Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Navy

Appropriation/Budget Activity R-1 Program Element (Number/Name)

1319: Research, Development, Test & Evaluation, Navy I BA 7: Operational PE 0204460M I (U)Ground/Air Task Oriented Radar (G/ATOR)

Systems Development

COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	237.071	61.348	83.538	54.645	-	54.645	16.406	14.607	6.700	6.832	Continuing	Continuing
9C89: Marine Ground-Air Radar	237.071	61.348	83.538	54.645	-	54.645	16.406	14.607	6.700	6.832	Continuing	Continuing

Program MDAP/MAIS Code:

Project MDAP/MAIS Code(s): 386

### A. Mission Description and Budget Item Justification

The Ground/Air Task Oriented Radar (G/ATOR) is a multi-role, ground-based, expeditionary radar that replaces five legacy radar systems for the Marine Air Ground Task Force. It satisfies the Marine Air Command and Control System (G/ATOR Block 1) and the Ground Counter Fire/Counter Battery (G/ATOR Block 2) capabilities. The G/ATOR replaces the AN/TPS-63 and complements the AN/TPS-59 long range radar and will provide mobile, multi-functional, three-dimensional surveillance of air breathing targets, detection of cruise missiles and UAS, and the cueing of air defense weapons. The G/ATOR contributes to the extension of Sea Shield/Sea Strike by surveillance and detection of enemy air threats not seen by Navy sensors in the littorals by participating in a cooperative engagement network of sensors and shooters. G/ATOR enables Integrated Fire Control (IFC) and provides engage/fire on remote capability. G/ATOR surveillance coverage with IFC will provide unprecedented reach, volume, and precision in the execution of Operational Maneuver From The Sea, allowing Naval forces to project and sustain power deep inland.

B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	65.598	83.538	50.274	-	50.274
Current President's Budget	61.348	83.538	54.645	-	54.645
Total Adjustments	-4.250	0.000	4.371	-	4.371
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-2.519	0.000			
SBIR/STTR Transfer	-1.731	0.000			
<ul> <li>Program Adjustments</li> </ul>	0.000	0.000	4.259	-	4.259
<ul> <li>Rate/Misc Adjustments</li> </ul>	0.000	0.000	0.112	-	0.112

# **Change Summary Explanation**

RDT&E funding decreases \$28.893M throughout the total G/ATOR program from FY17 to FY18 with the completion of GB2 software baseline development, procurement of the majority of test assets and the migration of program management support from RDT&E to PMC funding as G/ATOR moves deeper into the Production and Deployment acquisition phase.

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**Date:** May 2017

Exhibit R-2A, RDT&E Project Ju	stification:	: FY 2018 N	lavy							Date: May 2017			
Appropriation/Budget Activity 1319 / 7					PE 020446	am Elemen 60M / (U)Gro Radar (G/AT	oùnd/Air Ta:		Number/Name) arine Ground-Air Radar				
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost	
9C89: Marine Ground-Air Radar	237.071	61.348	83.538	54.645	-	54.645	16.406	14.607	6.700	6.832	Continuing	Continuing	
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-			

Project MDAP/MAIS Code: 386

### A. Mission Description and Budget Item Justification

The Ground/Air Task Oriented Radar (G/ATOR) is a multi-role, ground-based, expeditionary radar that replaces five legacy radar systems for the Marine Air Ground Task Force. It satisfies the Marine Air Command and Control System (G/ATOR Block 1) and the Ground Counter Fire/Counter Battery (G/ATOR Block 2) capabilities. The G/ATOR replaces the AN/TPS-63 and complements the AN/TPS-59 long range radar and will provide mobile, multi-functional, three-dimensional surveillance of air breathing targets, detection of cruise missiles and UAS, and the cueing of air defense weapons. The G/ATOR contributes to the extension of Sea Shield/Sea Strike by surveillance and detection of enemy air threats not seen by Navy sensors in the littorals by participating in a cooperative engagement network of sensors and shooters. G/ATOR enables Integrated Fire Control (IFC) and provides engage/fire on remote capability. G/ATOR surveillance coverage with IFC will provide unprecedented reach, volume, and precision in the execution of Operational Maneuver From The Sea, allowing Naval forces to project and sustain power deep inland.

