Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*					R-1 Program Element (Number/Name) PE 0605863N *I RDT&E Ship & Aircraft Support*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	92.596	103.630	135.149	-	135.149	-	-	-	-	-	-
0568: *RDT&E Acft Flt Hours*	0.000	33.543	37.176	38.461	-	38.461	-	-	-	-	-	-
0569: *RDT&E Acft Supt*	0.000	33.017	38.598	54.013	-	54.013	-	-	-	-	-	-
2924: *SDTS*	0.000	12.862	12.551	15.061	-	15.061	-	-	-	-	-	-
3206: *T&E Enterprise*	0.000	12.982	15.105	14.735	-	14.735	-	-	-	-	-	-
3238: *Threat Engineering*	0.000	0.192	0.200	12.879	-	12.879	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This continuing program provides support for the Self Defense Test Ship and developmental test squadron aircraft required to support Research, Development, Test and Evaluation (RDT&E) of new systems. The RDT&E ship and aircraft inventory is required to adequately test modifications and improvements to fielded weapon systems and sensors and new weapon systems and sensors and evaluate modifications to address new threat capabilities to increase the warfighting capability of the fleet. The program provides integrated logistics support for aircraft at selected field activities, provides depot-level maintenance of aircraft, engines and components for the Navy's inventory of RDT&E aircraft; and provides support for DON aircraft in the custody of contractors in support of RDT&E. The Self Defense Test Ship is a remotely operated platform that supports the test and evaluation of surface ship sensors, combat systems and weapons within the close-in self defense zone. Cost covered under this element include test execution for the Air Warfare Ship Self-Defense Enterprise, aircrew training and proficiency, fuel, supplies, equipment, repair and Aviation Depot Level Repairables, as well as organizational, intermediate and depot maintenance of aircraft in the Navy RDTE inventory and the Self Defense Test Ship. Threat engineering provides test and evaluation (T&E) modeling and simulation (M&S) products and informs targets, simulators, and stimulator designs and development. This project satisfies Surface Navy advanced missile system threat characterization and verification, validation, & accreditation (VV&A) requirements for testing

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing installations or operations required for general research, development, test and evaluation.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Navy					Date: May 2021
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 6: *RDT&E Management Support*		R-1 Program Element (Number/Name) PE 0605863N *I RDT&E Ship & Aircraft Support*			
B. Program Change Summary ($ in Millions)	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**
Previous President's Budget	93.872	104.822	105.814	-	105.814
Current President's Budget	92.596	103.630	135.149	-	135.149
Total Adjustments	-1.276	-1.192	29.335	-	29.335
• Congressional General Reductions	-	-1.192			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.276	0.000			
• Program Adjustments	0.000	0.000	30.200	-	30.200
• Rate/Misc Adjustments	0.000	0.000	-0.865	-	-0.865

Change Summary Explanation

Project 2924: The 2017 Board of Inspection and Survey (INSURV) report identified numerous material issues that has resulted in an increase in the required labor and consumable parts required to accomplish routine preventive maintenance to prevent recurrence of identified deficiencies and material degradation of Self Defense Test Ship Hull, Mechanical and Electrical (HM&E) systems. FY 2022 funding increase of $2.51M reflects the increased costs associated with maintaining the Self Defense Test Ship in sufficient material condition to support on-demand, unrestricted operations at sea in direct support of NAVSEA combat system, sensor and weapon system test and evaluation. Funding will cover increased costs associated with labor, replacement parts and consumables associated with preventive and corrective maintenance and repair, and support the planned repair or replacement of critical Hull, Mechanical and Electrical systems.

Project 3206:N/A

Project 3238: Acquisition Threat Engineering Product (ATEP) increase of $12.679M from FY 2021 to FY 2022 provides funds to increase ATEP model delivery from three in FY 2021 to seven in FY 2022.

