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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0204460M I (U)Ground/Air Task Oriented Radar (G/ATOR)							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	377.279	53.605	44.579	23.891	-	23.891	10.524	12.176	12.302	12.547	Continuing	Continuing
9C89: Marine Ground-Air Radar	377.279	53.605	44.579	23.891	-	23.891	10.524	12.176	12.302	12.547	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 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total				
Previous President's Budget				54.645	45.029	23.927	-	23.927				
Current President's Budget				53.605	44.579	23.891	-	23.891				
Total Adjustments				-1.040	-0.450	-0.036	-	-0.036				
• Congressional General Reductions				-	-0.450							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-0.974	0.000							
• Rate/Misc Adjustments				0.000	0.000	-0.036	-	-0.036				
• Congressional General Reductions				-0.066	-	-	-	-				
Adjustments												
Change Summary Explanation												
RDT&E funding decreases \$20.688M from FY19 to FY20 with the completion of DT1E/IOT&E in FY19.												

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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 / Marine Ground-Air Radar			
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
9C89: Marine Ground-Air Radar	377.279	53.605	44.579	23.891	-	23.891	10.524	12.176	12.302	12.547	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 Unmanned Aerial Systems (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 an 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 \$20.688M from FY19 to FY20 with the completion of DT1E/IOT&E in FY19.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: G/ATOR Contractor Technical, Development Engineering/Block 1 Articles:								16.886	18.305	12.930	0.000	12.930
								-	-	-	-	-
FY 2019 Plans:												
-Continue Electronic Protection/Radar Survivability, and Reliability Improvements to include decoys and radar emplacement/displacement time reducing the warfighter's exposure to potential hostile threats in a Peer/Near Peer Competitor Environment. Transition to Production and Producibility Enhancements to include a Processor Tech Refresh and Engineering Change Proposals that address corrective actions identified during DT1D/OA and DT1E/IOT&E testing.												
FY 2020 Base Plans:												
-Will continue Processor Tech Refresh, Electronic Protection, and Radar Survivability efforts including Decoys.												
-Will complete radar emplacement/displacement time improvements to reduce the warfighter's exposure to potential hostile threats in a Peer/Near Peer Competitor Environment.												
FY 2020 OCO Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
N/A						
FY 2019 to FY 2020 Increase/Decrease Statement: Funding decreases \$5.375M from FY19 to FY20 as G/ATOR is in FRP while continuing to focus on improvements designed to improve Radar Survivability in a Peer/Near-Peer Competitor environment.						
Title: G/ATOR Contractor Technical, Development Engineering/Block 2		0.000	6.199	0.000	0.000	0.000
Articles:		-	-	-	-	-
FY 2019 Plans: Funding initiates and completes software development to support a Composite Tracking Network (CTN) interface for the GB2 mission profile that will reduce Warfighter Air Surveillance gaps on the battlefield by providing tracks for both enemy aircraft and unmanned aerial vehicles.						
FY 2020 Base Plans: N/A						
FY 2020 OCO Plans: N/A						
FY 2019 to FY 2020 Increase/Decrease Statement: Funding decreases \$6.199M from FY19 to FY20 as the software development portion of a CTN interface for the GB2 mission profile is completed with FY19 funding.						
Title: Government Technical Support		13.751	9.095	6.206	0.000	6.206
Articles:		-	-	-	-	-
Description: The Government Technical Support Team provides primarily inherent governmental support functions, including Federally Funded Research and Development Centers (FFRDCs), adding depth, breadth, and expertise not resident in the G/ATOR Program Office. Functions include technical planning as well as execution and analysis across multi-disciplinary competencies to include: Systems Architecture, Radar Software Engineering, Radar Systems Engineering, Radar Decoy Engineering, Cyber Security/Information Assurance, Human Systems Integration, Safety, Program Protection, and Configuration Management. It also includes the coordination necessary to enable a System of Systems interface with other programs in the "Cue to Slew" kill chain such as AC2SN, CTN & AFATDS, ultimately ensuring platform/software compatibility. Technical Team support is vital during the G/ATOR System's Production phase as it is the Government's responsibility to ensure that G/ATOR meets Government Performance Specification Verification.						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
FY 2019 Plans: Continue Government support from the following activities to enable program execution: MITRE; NAVAIR; NSWC Dahlgren; NSWC Crane; NSWC Pt Hueneme; NAWC-AD China Lake; NSWC Indian Head; AIMS; NAWCWD Pt Mugu; DTIC; AC2SN PMO Quantico and AMERDEC Redstone Arsenal.						
FY 2020 Base Plans: Will continue Government support from the following activities to enable program execution: MITRE; NAVAIR; NSWC Dahlgren; NSWC Crane; NAWC-AD China Lake; NSWC Indian Head; AIMS; NAWCWD Pt Mugu; DTIC and AMERDEC Redstone Arsenal.						
FY 2020 OCO Plans: N/A						
FY 2019 to FY 2020 Increase/Decrease Statement: Government Technical Support funding decreases \$2.889M from FY19 to FY20 as DT1E/IOT&E testing efforts are completed in FY19.						
Title: G/ATOR: Test and Evaluation		22.202	10.690	4.470	0.000	4.470
Articles:		-	-	-	-	-
FY 2019 Plans: Complete DT1E/IOT&E.						
Perform first DOT&E required engineering test event for Signature Controlled Targets.						
FY 2020 Base Plans: Will perform second DOT&E required engineering test event for Signature Controlled Targets.						
FY 2020 OCO Plans: N/A						
FY 2019 to FY 2020 Increase/Decrease Statement: T&E funding decreases \$6.220M from FY19 to FY20 as DT1E1 and DT1E2 integrated DT/IOT&E test events are completed in FY19.						
Title: G/ATOR: Management Services & Travel		0.766	0.290	0.285	0.000	0.285
Articles:		-	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
<i>FY 2019 Plans:</i> Provide program office travel in support of system development, DT1E/IOT&E, and a DOT&E requested first engineering test event tracking Signature Controlled Targets. <i>FY 2020 Base Plans:</i> Will provide program office travel in support of system development and a DOT&E requested second engineering test event tracking Signature Controlled Targets. <i>FY 2020 OCO Plans:</i> N/A <i>FY 2019 to FY 2020 Increase/Decrease Statement:</i> Travel funding decreases of \$0.005M from FY19 to FY20.					
Accomplishments/Planned Programs Subtotals	53.605	44.579	23.891	0.000	23.891