RDT&E funding decreases \$28.893M throughout the total G/ATOR program from FY17 to FY18 with the completion of GB2 software baseline development, procurement of the majority of test assets and the migration of program management support from RDT&E to PMC funding as G/ATOR moves deeper into the Production and Deployment acquisition phase.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2018	FY 2018	FY 2018
	FY 2016	FY 2017	Base	oco	Total
Title: G/ATOR Contractor Technical, Development Engineering/Block 1	12.067	18.693	16.886	0.000	16.886
Articles:	-	-	_	-	-
FY 2016 Accomplishments:					
-Continue Program Protection planning, EDM-1 Refurbishment, Reliability Improvements, Transition to					
Production, and Producibility Enhancements in support of GaN Technical Insertion.					
-Initiated Program Protection efforts.					
FY 2017 Plans:					
-Continue Program/Technology Protection efforts, Reliability Improvements, Transition to Production, and					
Producibility Enhancements in support of GaN Technical Insertion.					
-Complete GaN Transition developmental efforts and EDM-1 Refurbishment.					
FY 2018 Base Plans:					

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R-1 Program Element (Number/l PE 0204460M I (U)Ground/Air Tas Oriented Radar (G/ATOR)		<b>Project (Number/Name)</b> 9C89 <i>I Marine Ground-Air Radar</i>			
ntities in Each)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
2 Articles:	18.488 -	22.355	0.000	0.000	0.000
Articles:	11.892 -	14.100	13.751 -	0.000	13.75 <sup>2</sup>
m Office. Functions include technical es to include; Systems Architecture, Radar formation Assurance, Human Systems and the coordination necessary to enable v" kill chain to ensure platform/software System's Production phase as it is the					
T S e e e e e e e e e e e e e e e e e e	oriented Radar (G/ATOR)  antities in Each)  ments, Transition to Production and sthat address corrective actions during  2  Articles:	Articles:  Articles:  Perently governmental support functions am Office. Functions include technical es to include; Systems Architecture, Radar formation Assurance, Human Systems and the coordination necessary to enable w' kill chain to ensure platform/software System's Production phase as it is the	Articles:  Articles:	Oriented Radar (G/ATOR)  antities in Each)  Preserved actions during  Articles:  Article	Articles:  Articles:

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Navy				Date: May	2017		
1319 / 7 PE (	<b>Program Element (Number/</b> D204460M <i>I (U)Ground/Air Tas</i> ented Radar (G/ATOR)	•		roject (Number/Name) C89 I Marine Ground-Air Radar			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Eac	ch)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	
-Continued Government support from the following activities to enable program exec Dahlgren; NSWC Crane; NSWC Pt Hueneme; NAWC-AD China Lake; NSWC Indian DTIC; ONR; WNY and TYAD.							
FY 2017 Plans: -Continue Government support from the following activities to enable program execu NSWC Dahlgren; NSWC Crane; NSWC Pt Hueneme; NAWC-AD China Lake; NSW NAWCWD Pt Mugu; DTIC and CECOM.							
FY 2018 Base Plans: -Continue Government support from the following activities to enable program exect NSWC Dahlgren; NSWC Crane; NSWC Pt Hueneme; NAWC-AD China Lake; NSW NAWCWD Pt Mugu; DTIC and CECOM.							
FY 2018 OCO Plans: N/A							
Title: G/ATOR: Management Services & Travel	Articles:	3.531 -	3.250	0.766 -	0.000	0.766 -	
<b>FY 2016 Accomplishments:</b> -Continued to support engineering, management & logistics program office support system development and Marine User RAM Opportunities.	and travel in support of						
FY 2017 Plans: -Continue to support engineering, management & logistics program office support as system development and development tests DT1C/DT1D and G/ATOR Block 1 (GB							
FY 2018 Base Plans: -Continue to support engineering, management & logistics program office support as support of system development and development tests DT1D/OA and DTIE/IOT&E							
FY 2018 OCO Plans: N/A							
Title: G/ATOR: Test and Evaluation	Articles:	15.370 -	25.140	23.242	0.000	23.242	
FY 2016 Accomplishments:							

PE 0204460M: (U)Ground/Air Task Oriented Radar (G/ATO...

