Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0605514M *I GROUND BASED ANTI-SHIP MISSILE*

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	28.194	98.762	43.090	36.383	-	36.383	19.558	3.999	3.856	23.715	Continuing	Continuing
6637: *Ground Based Anti-Ship Missile*	28.194	98.762	43.090	36.383	-	36.383	19.558	3.999	3.856	23.715	Continuing	Continuing

A. Mission Description and Budget Item Justification

As the Marine Corps' first Ground Based Anti-Ship Missile (GBASM) capability, the Navy/Marine Expeditionary Ship Interdiction System (NMESIS) is a priority central to the Marine Corps' contribution to the Naval Expeditionary Force's (NEF) anti-surface warfare campaign. This is a critical Service modernization capability requirement focused specifically on countering the Nation's pacing threat. Ground based launchers add a new type of threat against a peer adversary, stress different surveillance, and offensive systems, are hard to detect and track in a cluttered environment and add a significant level of persistence and depth to existing anti-ship capabilities. NMESIS will be employed by Medium-range Missile (MMSL) batteries serving as part of Marine Littoral Regiments (MLR) conducting Expeditionary Advanced Base Operations (EABO) while persisting inside the adversary's weapons engagement zone (WEZ). When integrated into sensor and communication networks supporting a naval/maritime mission thread, and synchronized with employment of other missile systems, the Marine Corps' MMSL battery will serve as a component of the NEF "stand-in force" in support of the naval sea control effort.

NMESIS consists of two Naval Strike Missiles (NSM) and a launcher/weapon control system integrated on to a ground-based, teleoperated carrier (called ROGUE-Fires). It will provide a ground based anti-access/area denial, anti-ship capability. This program includes design, development, test, and production of the NSM launcher, ROGUE-Fires carrier, Leader kit, Weapons Control System (WCS), and Command and Control (C2) connections to enable the transport and firing of NSMs. NMESIS makes extensive use of proven sub-systems, such as the Joint Light Tactical Vehicle (JLTV) chassis, the U.S. Navy's Naval Strike Missile, and its WCS.

B. Program Change Summary ($ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	102.716	43.090	17.797	-	17.797
Current President's Budget	98.762	43.090	36.383	-	36.383
Total Adjustments	-3.954	0.000	18.586	-	18.586
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.954	0.000			
• Rate/Misc Adjustments	0.000	0.000	18.586	-	18.586

Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Navy	Date: March 2023
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0605514M *I GROUND BASED ANTI-SHIP MISSILE*

Change Summary Explanation

The decrease of $6.707M from FY 2023 to FY 2024 reflects the completion of developmental and operation testing, transition into production, and initiates development of Engineering Change Proposals (ECPs).

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	Project (Number/Name) 6637 / *Ground Based Anti-Ship Missile*	

COST ($ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
6637: *Ground Based Anti-Ship Missile*	28.194	98.762	43.090	36.383	-	36.383	19.558	3.999	3.856	23.715	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As the Marine Corps' first Ground Based Anti-Ship Missile (GBASM) capability, the Navy/Marine Expeditionary Ship Interdiction System (NMESIS) is a force design priority central to the Marine Corps' contribution to the Naval Expeditionary Force's (NEF) surface warfare campaign. This is a critical Service modernization capability requirement focused specifically on countering the Nation's pacing threat. Ground-based launchers add a new type of threat against a peer adversary, stress different surveillance and offensive systems, are hard to detect and track in a cluttered environment, and add a significant level of persistence and depth to existing anti-ship capabilities. NMESIS will be employed by Medium-range Missile (MMSL) batteries within the Marine Divisions and will be especially suited for operations with Marine Littoral Regiments and Marine Expeditionary Units and when integrated into sensor and communication networks supporting a naval/maritime mission thread, and synchronized with employment of other missile systems, the NMESIS-equipped MMSL batteries will serve as a component of the NEF "stand-in force" providing lethal, precision anti-ship fires supporting sea denial and sea control operations. NMESIS consists of two Naval Strike Missiles (NSM) and a launcher/weapon control system integrated on to a ground-based, teleoperated carrier (called ROGUE-Fires).