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

Line Item	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
• RDTE/0604504N/0718: AIR CONTROL MATCALS	5.100	5.488	6.648	-	6.648	3.111	2.642	2.683	2.736	Continuing	Continuing
• PMC/7000: INITIAL SPARES-G/ATOR	11.417	11.611	13.235	-	13.235	13.506	13.806	14.101	14.383	Continuing	Continuing
• PMC/4655: GROUND/AIR TASK ORIENTED RADAR	134.726	220.416	273.022	-	273.022	284.592	298.024	19.307	19.693	58.634	1,644.912

Remarks

D. Acquisition Strategy

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. GB1 achieved Initial Operational Capability (IOC) in February 2018. 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 Mission Systems (NGMS) was the most cost effective solution. Thus, the GB2 development contract awarded in August FY15. GB2 will achieve IOC in February 2019. A Full Rate Production (FRP) Contract with NGMS is on schedule for award in June 2019 and a Systems Engineering and Logistics Support Contract award is planned in 1QFY20. G/ATOR enhancements include

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<p>a Composite Tracking Network (CTN) for GB2, Processor Tech Refresh, a three-phased Electronic Protection effort, Decoys and Radar Emplacement/Displacement improvements which are all necessary to increase G/ATOR's survivability in a Peer/Near Peer competitor Environment. An LRIP Tech Refresh will upgrade the Gallium Arsenide (GaAS) Transmit and Receive Modules to Gallium Nitride (GaN) in the first six (6) LRIP Radar Systems as well as implement the upgrade of the electronic processors in all fifteen (15) LRIP Radar Systems.</p> <p><u>E. Performance Metrics</u></p> <p>Earned Value Management Integrated Master Schedule OSD Financial Benchmarks Technical Performance Measures Reliability: Hardware and Software</p>		