Navy

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Exhibit B 24 BDT9E Brainet lus	tification: EV	2019 Nova							Date: May	, 2017		
Exhibit R-2A, RDT&E Project Jus Appropriation/Budget Activity 1319 / 7	uncation: FY	2016 Navy		PE 02		nent (Number) Ground/Air			ct (Number/Name) I Marine Ground-Air Radar			
B. Accomplishments/Planned Pro	ograms (\$ in I	Millions, Art	icle Quantit	ties in Each	).		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	
-Continued planning for G/ATOR B -Continued participation in WTI/CA support DIVEX user eventsInitiated planning for G/ATOR Bloc-Initiated procurement of ammunition Development Test (DT1D/OA).	C2S in addition ck 2 (GB 2) De	n to DIVEX o	events. Includes (DT1D)	des procurer and Operation	ment of amm onal Assessr	nunition to ment (OA).						
FY 2017 Plans: -Continue preparation for both G/A (OA) and DT1E and IOT&EComplete planning for both G/ATC Development Test (DT1D)Initiate both G/ATOR Block 1 (GB Test (DT1D)Complete procurement of ammuni Development Test (DT1D/OA)Initiate procurement of ammunitior -Initiate G/ATOR Block 1 (GB 1) Opensional Control of the c	DR Block 1 (GE 1) Developme tion (Rockets, n (Rockets, Mo	3 1) Develop ntal Test (D <sup>-</sup> Mortars and ortars and Ar	mental Test Γ1C) and G/ Artillery) to tillery) to sup	(DT1C), and ATOR Block support G/A	I G/ATOR BI 2 (GB 2) De	lock 2 (GB 2) evelopment						
FY 2018 Base Plans: -Complete G/ATOR Block 1 (GB 1) (DT1D/OA) and planning for DT1E/ -Complete procurement of ammuni -Initiate DT1E/IOT&E	/IOT&E.					opment Test						
FY 2018 OCO Plans: N/A												
			Accomplis	hments/Plar	nned Progra	ams Subtota	ls 61.348	83.538	54.645	0.000	54.645	
C. Other Program Funding Sumn	• .	<del></del>	FY 2018	FY 2018	FY 2018					Cost To		
Line Item • RDTE/0604504N/0718: AIR CONTROL MATCALS	<b>FY 2016</b> 1.405	<b>FY 2017</b> 0.314	<u>Base</u> 11.508	<u>000</u>	<u>Total</u> 11.508	<b>FY 2019</b> 6.578	<b>FY 2020</b> 6.854	<b>FY 2021</b> 3.266		<u>Complete</u> Continuing		

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PE 0204460M: (U)Ground/Air Task Oriented Radar (G/ATO...

Exhibit R-2A, RDT&E Project Just	stification: FY	2018 Navy							Date: Ma	y 2017	
Appropriation/Budget Activity 1319 / 7				PE 02	04460M / (U	<b>nent (Numb</b> I)Ground/Air	•	, ,	Number/Na arine Grour	i <b>me)</b> nd-Air Radar	
C Other Broarem Funding Sum	manı (¢ in Milli	one)		Orient	ed Radar (G	S/ATOR)					
C. Other Program Funding Sumi	nary (\$ in willi	<u>ons)</u>	<b>5</b> 1/ 00 / 0	<b>5</b> )/ 00/10	<b>5</b> 1/ 0040						
			FY 2018	FY 2018	FY 2018					Cost To	1
<u>Line Item</u>	FY 2016	FY 2017	<u>Base</u>	<u>oco</u>	<u>Total</u>	FY 2019	FY 2020	FY 2021	FY 2022	<b>Complete</b>	Total Cost
• PMC/7000: INITIAL	1.572	11.193	16.640	-	16.640	13.175	13.381	13.656	13.945	Continuing	Continuing
SPARES-G/ATOR										•	
• PMC/4655: <i>GRND/AIR</i>	125.597	248.258	139.167	_	139.167	220.780	270.993	248.694	218.464	91.396	1,651.687