It will provide a ground based anti-access/area denial, anti-ship capability.
This program includes design, development, test and production of the NSM launcher, Weapons Control System (WCS), ROGUE-Fires Carrier, Leader Kit, and Command and Control (C2) connections to enable the transport and firing of NSMs.
NMESIS makes extensive use of proven sub-systems, such as the Joint Light Tactical Vehicle (JLTV) chassis, the U.S.
Navy's Naval Strike Missile and its WCS.

In FY 2023, NMESIS conducted multiple test events including Electromagnetic Environmental Effects (E3), electromagnetic signature (SIG) testing/characterization, and initiated New Equipment Training (NET). In addition, NMESIS conducted the Initial Operational Test & Evaluation (IOT&E) Guided Flight Test (GFT) in FY 2023.

In FY 2024, NMESIS will complete NET and the remaining IOT&E events including ballistic testing. In addition, NMESIS will initiate the development and integration of Engineer Change Proposals (ECPs) that focus on the continuous improvement of communications, navigation, and product support. These planned efforts enhance the capability fielded in FY 2023 to allow for future growth within the fielded MMSL batteries through simultaneous fire control of multiple launchers by a single section and increased capabilities for navigation and product support - allowing for a larger range of operating environments and employment techniques.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Title: Navy Marine Expeditionary Ship Interdiction System (NMESIS)	98.762	43.090	36.383	0.000	36.383
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	**Project (Number/Name)** 6637 / *Ground Based Anti-Ship Missile*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
FY 2023 Plans: - Complete development of platoon level mission planning software - Continue fleet and user evaluations to refine initial doctrine and develop New Equipment Training products, increasing capacity with additional assets as they are delivered - Purchase ballistic test missiles (QTY 6) to support FY 2024 IOT&E testing - Conduct E3 testing - Conduct SIG testing/characterization - Initiate NET for IOT&E with Production Representative Models (PRM) - Conduct GFT in support of IOT&E					
FY 2024 Base Plans: Testing Activities: - Complete NET for IOT&E with PRMs - Conduct IOT&E to include ballistic tests Communications ECPs: -Develop and integrate Common C4 software for the NMESIS Weapon Control System to enable fire control of multiple NMESIS Launchers -Radio integration to ROGUE-Fires to integrate tactical radios in USMC inventory for increased commonality Navigation ECPs: -Integrate required M-CODE receivers to replace current Position, Navigation, and Timing (PNT) devices -Develop and integrate software with Retrotraverse - enabling rapid displacement after firing -Develop and integrate software with Basic Waypoint Navigation - enabling basic robotic navigation -Develop and integrate Obstacle Avoidance - allowing the ROGUE-Fires to safely navigate around an obstacle -Develop and integrate Night Capable Camera to allow for tactical operations in low light conditions Product Support ECPs: -Develop a solution for improved Encanistered Missile handling by the Resupply System and allow for faster reload on the NSM Launch Unit					
FY 2024 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	**Project (Number/Name)** 6637 / *Ground Based Anti-Ship Missile*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
N/A ***FY 2023 to FY 2024 Increase/Decrease Statement:*** The decrease of $6.707M from FY 2023 to FY 2024 reflects the completion of developmental and operation testing, transition into production, and initiates development of Engineering Change Proposals (ECPs).					
Accomplishments/Planned Programs Subtotals	98.762	43.090	36.383	0.000	36.383

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• PMC/2212: *Artillery Weapons System*	221.347	143.808	165.268	-	165.268	302.261	361.454	296.097	163.386	Continuing	Continuing
• PMC/2292: *Naval Strike Missile (NSM)*	0.000	174.369	169.726	-	169.726	170.845	169.913	169.878	170.428	Continuing	Continuing
• PMC/2292C: *Naval Strike Missile (NSM)*	0.000	0.000	39.244	-	39.244	30.087	20.930	14.391	0.000	Continuing	Continuing

Remarks

BLI 2212 Artillery Weapons System includes funding for HIMARS, GBASM, and LRF.