Project 0569: : Increase in funding of $15.415M from FY 2021 to FY 2022 is in response to the cost increases in required aircraft depot inspection and maintenance cost and periodic aircraft engine overhauls and aviation depot level repairables associated with preventive and corrective maintenance. Funding also reflects the extension of one E-2D airframe in the RDTE aircraft inventory and the funding required to execute depot maintenance availabilities associated with these airframes scheduled for FY 2022. In addition, the funding increase addresses overall increases in the cost of repairable parts associated with readiness flights, and cost growth associated Planned Depot Maintenance events of existing RDT&E inventory of aircraft and engines, to include funding of following major depot events: 1 P-3; 2 P-8s; 2 C-130Ts; 8 FA-18s; 5 H-60s; 1 UH-1Y; and 1 AH-1Z.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / *RDT&E Ship & Aircraft Support*	Project (Number/Name) 0568 / *RDT&E Acft Flt Hours*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
0568: *RDT&E Acft Flt Hours*	0.000	33.543	37.176	38.461	-	38.461	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation (RDT&E) Aircraft Flight Hours. This non-acquisition project supports direct flight hour costs and a portion of the costs of Aviation Depot Level Repairables (AVDLR) associated with NAVAIR test pilot proficiency flights, including organizational and intermediate maintenance, associated consumables, including petroleum, oil, lubricants and spare and replacement parts for components that fail. Annual test pilot flight hours, as delineated in OPNAVINST 3710.7 are satisfied through a combination of program funded test flights, which vary year to year based on program schedules; and flights funded through this project unit to ensure a baseline level of pilot readiness. These flight hours ensure test pilots remain proficient in assigned type / model / series aircraft in which they are qualified (approximately 3 hours per month) during lulls in program test schedules to ensure proficient test pilots are available to safely support aviation program testing. Readiness hours are designed to provide aircrew with a minimum of 11 flight hours per month, for a total of 133 hours annually. Flight hours support post maintenance acceptance test flights, aircrew training and test pilot proficiency when test program demand is low, in direct support of Research and Development Programs at Naval Air Systems Command, and Office of Naval Research flight activities.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward maintaining test pilot readiness in direct support of general research, development, test and evaluation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: RDT&E Acft Flt Hours	33.543	37.176	38.461	0.000	38.461
Articles:	-	-	-	-	-
FY 2021 Plans: Continue to provide organizational and intermediate-level maintenance, supply and petroleum, oil and lubricants in support of test pilot proficiency flights. Increase in funding, funds readiness to 60% of the requirement. Increase is based on assessment of FY21 program workload to ensure test pilots remain sufficiently proficient in order to meet OPNAVINST 3710.7 requirements to ensure flight safety and to reduce the risk of aviation mishaps.					
FY 2022 Base Plans: Provide organizational and intermediate-level maintenance, supply and petroleum, oil, lubricants and spare and replacement parts for components that fail in support of test pilot proficiency flights. Increase in funding, funds readiness to 60% of the requirement. Increase is based on assessment of FY22 program workload to ensure					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 0568 / *RDT&E Acft Flt Hours*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
test pilots remain sufficiently proficient in order to meet OPNAVINST 3710.7 requirements to ensure flight safety and to reduce the risk of aviation mishaps. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Budget increase of $1.285M from FY 2021 to FY 2022 reflects increased costs associated with Consumable Parts and organizational contract maintenance in support of monthly readiness flight hour requirements for NAVAIR test pilots supporting RDT&E of Navy aviation programs.					
Accomplishments/Planned Programs Subtotals	33.543	37.176	38.461	0.000	38.461