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Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
G/ATOR BLOCK 1 DEVELOPMENT	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION : LINTHICUM HEIGHTS, MD	184.715	16.886	Dec 2017	18.305	Dec 2018	12.930	Dec 2019	-		12.930	Continuing	Continuing	Continuing
G/ATOR BLOCK 2 SOFTWARE DEVELOPMENT	C/CPFF	NORTHROP GRUMMAN SYSTEMS CORPORATION : LINTHICUM HEIGHTS, MD	60.763	0.000		6.199	Dec 2018	0.000		-		0.000	0.000	66.962	-
Subtotal			245.478	16.886		24.504		12.930		-		12.930	Continuing	Continuing	N/A
Remarks Developmental funding decreases \$11.574M from FY19 to FY20 as G/ATOR is in Full Rate Production (FRP) while continuing to focus on improvements including Radar Emplacement/Displacement, Processor Tech Refresh, Program/Technology Protection and Radar Survivability efforts all designed to improve Radar Survivability in a Peer, Near-Peer Competitor environment. 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 Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
FFRDC TECHNICAL SUPPORT	FFRDC	MITRE : BOSTON, MA	5.282	0.726	Dec 2017	0.726	Dec 2018	0.725	Dec 2019	-		0.725	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NSWC DAHLGREN : DAHLGREN, VA	38.715	6.425	Dec 2017	2.016	Dec 2018	1.561	Dec 2019	-		1.561	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NSWC CRANE : CRANE, IN	1.049	0.276	Dec 2017	0.278	Dec 2018	0.280	Dec 2019	-		0.280	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NSWC PHD : DAM NECK, VA	2.920	0.578	Dec 2017	0.000		0.000		-		0.000	0.000	3.498	-
NAVAIR TECHNICAL SUPPORT	WR	NAWC AD : CHINA LAKE, CA	0.055	0.020	Dec 2017	0.020	Dec 2018	0.020	Dec 2019	-		0.020	Continuing	Continuing	Continuing

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Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
NAVAIR TECHNICAL SUPPORT	WR	NAVAIR : PAX RIVER, MD	1.698	2.761	Dec 2017	1.788	Dec 2018	0.826	Dec 2019	-		0.826	Continuing	Continuing	Continuing
NSWC TECHNICAL SUPPORT	WR	NWSC-IH : INDIAN HEAD, MD	0.623	0.345	Dec 2017	0.350	Dec 2018	0.355	Dec 2019	-		0.355	Continuing	Continuing	Continuing
AIMS TECHNICAL SUPPORT	WR	AIMS : ROBINS AFB, GA	0.250	0.250	Dec 2017	0.255	Dec 2018	0.260	Dec 2019	-		0.260	Continuing	Continuing	Continuing
NAWCWD TECHNICAL SUPPORT	WR	NAWCWD : PT MUGU, CA	0.877	0.675	Dec 2017	0.338	Dec 2018	0.335	Dec 2019	-		0.335	Continuing	Continuing	Continuing
DTIC TECHNICAL SUPPORT	WR	DTIC : FT BELVOIR, VA	0.400	0.280	Dec 2017	0.280	Dec 2018	0.280	Dec 2019	-		0.280	Continuing	Continuing	Continuing
AFATDS TECHNICAL SUPPORT	WR	CECOM : ABERDEEN, MD	0.000	1.415	Dec 2017	0.000		0.000		-		0.000	0.000	1.415	-
AMERDEC TECHNICAL SUPPORT	WR	AMERDEC : REDSTONE ARSENAL , AL	0.000	0.000		1.049	Dec 2018	1.564	Dec 2019	-		1.564	0.000	2.613	-
CTN TECHNICAL SUPPORT	WR	AC2SN PMO PEO LS : QUANTICO, VA	0.000	0.000		1.995	Dec 2018	0.000		-		0.000	0.000	1.995	-
Prior Years Cumulative Funding	Various	N/A : N/A	4.089	0.000		0.000		0.000		-		0.000	0.000	4.089	-
Subtotal			55.958	13.751		9.095		6.206		-		6.206	Continuing	Continuing	N/A
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. The (\$0.515M) increase in AMERDEC Technical Support completes Radar Decoy Engineering/Technical Services supporting Radar Survivability in a Peer, Near-Peer environment.															
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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 SYSTEMS CORPORATION :	8.551	4.102	Dec 2017	1.876	Dec 2018	0.866	Dec 2019	-		0.866	Continuing	Continuing	Continuing