D. Acquisition Strategy

The GBASM concept started as an effort to conduct a live-fire, guided flight demonstration of ground based anti-ship capability in order to inform future requirements. The program entered into Milestone B in 4th quarter 2021 and was designated ACAT III with a tailored MCA program with a Milestone C planned for FY 2023.

The NMESIS program is leveraging a prototype development effort to integrate the existing Naval Strike Missile (NSM), currently being procured by the U.S. Navy as part of their Over-the-Horizon Missile Launching System (OTH-MLS), onto a tele-operated Joint Light Tactical Vehicle (JLTV) based launcher called the Remotely Operated Ground Unit for Expeditionary Fires (ROGUE-Fires), and develop/integrate the C2 and mobility control components onto a separate manned command vehicle.

Production contracts awarded in FY 2022 for the baseline configuration approved at the Critical Design Review (CDR). These contracts will cover procurement of systems for Initial Operational Test & Evaluation (IOT&E), Low Rate Initial Production, Full Rate Production, Contractor Logistics Support and spares. There will be two Marine Corps production contracts: Remotely-operated carrier (ROGUE-Fires); Launcher and fire control system. The Missile procurement will be accomplished via a Navy contract executed through the Navy Over-the-Horizon (OTH) Weapons Systems program office. The Other Transaction Authority (OTAs) agreements used to develop the initial systems will continue to be used to support program office testing through FY 2023 and may be used for future capability development. Developmental

Exhibit R-2A, RDT&E Project Justification: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	**Project (Number/Name)** 6637 / *Ground Based Anti-Ship Missile*

and operational system testing will be conducted in coordination with the Marine Corps Operational Test and Evaluation Activity. Additionally, missile testing will be coordinated with PM OTH-WS as part of their operational testing.

Initial sustainment strategy reflects Contractor Logistics Support (CLS). Commonality with JLTV and OTH-WS components will support accelerated transition to primary organic logistics support, augmented where necessary by CLS.

In conjunction with the Force Design 2030 Artillery Modernization plan, MMSL batteries will require an increase in capability to allow for future growth within the MMSL batteries. These enhanced capabilities will be achieved through multiple communication, navigation, and product support ECPs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	**Project (Number/Name)** 6637 / *Ground Based Anti-Ship Missile*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NSM Launcher and WCS Development	C/CPFF	Raytheon Company : Tucson, AZ	18.607	16.744	Nov 2021	6.055	Nov 2022	0.000		-		0.000	0.000	41.406	-
PRM - Launcher	SS/FFP	Raytheon Company : Tucson, AZ	0.000	18.493	Nov 2021	0.000		0.000		-		0.000	0.000	18.493	-
PRM - WCS	SS/FFP	Raytheon Company : Tucson, AZ	0.000	3.947	Nov 2021	0.000		0.000		-		0.000	0.000	3.947	-
Platoon Level Planning	C/CPFF	Raytheon Company : Tucson, AZ	0.000	9.142	Nov 2021	5.912	Nov 2022	0.000		-		0.000	0.000	15.054	-
Rogue-Fires Carrier Development	SS/FFP	Oshkosh : Oshkosh, WI	2.041	5.481	Dec 2021	3.779	Nov 2022	0.000		-		0.000	0.000	11.301	-
PRM - Carrier	SS/FFP	Oshkosh : Oshkosh, WI	0.000	10.749	Feb 2022	0.000		0.000		-		0.000	0.000	10.749	-
PRM - Leader Kit	C/FFP	Oshkosh : Oshkosh, WI	0.000	2.642	Feb 2022	0.000		0.000		-		0.000	0.000	2.642	-
PRM - Re-Supply	TBD	TBD : TBD	0.000	1.012	Jan 2022	0.000		0.000		-		0.000	0.000	1.012	-
Tactical Comm Adapter	WR	NSWC-DD : Dahlgren, VA	0.650	0.857	Nov 2021	0.000		0.000		-		0.000	0.000	1.507	-
ECP - Communications	C/CPFF	Various : Various : Various : Various	0.000	0.000		0.000		22.884	Nov 2023	-		22.884	0.000	22.884	-
ECP - Navigation	C/CPFF	Various : Various : Various : Various	0.000	0.000		0.000		2.802	Nov 2023	-		2.802	0.000	2.802	-
ECP - Resupply	C/CPFF	Raytheon Company : Tucson, AZ	0.000	0.000		0.000		1.889	Nov 2023	-		1.889	0.000	1.889	-
		Subtotal	21.298	69.067		15.746		27.575		-		27.575	0.000	133.686	N/A