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / *RDT&E Ship & Aircraft Support*	Project (Number/Name) 0569 / *RDT&E Acft Supt*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
0569: *RDT&E Acft Supt*	0.000	33.017	38.598	54.013	-	54.013	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation (RDT&E) Aircraft Support. This continuing project funds costs associated with the preventive and corrective maintenance of fixed and rotary wing aircraft which directly support test and evaluation of aircraft and associated weapon systems and sensors. Testing aboard dedicated RDT&E aircraft reduces the number of fleet units required to support test and evaluation of aviation programs. This project unit funds airframe Standard Depot Level Maintenance (SDLM), the Integrated Maintenance Concept and Planned Depot Maintenance, major in-service repairs, emergent repairs and aircraft engine periodic maintenance and overhauls and aircraft material condition and field inspections. Also included in this project unit, are the costs of Aviation Depot Level Repairables (AVDLR), which are spare and replacement parts for components that fail during the conduct of readiness flight operations, aircrew training and proficiency flight hours, and must be replaced to support follow-on flight operations. This project unit also funds Aircraft Structure Periodic Assessments (ASPA), Individual Material Readiness List (IMRL) tools and support equipment, Aviation Climate Assessment Survey System (ACASS) and other projects and peripheral equipment associated with the maintenance of flight readiness for RDT&E aircraft.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under RESEARCH, DEVELOPMENT, TEST and EVALUATION MANAGEMENT SUPPORT because it supports efforts directed toward sustaining or modernizing equipment required for general research, development, test and evaluation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Aircraft/Engine Maintenance and AVDLR/IMRL Support	32.417	37.998	53.413	0.000	53.413
Articles:	-	-	-	-	-
FY 2021 Plans: Continue support of RDT&E Aircraft planned depot maintenance availabilities while funding annual operating and sustainment costs associated with Aviation Depot Level Repairables (AVDLR) and Individual Material Readiness List (IMRL) items associated with test pilot proficiency flights, engine repairs and overhauls, and emergent repairs to RDT&E aircraft. Execute Depot Availabilities for two KC-130Ts, newly established Planned Depot Maintenance activity for two E-2D aircraft, Engine Overhauls for the C-20G and Depot availabilities for seven F-18 variant aircraft and three MH-60S helicopters. The 2021 plan supports operations and implementation of Naval Air Enterprise Naval Sustainment Systems in support of fleet aircraft readiness efforts.					
FY 2022 Base Plans: Provide support of RDT&E Aircraft planned depot maintenance events while funding annual operating and sustainment costs associated with Aviation Depot Level Repairables (AVDLR) and Individual Material Readiness					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 0569 / *RDT&E Acft Supt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
List (IMRL) items associated with test pilot proficiency flights, engine repairs and overhauls, and emergent repairs to RDT&E aircraft. Execute Depot events for two KC-130Ts, two P-3Cs, efforts to support an additional Planned Depot Maintenance activity for one E-2D aircraft, and Depot events for seven F-18 variant aircraft, and four MH-60 helicopters. The 2022 base plan supports operations and implementation of Naval Air Enterprise Naval Sustainment Systems in support of fleet aircraft readiness efforts. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Budget increase from FY 2021 to FY 2022 is in direct support of increases in depot and overhaul costs necessary to sustain aircraft assigned to developmental test squadrons. Increase also includes the funding required to conduct depot maintenance on one E-2D airframes in FY 2022, which were transferred into the RDTE aircraft inventory. Additional funding was also provided to address increases in the costs associated with aviation depot level repairable parts associated with readiness flights, and cost growth associated with Planned Depot Maintenance events of existing RDT&E inventory of aircraft and engines, to include funding of following major depot events: 2 KC-130Ts; 2 P-3Cs; 7 FA-18s; and 4 H-60s.					
Title: In-Service Repairs	0.600	0.600	0.600	0.000	0.600
Articles:	-	-	-	-	-
FY 2021 Plans: Continue to provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. ***FY 2022 Base Plans:*** Provide planned In-Service Repair funds for emergent repair requirements to aircraft performing mission critical test and evaluation projects. ***FY 2022 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	33.017	38.598	54.013	0.000	54.013

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 0569 / *RDT&E Acft Supt*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / *RDT&E Ship & Aircraft Support*	Project (Number/Name) 2924 / *SDTS*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
2924: *SDTS*	0.000	12.862	12.551	15.061	-	15.061	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the preventive and corrective maintenance of mission critical Hull Mechanical and Electrical (HM&E) and remote control system maintenance aboard the Self-Defense Test Ship (SDTS) in support of the Navy RDT&E of ship self-defense systems. Testing aboard this ship provides the capability to safely test self-defense weapon systems within their minimum range and reduces the number of fleet units required to support RDT&E efforts.