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Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
		LINTHICUM HEIGHTS, MD													
TEST SUPPORT	WR	NSWC DAHLGREN : DAHLGREN, VA	5.338	3.416	Dec 2017	2.404	Dec 2018	0.932	Dec 2019	-		0.932	Continuing	Continuing	Continuing
TEST SUPPORT	WR	AC2SN PEO LS : QUANTICO, VA	1.623	0.595	Dec 2017	0.235	Dec 2018	0.000		-		0.000	0.000	2.453	-
TEST SUPPORT	MIPR	JTIC : FT HUACHUCA, AZ	0.310	0.117	Dec 2017	0.120	Dec 2018	0.000		-		0.000	Continuing	Continuing	Continuing
TEST PLANNING/ SUPPORT	Various	NSWC- FALLBROOK : CRANE, IN	7.109	1.844	Dec 2017	0.478	Dec 2018	0.000		-		0.000	Continuing	Continuing	Continuing
TEST EVALUATION SUPPORT	C/CPIF	MCOTEA : QUANTICO, VA	1.960	0.107	Dec 2017	0.000		0.000		-		0.000	0.000	2.067	-
TEST SUPPORT	Various	NSWC CORONA : CORONA, CA	3.758	1.540	Dec 2017	0.514	Dec 2018	0.000		-		0.000	Continuing	Continuing	Continuing
TEST PLANNING/ SUPPORT	Various	NSWC PHD : DAM NECK, VA	6.732	1.926	Dec 2017	0.645	Dec 2018	0.000		-		0.000	Continuing	Continuing	Continuing
TEST ASSET PROCUREMENT	C/CPFF	MCSC : QUANTICO, VA	11.890	1.019	Dec 2017	0.000		0.000		-		0.000	0.000	12.909	-
TEST PLANNING/ SUPPORT	WR	JSF PMO : WASHINGTON , DC	0.000	0.770	Dec 2017	0.675	Dec 2018	0.580	Dec 2019	-		0.580	Continuing	Continuing	Continuing
TEST PLANNING/ SUPPORT	WR	NAWCWD : PT MUGU, CA	0.000	0.343	Dec 2017	0.251	Dec 2018	0.159	Dec 2019	-		0.159	Continuing	Continuing	Continuing
TEST PLANNING/ SUPPORT	WR	NAVSEA/PMR-51 : WASHINGTON, DC	0.000	0.540	Dec 2017	0.452	Dec 2018	0.364	Dec 2019	-		0.364	Continuing	Continuing	Continuing
TEST PLANNING/ SUPPORT	WR	NAVAIR : PAX RIVER, MD	0.000	0.766	Dec 2017	0.676	Dec 2018	0.574	Dec 2019	-		0.574	Continuing	Continuing	Continuing
TEST OPERATOR SUPPORT	Various	MARFOR : Various	1.182	0.250	Dec 2017	0.175	Dec 2018	0.100	Dec 2019	-		0.100	Continuing	Continuing	Continuing
TEST RANGE SUPPORT	WR	YPG : YUMA, AZ	0.991	1.390	Dec 2017	0.695	Dec 2018	0.000		-		0.000	0.000	3.076	-
TEST RANGE SUPPORT	WR	NAWCWD : PT MUGU, CA	0.000	1.765	Dec 2017	0.784	Dec 2018	0.895	Dec 2019	-		0.895	Continuing	Continuing	Continuing