#### Remarks

### D. Acquisition Strategy

TASK ORIENTED RADAR

The Ground/Air Task Oriented Radar (G/ATOR) is a multi-role, ground-based, expeditionary radar that replaces five legacy radar systems and provides the USMC Air Defense and Air Surveillance (AD/AS) (G/ATOR Block 1), Counterfire/Targeting (G/ATOR Block 2), and Air Traffic Control (G/ATOR Block 4) capability. The AD/AS (GB1) development effort was competitively awarded in 2007 and completed Milestone C in FY14. Development of the Counterfire/Targeting (GB2) capability was initiated in FY10 with a RFI to industry, followed by a Business Case Analysis (BCA) to select the most cost effective procurement strategy. The results of the BCA indicated that a sole source contract to Northrup Grumman Electronic Systems (NGES) was the most cost effective solution. Thus, the GB2 development contract awarded in August FY15.

In FY13, a BCA was performed to determine the optimum strategy for development of the Air Traffic Control (GB4) mission with a developmental contract to be awarded in FY16 per the Navy Air Control (PE 0604504N) budget. Both the AD/AS (GB1) and Air Traffic Control (GB4) capabilities require JROCM mandated Identification Friend or Foe (IFF) enhancements.

### **E. Performance Metrics**

N/A

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy

Appropriation/Budget Activity R-1 Program Element (Number/Name) Proj

1319 / 7 PE 0204460M / (U)Ground/Air Task
Oriented Radar (G/ATOR)

Project (Number/Name) 9C89 I Marine Ground-Air Radar

Product Developmen	nt (\$ in M	illions)		FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
G/ATOR BLOCK 1 DEVELOPMENT	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION: LINTHICUM HEIGHTS, MD	156.883	12.067	Dec 2015	18.693	Dec 2016	16.886	Dec 2017	-		16.886	Continuing	Continuing	Continuing
G/ATOR BLOCK 2 SOFTWARE DEVELOPMENT	C/CPFF	NORTHROP GRUMMAN SYSTEMS CORPORATION: LINTHICUM HEIGHTS, MD	19.920	18.488	Mar 2016	22.355	Mar 2017	0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	176.803	30.555		41.048		16.886		-		16.886	-	-	-

#### Remarks

The funding decreases \$24.162M from FY17 to FY18 as GB2 development is completed. Award dates reflected are the actual obligation date for the first incremental award. The Northrop Grumman Product Development contract is incrementally funded throughout the fiscal year.

Support (\$ in Million	ıs)			FY 2	2016	FY 2	2017		2018 ise	FY 2		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
FFRDC TECHNICAL SUPPORT	FFRDC	MITRE : BOSTON, MA	3.503	0.735	Dec 2015	0.754	Dec 2016	0.726	Dec 2017	-		0.726	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NSWC DAHLGREN : DAHLGREN, VA	24.884	6.637	Dec 2015	6.665	Dec 2016	6.425	Dec 2017	-		6.425	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NSWC CRANE : CRANE, IN	0.537	0.248	Dec 2015	0.264	Dec 2016	0.276	Dec 2017	-		0.276	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NSWC PHD : DAM NECK, VA	1.511	0.759	Dec 2015	0.650	Dec 2016	0.578	Dec 2017	-		0.578	Continuing	Continuing	Continuing
NAVAIR TECHNICAL SUPPORT	WR	NAWC AD : CHINA LAKE, CA	0.015	0.020	Jan 2016	0.020	Dec 2016	0.020	Dec 2017	-		0.020	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy

R-1 Program Element (Number/Name)

Project (Number/Name)

Appropriation/Budget Activity 1319 / 7

PE 0204460M I (U)Ground/Air Task Oriented Radar (G/ATOR) 9C89 I Marine Ground-Air Radar

