0	0	0	0	0	3	3	3	3	2	2	0	5	92

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FY 2004/05 BUDGET PRODUCTION SCHEDULE, P-21							DATE FEBRUARY 2004													
APPROPRIATION/BUDGET ACTIVITY OTHER PROCUREMENT, NAVY:BA-4: RAM GMLS							Weapon System RAM							P-1 ITEM NOMENCLATURE: RAM RAM MK-49 GMLS						
		Production Rate			Procurement Leadtimes															
Item	Manufacturer's Name and Location					MSR	1-8-5	MAX	ALT Prior to Oct 1	ALT After Oct 1	Initial Mfg PLT	Reorder Mfg PLT	Total	Unit of Measure						
MK-49 GMLS	Raytheon Company, Louisville, KY					8	12	24			21	21								
SEARAM Systems	Raytheon Company, Louisville, KY					8	12	24			21	21								
ITEM / MANUFACTURER																				
FISCAL YEAR 2006																				
FISCAL YEAR 2007																				
2005																				
CALENDAR YEAR 2006																				
CALENDAR YEAR 2007																				
O C T O B E R N O V E M B E R D E C E M B E R J A N U A R Y F E B R U A R Y M A R C H A P R I L M A Y J U N E J U L Y A U G U S T S E P T E M B E R O C T O B E R N O V E M B E R D E C E M B E R J A N U A R Y F E B R U A R Y M A R C H A P R I L M A Y J U N E J U L Y A U G U S T S E P T E M B E R																				
RAM MK-49 GMLS (Multiyear)	04	N	2	0	2	1	1							0						
SEARAM Systems	06	N	8	0	8				A					8						
SEARAM Systems	07	N	8	0	8							A		8						
ITEM / MANUFACTURER																				
FISCAL YEAR 2008																				
FISCAL YEAR 2009																				
2007																				
CALENDAR YEAR 2008																				
CALENDAR YEAR 2009																				
O C T O B E R N O V E M B E R D E C E M B E R J A N U A R Y F E B R U A R Y M A R C H A P R I L M A Y J U N E J U L Y A U G U S T S E P T E M B E R O C T O B E R N O V E M B E R D E C E M B E R J A N U A R Y F E B R U A R Y M A R C H A P R I L M A Y J U N E J U L Y A U G U S T S E P T E M B E R																				
SEARAM Systems	06	N	8	0	8			1	2	2	1	2		0						
SEARAM Systems	07	N	8	0	8					2	1	2	1	2						
SEARAM Systems	08	N	2	0	2		A							2						
Remarks:																				