Funds are used to purchase expendable supplies and repair parts, conduct routine and emergent routine equipment maintenance, and repairs and supporting services.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: SDTS	12.862	12.551	15.061	0.000	15.061
Articles:	-	-	-	-	-

FY 2021 Plans:

NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of critical ship HM&E systems to ensure safe operation of the Self Defense Test Ship (SDTS). Maintain, operate, configure and upgrade the Test Ship Remote Control System (TSCRS) and associated infrastructure in support of T&E requirements onboard the SDTS to support the Air Warfare Ship Self Defense Enterprise test requirements as well as surface ship combat system developmental test programs. Continue to work outstanding maintenance and repair efforts and complete necessary repairs to clear any outstanding Departures from Specification (DFS).

FY 2022 Base Plans:

NSWC PHD continues to conduct management, operation, maintenance and repair/upgrade of critical ship HM&E systems to ensure safe operation of the Self Defense Test Ship (SDTS). Maintain, operate, configure and upgrade the Test Ship Remote Control System (TSCRS) and associated infrastructure in support of T&E requirements onboard the SDTS to support the Air Warfare Ship Self Defense Enterprise test requirements as well as surface ship combat system developmental test programs. Continue to work outstanding maintenance and repair efforts and complete necessary repairs to clear any outstanding Departures from Specification (DFS).

FY 2022 OCO Plans:

N/A

FY 2021 to FY 2022 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 2924 / *SDTS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Increase of $2.51M provide funds to cover efforts required to maintain and repair the SDTS at the full operational level as identified in the recent INSURV report. Funding addresses increased labor, consumables and repair part requirements associated with preventive maintenance and emergent equipment repairs. Funding also supports the planned replacement or overhaul of critical Hull, Mechanical and Electrical systems.					
Accomplishments/Planned Programs Subtotals	12.862	12.551	15.061	0.000	15.061

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This line of accounting is for recurring HM&E and ship maintenance.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy											Date: May 2021	
Appropriation/Budget Activity 1319 / 6					R-1 Program Element (Number/Name) PE 0605863N / *RDT&E Ship & Aircraft Support*				Project (Number/Name) 3206 / *T&E Enterprise*			
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
3206: *T&E Enterprise*	0.000	12.982	15.105	14.735	-	14.735	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

T&E Enterprise consolidates all Air Warfare Ship Self Defense (AW SSD) testing across multiple class ships (LHA 6, CVN 78, DDG 1000, LSD 52, and LCS) into the least number of test events. This approach merges common ship, element, and system requirements into common infrastructure for combined Developmental and Operational Testing (DT/OT) of the Surface Navy antiship cruise missile (ASCM) defense requirement, expressed as a Probability of Raid Annihilation (Pra). Enterprise characterizes system performance with Modeling & Simulation (M&S) assessments and live-fire demonstrations.

Enterprise Cost elements:
a) Enterprise Testing and Planning. SDTS and Lead Ship tracking and firing exercises versus single- and dual-, subsonic and supersonic ASCM threat surrogates. Includes the contractor and government costs to administer the Enterprise, collect and distribute data from live events, maintain Cybersecurity certifications, and financial management.
b) Self-Defense Test Ship (SDTS) Combat Systems. Includes installation, check-out, stage testing, routine preventive maintenance, and repairs of major combat systems elements.
c) Enterprise Testbed (ETB). Includes all M&S costs required to create OT-quality digital representations of shipboard combat system performance including infrastructure, distributed secure network, and common environmental services for DT/OT.