**Date:** May 2017

Support (\$ in Million	s)			FY 2	2016	FY 2	2017	FY 2 Ba	2018 ise	FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
NAVAIR TECHNICAL SUPPORT	WR	NAVAIR : PAX RIVER, MD	0.000	0.000		2.733	Dec 2016	2.761	Dec 2017	-		2.761	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NWSC-IH : INDIAN HEAD, MD	0.000	0.318	Jan 2016	0.305	Dec 2016	0.345	Dec 2017	-		0.345	Continuing	Continuing	Continuin
AIMS TECHNICAL SUPPORT	WR	AIMS : ROBINS AFB, GA	0.000	0.000		0.250	Dec 2016	0.250	Dec 2017	-		0.250	Continuing	Continuing	Continuing
NAWCWD TECHNICAL SUPPORT	WR	NAWCWD : PT MUGU, CA	0.000	0.212	Jun 2016	0.665	Dec 2016	0.675	Dec 2017	-		0.675	Continuing	Continuing	Continuin
TYAD TECHNICAL SUPPORT	WR	CECOM: TOBYHANNA, PA	0.000	1.773	Dec 2015	0.000		0.000		-		0.000	0.000	1.773	-
DTIC TECHNICAL SUPPORT	WR	DTIC : FT BELVOIR, VA	0.000	0.140	Mar 2016	0.260	Dec 2016	0.280	Dec 2017	-		0.280	Continuing	Continuing	Continuing
ONR TECHNICAL SUPPORT	WR	ONR : ARLINGTON, VA	0.000	0.935	Jan 2016	0.000		0.000		-		0.000	0.000	0.935	-
NAVSEA TECHNICAL SUPPORT	WR	NAVSEA : WAHINGTON NAVY YARD, DC	0.000	0.115	Dec 2015	0.000		0.000		-		0.000	0.000	0.115	-
AFATDS TECHNICAL SUPPORT	WR	CECOM: ABERDEEN, MD	0.000	0.000		1.534	Dec 2016	1.415	Dec 2017	-		1.415	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	N/A : N/A	1.266	0.000		0.000		0.000		-		0.000	0.000	1.266	-
		Subtotal	31.716	11.892		14.100		13.751		-		13.751	-	-	-

#### Remarks

Award dates reflected are the actual obligation date for the first incremental award. Most activities, excluding MITRE are incrementally funded throughout the fiscal year.

Test and Evaluation	(\$ in Milli	ons)		FY 2	2016	FY 2	2017	FY 2 Ba	2018 ise		2018 CO	FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PRIME CONTRACTOR TEST SUPPORT	C/CPIF	NORTHROP GRUMMAN	1.561	3.581	Dec 2015	3.409	Dec 2016	4.102	Dec 2017	-		4.102	Continuing	Continuing	Continuing

PE 0204460M: *(U)Ground/Air Task Oriented Radar (G/ATO...* Navy

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy

Date: May 2017

Appropriation/Budget Activity R-1 Program Element (Number/Name)

1319 / 7

PE 0204460M / (U)Ground/Air Task
Oriented Radar (G/ATOR)