Remarks

The net increase from FY 2023 to FY 2024 reflects the transition from development and test into production and the initiation of Engineering Change Proposals (ECPs). FY 2024 focuses on capability enhancement of the NMESIS launcher/WCS and the ROGUE-Fires Carrier/Leader Kit through Engineering Change Proposals to allow for future growth within the fielded MMSL batteries through simultaneous fire control of multiple launchers by a single section and increased capabilities for navigation and product support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	Project (Number/Name) 6637 / *Ground Based Anti-Ship Missile*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Safety	WR	MCSC : Stafford, VA	0.207	0.207	Dec 2021	0.213	Nov 2022	0.072	Nov 2023	-		0.072	0.427	1.126	-
Cybersecurity/IA	WR	NSWC : Indian Head, MD	0.035	0.148	Dec 2021	0.153	Nov 2022	0.051	Nov 2023	-		0.051	0.306	0.693	-
Management and Prof. Services	Various	MCSC : various	0.247	0.126	Jan 2022	0.129	Nov 2022	0.043	Nov 2023	-		0.043	0.356	0.901	-
		Subtotal	0.489	0.481		0.495		0.166		-		0.166	1.089	2.720	N/A

Remarks

The decrease from FY 2023 to FY 2024 reflects the transition into production.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E)	Various	various : various	5.045	25.576	Dec 2021	16.851	Nov 2022	0.000	Nov 2023	-		0.000	0.000	47.472	-
Operational Test & Evaluation (OT&E)	Various	various : various	1.262	3.491	Dec 2021	9.852	Nov 2022	8.494	Nov 2023	-		8.494	0.000	23.099	-
		Subtotal	6.307	29.067		26.703		8.494		-		8.494	0.000	70.571	N/A

Remarks

The decrease from FY 2023 to FY 2024 reflects the transition from development and test into production. FY 2023 Operational Testing reflects the start of NET and the IOT&E GFT. FY 2024 Operational Testing reflects the completion of NET and IOT&E efforts including ballistic testing.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2022 Cost	FY 2022 Award Date	FY 2023 Cost	FY 2023 Award Date	FY 2024 Base Cost	FY 2024 Base Award Date	FY 2024 OCO Cost	FY 2024 OCO Award Date	FY 2024 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBASM Travel	Various	Various : Various	0.100	0.147	Dec 2021	0.146	Nov 2022	0.148	Nov 2023	-		0.148	Continuing	Continuing	Continuing
		Subtotal	0.100	0.147		0.146		0.148		-		0.148	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Navy			Date: March 2023
Appropriation/Budget Activity 1319 / 4	R-1 Program Element (Number/Name) PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	Project (Number/Name) 6637 / *Ground Based Anti-Ship Missile*	

	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.194	98.762		43.090		36.383		-		36.383	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	**Project (Number/Name)** 6637 / *Ground Based Anti-Ship Missile*