SDTS testing requirements outlined in AW SSD Enterprise TEMP 1714 and lead/operational ship testing requirements for Evolved Sea Sparrow Missile (ESSM) TEMP 1471, Rolling Airframe Missile (RAM) Blk 2 TEMP 286-2, DDG 1000 TEMP 1560, CVN 78 TEMP 1610, Cooperative Engagement Capability (CEC) TEMP 1415, SSDS TEMP 1400, LHA 6 TEMP 1697, AN/SPQ-9B TEMP 1463, Surface Electronic Warfare Improvement Program (SEWIP) TEMP 1658 (Block 1A), and LCS TEMP 1695.

The T&E Enterprise merges common ship, element, and system requirements into the least number of test events while leveraging planned Combat System Ship Qualification Trials (CSSQTs) to accomplish Developmental Testing (DT) and Operational Testing (OT) requirements. All tests on the SDTS require the sharing of infrastructure, missile range allocations, execution time and underway time to eliminate duplicative testing. T&E Enterprise provides end-to-end mission Operational Testing in a realistic operational environment, capitalizing on Probability of Raid Annihilation Modeling and Simulation (M&S) data validated with results of that Operational and Live Fire Testing, and ensuring a consistent approach across ship classes. Applicability of all test events is beneficial across multiple ship classes with the same variation under test.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**
Title: T&E Enterprise	12.982	15.105	14.735	0.000	14.735
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 3206 / *T&E Enterprise*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
FY 2021 Plans: Continue to conduct test planning which includes white cell planning meetings, TEMP working group meetings, and other meetings that support at-sea and Enterprise Testbed (ETB) events for CVN 78, LSD 52, and LCS, in order to be postured to execute these events if funding is made available. Continue test planning efforts for the follow-on ship classes (e.g. CVN 79, LHA 8, LPD FLT II) and assist the pertinent stakeholders in developing test planning documentation and resourcing requirements. Develop acquisition plans for required equipment onboard SDTS to meet test requirements for follow-on ship classes. Continue Enterprise Testebed (ETB) virtual range development, and documentation of the ETB and coordination of a multi-organizational team to perform overarching enterprise systems engineering applicable to all ETB baselines. Continue routine combat systems maintenance and IA/Cybersecurity Certification and Accreditation on combat systems elements and the remote control system on the SDTS. Continue to facilitate the integration of systems into the PEO IWS M&S shared technical framework to allow the most efficient utilization of the ETB.					
FY 2022 Base Plans: Continue to conduct test planning which includes white cell planning meetings, TEMP working group meetings, and other meetings that support at-sea and Enterprise Testbed (ETB) events for CVN 78, LSD 52, and LCS, in order to be postured to execute these events if funding is made available. Continue test planning efforts for the follow-on ship classes (e.g. CVN 79, LHA 8, LPD FLT II) and assist the pertinent stakeholders in developing test planning documentation and resourcing requirements. Develop acquisition plans for required equipment onboard SDTS to meet test requirements for follow-on ship classes. Continue Enterprise Testebed (ETB) virtual range development, and documentation of the ETB and coordination of a multi-organizational team to perform overarching enterprise systems engineering applicable to all ETB baselines. Continue routine combat systems maintenance and IA/Cybersecurity Certification and Accreditation on combat systems elements and the remote control system on the SDTS. If repair parts are required to support T&E event(s), impacted T&E User may be required to fund replacement parts. Continue to facilitate the integration					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 3206 / *T&E Enterprise*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
of systems into the PEO IWS M&S shared technical framework to allow the most efficient utilization of the Enterprise Test Bed (ETB). ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Funding decrease in FY2021 to FY2022 due to shift from T&E Enterprise budget to T&E users being required to fund replacement parts that fail during testing events.					
Accomplishments/Planned Programs Subtotals	12.982	15.105	14.735	0.000	14.735

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy			Date: May 2021
Appropriation/Budget Activity 1319 / 6	R-1 Program Element (Number/Name) PE 0605863N / *RDT&E Ship & Aircraft Support*	Project (Number/Name) 3238 / *Threat Engineering*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
3238: *Threat Engineering*	0.000	0.192	0.200	12.879	-	12.879	-	-	-	-	-	-
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Threat Engineering program assesses the current and future threat environment, and works in coordination with the Office of Naval Intelligence (ONI) to develop, produce, and evolve digital threat engineering models in support of test and evaluation (T&E) requirements.