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Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
TEST FACILITY SUPPORT	WR	SCSC : WALLOPS IS, MD	0.465	0.372	Dec 2017	0.000		0.000		-		0.000	0.000	0.837	-
TEST FACILITY SUPPORT	WR	MCAS YUMA : YUMA, AZ	0.810	0.825	Dec 2017	0.420	Dec 2018	0.000		-		0.000	0.000	2.055	-
TEST FACILITY SUPPORT	WR	MCB 29 PALMS : 29 PALMS, CA	0.000	0.515	Dec 2017	0.290	Dec 2018	0.000		-		0.000	0.000	0.805	-
Prior Years Cumulative Funding	Various	N/A : N/A	12.622	0.000		0.000		0.000		-		0.000	0.000	12.622	-
Subtotal			63.341	22.202		10.690		4.470		-		4.470	Continuing	Continuing	N/A
Remarks															
Award dates reflected are the actual obligation date for the first incremental award. T&E funding decreases \$6.220M from FY19 to FY20 as DT1E1 and DT1E2 integrated DT/IOT&E test events are completed in FY19. The (\$0.111M) increase in Test Range Support at Pt Mugu is for the second more in-depth DOT&E requested test event tracking Signature Controlled Targets.															
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
MANAGEMENT SERVICES	C/FP	MCSC : MCSC - QUANTICO, VA	11.077	0.471	Nov 2017	0.000		0.000		-		0.000	0.000	11.548	-
TRAVEL	Various	MCSC : QUANTICO, VA	1.425	0.295	Sep 2018	0.290	Sep 2019	0.285	Sep 2020	-		0.285	Continuing	Continuing	Continuing
Subtotal			12.502	0.766		0.290		0.285		-		0.285	Continuing	Continuing	N/A
Remarks															
The funding decreases of \$0.005M from FY19 to FY20.															
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			377.279	53.605		44.579		23.891		-		23.891	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy							Date: March 2019			
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 / Marine Ground-Air Radar				
	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks RDT&E funding decreases \$21.087M throughout the total G/ATOR program from FY19 to FY20 with the completion of DT1E/IOT&E in FY19.										

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Navy

Date: March 2019

Appropriation/Budget Activity

1319 / 7

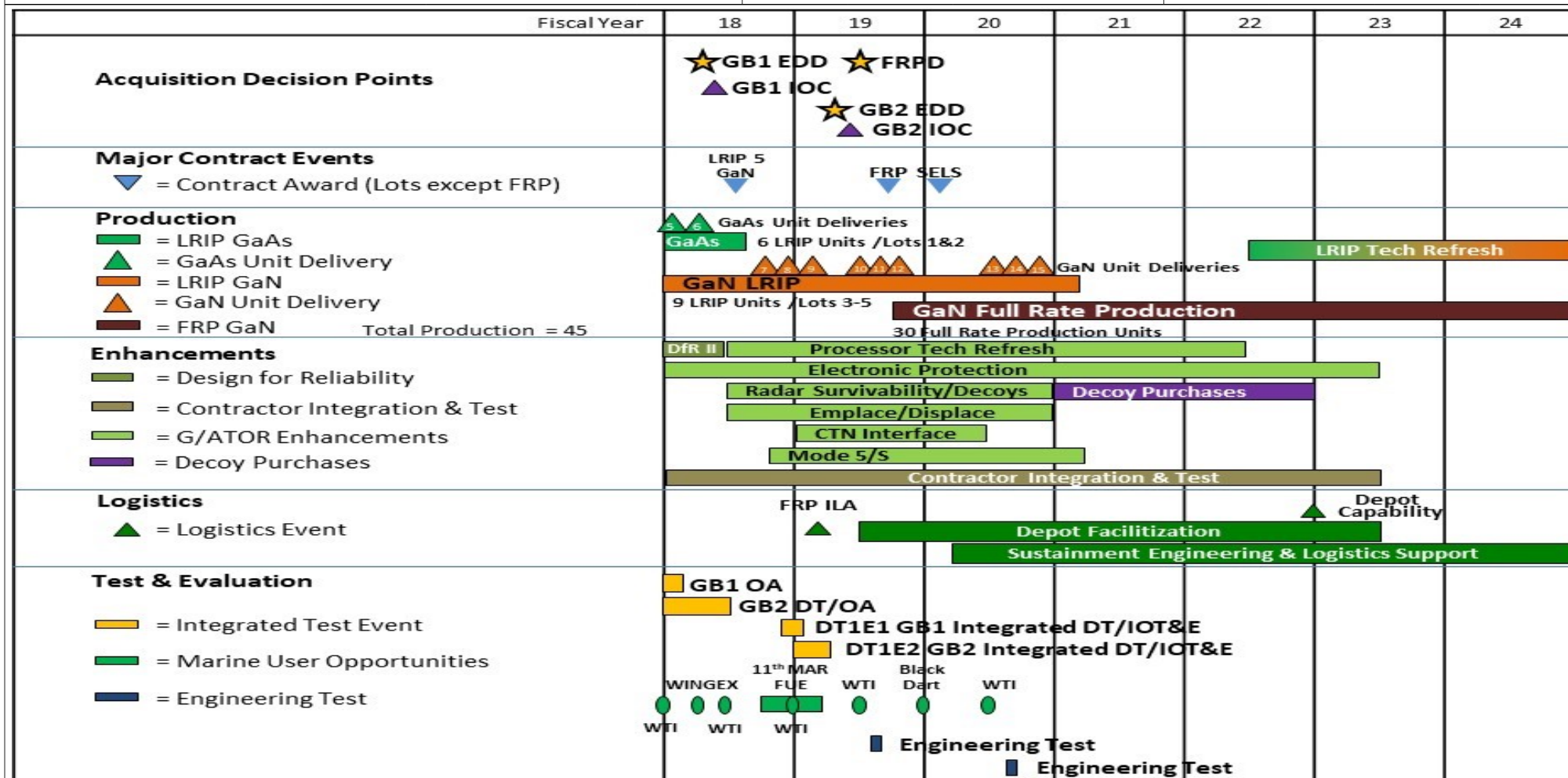
R-1 Program Element (Number/Name)