**Project (Number/Name)** 9C89 *I Marine Ground-Air Radar* 

Test and Evaluation	(\$ in Millions)			FY 2	2016	FY 2	2017	FY 2 Ba	2018 ise		2018 CO	FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
		SYSTEMS CORPORATION : LINTHICUM HEIGHTS, MD													
TEST SUPPORT	WR	NSWC DAHLGREN : DAHLGREN, VA	0.440	1.778	Dec 2015	3.120	Dec 2016	3.416	Dec 2017	-		3.416	Continuing	Continuing	Continuin
TEST PLANNING/ SUPPORT	MIPR	AMRDEC : REDSTONE ARSENAL, AL	4.164	2.452	Dec 2015	0.310	Dec 2016	0.000		-		0.000	Continuing	Continuing	Continuin
TEST PLANNING/ SUPPORT	MIPR	ARDEC : PICCATINNY, NJ	0.000	0.250	Jun 2016	0.000		0.000		-		0.000	0.000	0.250	-
TEST SUPPORT	WR	AC2SN PEO LS : QUANTICO, VA	0.000	1.000	Feb 2016	0.623	Dec 2016	0.595	Dec 2017	-		0.595	0.000	2.218	-
TEST SUPPORT	MIPR	JTIC : FT HUACHUCA, AZ	0.148	0.100	Dec 2015	0.062	Dec 2016	0.117	Dec 2017	-		0.117	Continuing	Continuing	Continuin
TEST PLANNING/ SUPPORT	Various	NSWC- FALLBROOK : CRANE, IN	3.184	1.233	Dec 2015	2.692	Dec 2016	2.884	Dec 2017	-		2.884	Continuing	Continuing	Continuin
TEST EVALUATION SUPPORT	C/CPIF	MCOTEA : QUANTICO, VA	1.880	0.000		0.080	Apr 2017	0.107	Dec 2017	-		0.107	Continuing	Continuing	Continuin
TEST SUPPORT	Various	NSWC CORONA : CORONA, CA	1.490	0.812	Dec 2015	1.456	Dec 2016	1.540	Dec 2017	-		1.540	Continuing	Continuing	Continuin
TEST PLANNING/ SUPPORT	Various	NSWC PHD : DAM NECK, VA	3.455	1.380	Dec 2015	1.897	Dec 2016	1.926	Dec 2017	-		1.926	Continuing	Continuing	Continuin
TEST ASSET PROCUREMENT	C/CPFF	MCSC : QUANTICO, VA	1.344	1.325	Dec 2015	9.221	Dec 2016	1.019	Dec 2017	-		1.019	0.000	12.909	-
TEST ASSET PROCUREMENT	MIPR	PEO AMMO : PICATINNY, NJ	0.000	0.859	Feb 2016	0.000		0.000		-		0.000	0.000	0.859	-
TEST PLANNING/ SUPPORT	WR	JSF PMO : WASHINGTON , DC	0.000	0.000		0.000		0.770	Dec 2017	-		0.770	Continuing	Continuing	Continuin
TEST PLANNING/ SUPPORT	WR	NAWCWD : PT MUGU, CA	0.000	0.000		0.000		0.343	Dec 2017	-		0.343	Continuing	Continuing	Continuin

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy

Appropriation/Budget Activity
1319 / 7

R-1 Program Element (Number/Name)
PE 0204460M / (U)Ground/Air Task

Oriented Radar (G/ATOR)

**Project (Number/Name)** 9C89 *I Marine Ground-Air Radar* 

Test and Evaluation	(\$ in Milli	ons)		FY 2	2016	FY 2	2017	FY 2 Ba	2018 ise	FY 2		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
TEST PLANNING/ SUPPORT	WR	NAVSEA/PMR-51: WASHINGTON, DC	0.000	0.000		0.000		0.540	Dec 2017	-		0.540	Continuing	Continuing	Continuing
TEST PLANNING/ SUPPORT	WR	NAVAIR : PAX RIVER, MD	0.000	0.000		0.000		0.766	Dec 2017	-		0.766	Continuing	Continuing	Continuin
TEST OPERATOR SUPPORT	Various	MARFOR : Various	0.893	0.049	Dec 2015	0.240	Dec 2016	0.250	Dec 2017	-		0.250	Continuing	Continuing	Continuin
TEST RANGE SUPPORT	WR	YPG : YUMA, AZ	0.000	0.551	Jun 2016	0.440	Dec 2016	1.390	Dec 2017	-		1.390	Continuing	Continuing	Continuin
TEST RANGE SUPPORT	WR	NAWCWD : PT MUGU, CA	0.000	0.000		0.000		1.765	Dec 2017	-		1.765	Continuing	Continuing	Continuin
TEST FACILITY SUPPORT	WR	SCSC : WALLOPS IS, MD	0.000	0.000		0.465	May 2017	0.372	Dec 2017	-		0.372	Continuing	Continuing	Continuin
TEST FACILITY SUPPORT	WR	MCAS YUMA : YUMA, AZ	0.000	0.000		0.810	May 2017	0.825	Dec 2017	-		0.825	0.000	1.635	-
TEST FACILITY SUPPORT	WR	MCAS CPNC : ATLANTIC FIELD, NC	0.000	0.000		0.315	May 2017	0.000		-		0.000	0.000	0.315	-
TEST FACILITY SUPPORT	WR	MCB 29 PALMS : 29 PALMS, CA	0.000	0.000		0.000		0.515	Dec 2017	-		0.515	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	N/A : N/A	4.272	0.000		0.000		0.000		-		0.000	0.000	4.272	-
		Subtotal	22.831	15.370		25.140		23.242		-		23.242	-	-	-