Acquisition Threat Engineering Product (ATEPs) are developed to meet combat/weapon system Systems Engineering and T&E requirements across surface platforms. ATEPs are valid T&E assets that satisfy Director of Operational Test and Evaluation (DOT&E) and Commander Operational Test & Evaluation Force (COMOPTEVFOR) requirements in both Modeling and Simulation (M&S) testbed and at-sea configurations. ATEP satisfies COMOPTEVFOR's threat models requirement for fidelity commensurate with the blue-force system representations and contain intel-derived lethality/vulnerability data, physics-based six degrees-of-freedom models, reactive seekers and guidance, and other engineering data. ATEP is necessary to evaluate mandatory ship Key Performance Parameters (KPP) including operational effectiveness and suitability to include a system's lethality and survivability, and achieving its performance requirements within operation and sustainment costs.

Threat Engineering products inform investment strategies, validate the effectiveness of capabilities provided to the Fleet, and augment live-fire T&E to obtain affordable, statistical confidence in measured performance. Threat Engineering work is prioritized to avoid technical surprise, avoid point solutions, and ensure Fleet capability against specific threats (most stressing, unique, or widely deployed and exported). Total cost approximately $5-30M per ATEP and includes all features and capabilities, unlimited number of runs, and use for live, virtual, constructive (LVC) testing. Compare to $100M-1,000M per live-fire test target development and $1-3M per unit test target firing with specific, limited features and inability to test operationally relevant scenarios.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Title: Threat Engineering	0.192	0.200	12.879	0.000	12.879
Articles:	-	-	-	-	-
FY 2021 Plans: Acquisition Threat Engineering Product (ATEP) complete and deliver 1x hybrid (airbreathing subsonic/solid supersonic), 1x airbreathing supersonic, and post-intercept debris simulation. Begin work on 1x hybrid (airbreathing subsonic/solid supersonic), 2x airbreathing supersonic, and 2x airbreathing subsonic. Continue support and sustainment to existing ATEP models.					

Exhibit R-2A, RDT&E Project Justification: PB 2022 Navy		Date: May 2021
Appropriation/Budget Activity 1319 / 6	**R-1 Program Element (Number/Name)** PE 0605863N / *RDT&E Ship & Aircraft Support*	**Project (Number/Name)** 3238 / *Threat Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Threat Requirements Development with the Intelligence Community and Program Offices to prioritize threat engineering work to avoid technical surprise, avoid point solutions, and ensure Fleet capability against specific threats (most stressing, unique, or widely deployed and exported). ***FY 2022 Base Plans:*** Acquisition Threat Engineering Product (ATEP) complete and deliver 1x hybrid (airbreathing subsonic/solid supersonic) and 1x airbreathing subsonic. Begin work on 2x solid hypersonic (antiship ballistic missile), 1x airbreathing hypersonic, 1x hybrid (airbreathing subsonic/solid supersonic), 2x airbreathing supersonic, and 1x airbreathing subsonic. Continue support and sustainment to existing ATEP models. ***FY 2022 OCO Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** Increase of $12.679M from FY2021 to FY2022 provides funds to begin work on 2x solid hypersonic (antiship ballistic missile) and 1x airbreathing hypersonic as well as support/sustainment to existing ATEP models. Funds are needed for development of threat products, including ATEP Products, that are essential for analysis, requirements development, and developmental and operational test and evaluation. The increase ensures that these required products are developed to help cure severe limitations to test currently experienced within the PEO IWS Programs.					
Accomplishments/Planned Programs Subtotals	0.192	0.200	12.879	0.000	12.879

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

New start program required integration into an existing applicable PE. This program is in direct support to an Enterprise Test & Evaluation strategy that includes live fire test events ISO Modeling & Simulation efforts for both Developmental and Operational Testing.