PE 0204460M / (U)Ground/Air Task

Oriented Radar (G/ATOR)

Project (Number/Name)

9C89 / Marine Ground-Air Radar



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019
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 / Marine Ground-Air Radar	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C89				
Gallium Arsenide (GaAs) Radar: GB1 Operational Assessment (OA)	1	2018	1	2018
Gallium Arsenide (GaAs) Radar: GB1 Radar IOC	2	2018	2	2018
Gallium Arsenide (GaAs) Radar: LRIP Tech Refresh	3	2022	4	2024
Gallium Nitride (GaN) Radar: DT1E1 GB1 Integrated DT/IOT&E	4	2018	1	2019
Gallium Nitride (GaN) Radar: DT1E2 GB2 Integrated DT/IOT&E	4	2018	1	2019
Gallium Nitride (GaN) Radar: LRIP Lot 5 Contract Award	2	2018	2	2018
Gallium Nitride (GaN) Radar: FRPD	3	2019	3	2019
Gallium Nitride (GaN) Radar: FRP	3	2019	4	2024
Gallium Nitride (GaN) Radar: DOT&E Engineering Test 1	3	2019	3	2019
Gallium Nitride (GaN) Radar: DOT&E Engineering Test 2	3	2020	3	2020
Gallium Nitride (GaN) Radar: LRIP Tech Refresh	3	2022	4	2024
Ground Weapons Locating Radar (GWLR): GB2 Developmental Test (DT1D)	1	2018	1	2018
Ground Weapons Locating Radar (GWLR): GB2 Operational Assessment (OA)	2	2018	3	2018
Ground Weapons Locating Radar (GWLR): 11th Marines Field User Evaluation (FUE)	4	2018	2	2019
Ground Weapons Locating Radar (GWLR): GB2 IOC	2	2019	2	2019
Enhancements: Design for Reliability II	1	2018	2	2018
Enhancements: Electronic Protection	1	2018	2	2023
Enhancements: Radar Survivability/Decoys	3	2018	4	2020
Enhancements: Decoy Purchases	1	2021	4	2022
Enhancements: Processor Tech Refresh	3	2018	2	2022
Enhancements: Emplacement/Displacement	3	2018	4	2020

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019		
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 / Marine Ground-Air Radar	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Enhancements: CTN Interface		1	2019	2	2020
Enhancements: Mode 5/S		4	2018	1	2021
Logistics: FRP ILA		1	2019	1	2019
Logistics: Depot Facilitization (LRU Repair & IROAN)		3	2019	2	2023
Logistics: Sustainment Engineering and Logisctics Support Contract Award		1	2020	1	2020
Logistics: Sustainment Engineering and Logisctics Support		1	2020	4	2024
Logistics: Depot IROAN Capability		4	2022	4	2022