#### Remarks

Overall, the funding decrease of \$1.898M is due to the majority of the test assets being ordered in FY17 to support both DT1D/OA test in late FY17/FY18 and DT1E/IOT&E test in mid-FY18/early FY19. Increase in FY18 efforts for both Prime Contractor Test Support (\$0.693M) and for test range support at YPG, Yuma AZ (\$0.950M), Pt. Mugu, CA (\$1.765M) and 29 Palms, CA (\$0.515M) are required to support both DT1D/OA & DT1E/IOT&E testing. Program technical supports increases for both NSWC-DD (\$0.296M) and NSWC-Fallbrook (\$0.192M) are necessary to support DT1D and DT1E/OA testing that was previously being supported by AMRDEC and ARDEC. Additionally, increases for new support activities and test ranges in FY18 also help support meeting DOT&E required testing of Signature Controlled Targets above the collateral classification of the G/ATOR system.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Navy **Date:** May 2017

**Appropriation/Budget Activity** R-1 Program Element (Number/Name) **Project (Number/Name)** 1319 / 7

PE 0204460M / (U)Ground/Air Task Oriented Radar (G/ATOR)

9C89 I Marine Ground-Air Radar

Management Servic	es (\$ in M	illions)		FY	2016	FY 2	2017		2018 ise	FY 2		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
MANAGEMENT SERVICES	C/FP	MCSC : MCSC - QUANTICO, VA	4.871	3.256	Nov 2015	2.950	Nov 2016	0.471	Nov 2017	-		0.471	Continuing	Continuing	Continuing
TRAVEL	Various	MCSC : QUANTICO, VA	0.850	0.275	Sep 2016	0.300	Sep 2017	0.295	Sep 2018	-		0.295	Continuing	Continuing	Continuing
		Subtotal	5.721	3.531		3.250		0.766		-		0.766	-	-	-

#### Remarks

The funding decreases of \$2.484M from FY17 to FY18 with the migration of \$2.479M program management support from RDT&E to PMC funding as G/ATOR moves deeper into the Production and Deployment acquisition phase. Award dates reflected are the actual obligation date for the first incremental award. Each activity is incrementally funded throughout the fiscal year.

	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals	237.071	61.348	83.538	54.645	-	54.645	-	-	-

#### Remarks

The funding decreases of \$28.893M from FY17 to FY18 with the completion of GB2 development, procurement of the majority of test assets and the continued movement of program management support from RDT&E to PMC funding as G/ATOR moves deeper into the Production and Deployment acquisition phase.