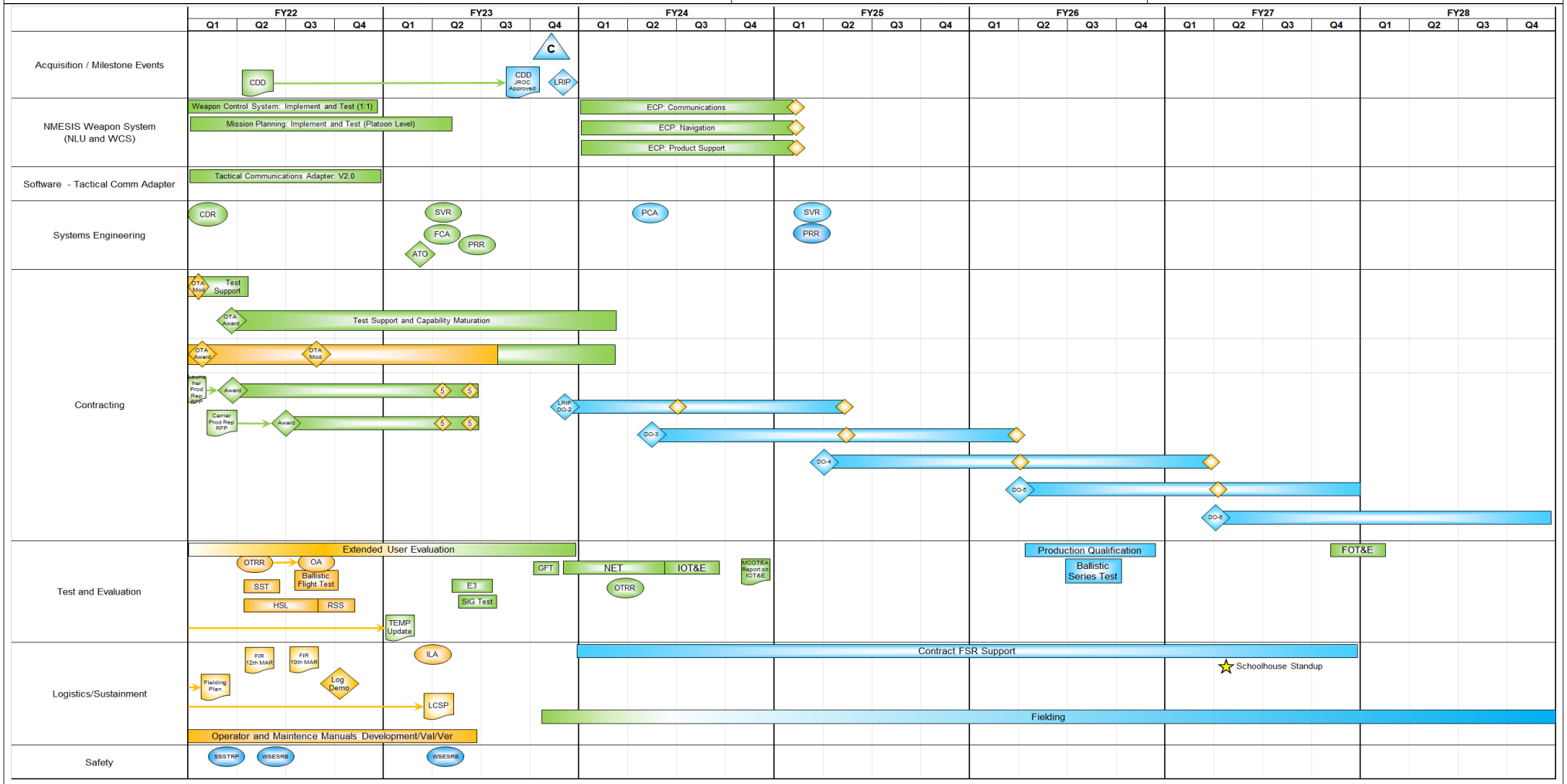

Exhibit R-4A, RDT&E Schedule Details: PB 2024 Navy		Date: March 2023
Appropriation/Budget Activity 1319 / 4	**R-1 Program Element (Number/Name)** PE 0605514M / *GROUND BASED ANTI-SHIP MISSILE*	**Project (Number/Name)** 6637 / *Ground Based Anti-Ship Missile*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 6637				
Launcher PRM Contract Award	1	2022	1	2022
Carrier PRM Contract Award	2	2022	2	2022
Operational Assesment (OA)	3	2022	3	2022
Milestone C	4	2023	4	2023
IOT&E	2	2023	3	2024