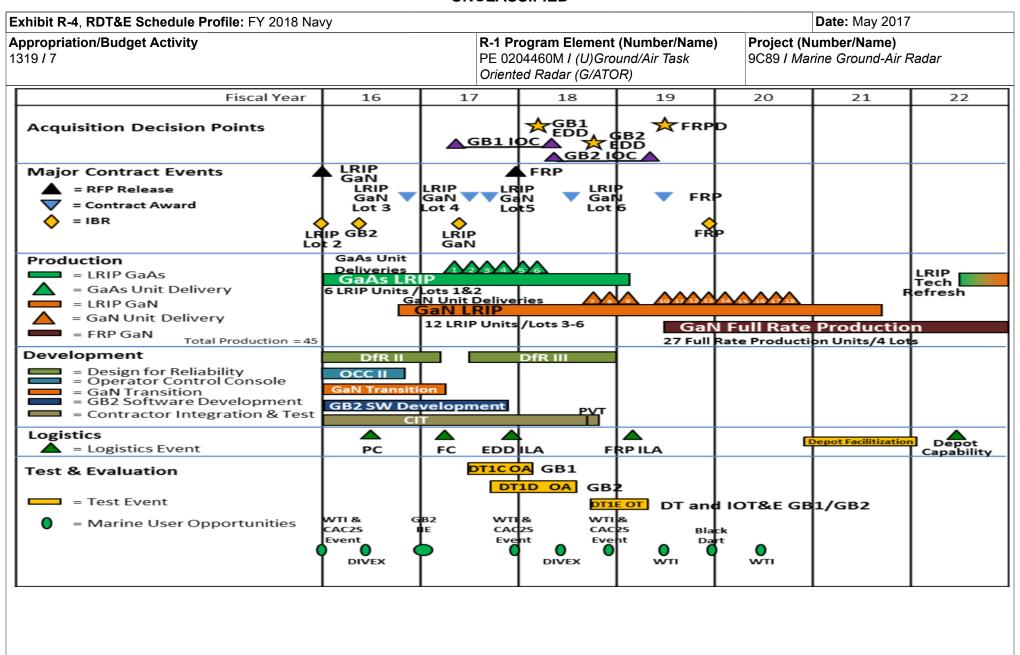


Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy			Date: May 2017
'	, ,	- 3 (	umber/Name) rine Ground-Air Radar

# Schedule Details

	Sta	art	End		
Events by Sub Project	Quarter	Year	Quarter	Year	
Proj 9C89					
Gallium Arsenide (GaAs) Radar: GB1 Developmental Test (DT1C)	3	2017	4	2017	
Gallium Arsenide (GaAs) Radar: GB1 Operational Assessment (OA)	4	2017	1	2018	
Gallium Arsenide (GaAs) Radar: GB1 Radar IOC	2	2017	2	2018	
Gallium Arsenide (GaAs) Radar: LRIP Tech Refresh	3	2022	4	2022	
Gallium Nitride (GaN) Radar: LRIP Lot 3 Contract Award	4	2016	4	2016	
Gallium Nitride (GaN) Radar: GaN Transition	1	2016	1	2017	
Gallium Nitride (GaN) Radar: LRIP Lot 4 Contract Award	2	2017	2	2017	
Gallium Nitride (GaN) Radar: GB1/GB2 Developmental Test (DT1E)	3	2018	1	2019	
Gallium Nitride (GaN) Radar: GaN PVT	4	2018	4	2018	
Gallium Nitride (GaN) Radar: GB1/GB2 IOTE	1	2019	2	2019	
Gallium Nitride (GaN) Radar: LRIP Lot 5 Contract Award	3	2017	3	2017	
Gallium Nitride (GaN) Radar: LRIP Lot 6 Contract Award	2	2018	2	2018	
Gallium Nitride (GaN) Radar: FRPD	3	2019	3	2019	
Gallium Nitride (GaN) Radar: FRP	3	2019	4	2022	
Gallium Nitride (GaN) Radar: LRIP Tech Refresh	3	2022	4	2022	
Ground Weapons Locating Radar (GWLR): GB2 Software Development	1	2016	4	2017	
Ground Weapons Locating Radar (GWLR): GB2 Developmental Test (DT1D)	4	2017	1	2018	
Ground Weapons Locating Radar (GWLR): GB2 Operatonal Assessment (OA)	2	2018	3	2018	
Ground Weapons Locating Radar (GWLR): GB2 IOC	2	2018	2	2019	
Logistics: EDD ILA	4	2017	4	2017	
Logistics: FRP ILA	1	2019	1	2019	

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Navy		Date: May 2017	
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	- , (	umber/Name)
1319 / 7	PE 0204460M I (U)Ground/Air Task	9C89 / Mar	rine Ground-Air Radar
	Oriented Radar (G/ATOR)		

	St	art	End		
Events by Sub Project	Quarter	Year	Quarter	Year	
Logistics: Depot Facilitzation	4	2020	1	2022	
Logistics: Depot Capability	2	2022	2	2022	