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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles	P-1 Line Item Number / Title: 2292 / LCS OTH Missile
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	8	18	15	-	15	34	44	48	48	Continuing	Continuing
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	19.698	38.137	32.910	0.000	32.910	60.120	74.299	80.770	79.777	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	19.698	38.137	32.910	0.000	32.910	60.120	74.299	80.770	79.777	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	19.698	38.137	32.910	0.000	32.910	60.120	74.299	80.770	79.777	Continuing	Continuing

(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)

Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	2,462K	2,119K	2,194K	-	2,194K	1,768K	1,689K	1,683K	1,662K	Continuing	Continuing

Description:

The Over The Horizon (OTH) missile provides the Littoral Combat Ship/Frigate (LCS/FFG(X)) with long range anti-surface offensive capability against surface combatants. The OTH Weapon Systems (WS) consists of a Missile Launch System and a complement of missiles.

- Missile Launch System components include: a Launch Mechanism, Operator Interface, and Fire Control System which are procured with Other Procurement, Navy Funds.
- Missile components include a missile encased in a firing canister (encanistered missile). An encanistered missile consists of a flight vehicle that is mechanically and electrically connected within a weapon canister. The flight vehicle's major components are operationally joined, consisting of a warhead (explosive), propulsion system, guidance system, initiation system, and other components. The weapon canister is a mechanical structure with electrical interconnections that is used to support and restrain the flight vehicle during loading and unloading operations. The weapon canister allows the flight vehicle to mechanically and electrically connect to the Missile Launch System without being exposed to the environment.

Other Related Budgets: OPN LI 5231, RDTEN PE 0604756N Proj 2070

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Exhibit P-40, Budget Line Item Justification: PB 2021 Navy **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity:
1507N: Weapons Procurement, Navy / BA 02: Other Missiles / BSA 2: Tactical Missiles

P-1 Line Item Number / Title:
2292 / LCS OTH Missile

ID Code (A=Service Ready, B=Not Service Ready): A **Program Elements for Code B Items:** N/A **Other Related Program Elements:** N/A

Line Item MDAP/MAIS Code: N/A

Exhibits Schedule					Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / LCS OTH Missile	P-5a, P-21			- / 0.000	8 / 19.698	18 / 38.137	15 / 32.910	- / 0.000	15 / 32.910
P-40	Total Gross/Weapon System Cost				- / 0.000	8 / 19.698	18 / 38.137	15 / 32.910	- / 0.000	15 / 32.910

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
Over The Horizon Missile base funding is required to support Over The Horizon Weapon System program for the Littoral Combat Ships. The program provides a long range anti-surface offensive capability to improve the ship's ability to defend against enemy surface ships.

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2292 / LCS OTH Missile	Item Number / Title [DODIC]: 1 / LCS OTH Missile

ID Code (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:		
Resource Summary	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Procurement Quantity <i>(Units in Each)</i>	-	8	18	15	-	15
Gross/Weapon System Cost <i>(\$ in Millions)</i>	0.000	19.698	38.137	32.910	0.000	32.910
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	0.000	19.698	38.137	32.910	0.000	32.910
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	0.000	19.698	38.137	32.910	0.000	32.910
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>						
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	2,462K	2,119K	2,194K	-	2,194K

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2019			FY 2020			FY 2021 Base			FY 2021 OCO			FY 2021 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware Cost																		
Recurring Cost																		
1.1.1) LCS OTH Missile ^(t) (1)	-	-	-	2,462K	8	19.698	1,909K	18	34.369	1,854K	15	27.816	-	-	-	1,854K	15	27.816
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	19.698	-	-	34.369	-	-	27.816	-	-	-	-	-	27.816
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	19.698	-	-	34.369	-	-	27.816	-	-	-	-	-	27.816
Support Cost																		
2.1) Production Engineering Support - OEM ⁽²⁾	-	-	-	-	-	-	-	-	2.150	-	-	2.866	-	-	-	-	-	2.866
2.2) Engineering Support Government and Contractor ⁽³⁾	-	-	-	-	-	-	-	-	1.618	-	-	2.228	-	-	-	-	-	2.228
<i>Subtotal: Support Cost</i>	-	-	-	-	-	-	-	-	3.768	-	-	5.094	-	-	-	-	-	5.094
Gross/Weapon System Cost	-	-	0.000	2,462K	8	19.698	2,119K	18	38.137	2,194K	15	32.910	-	-	0.000	2,194K	15	32.910

(t) indicates the presence of a P-5a

Footnotes:

- (1) FY 2019 unit cost increase accounts for CNO-directed acceleration effort. FY2020-FY2025 unit costs based on step ladder pricing.
- (2) Funding provides for ongoing Design Agent Services support to the US Navy in support of production line start up, missile test, missile qualification, issue resolution and in an advisory capacity. Production engineering increased from FY 2021 through FY 2025 due to missile assembly and test activities ramp up.

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Exhibit P-5, Cost Analysis: PB 2021 Navy		Date: February 2020
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2292 / LCS OTH Missile	Item Number / Title [DODIC]: 1 / LCS OTH Missile
ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:	
<p>⁽³⁾ Provides program management support, engineering and technical government and contractor support, studies, analysis and evaluation on OTH missile system. Engineering support increase due to ramp up in production and LCS OTH Missile deliveries beginning in FY 2021.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2021 Navy **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2292 / LCS OTH Missile	Item Number / Title [DODIC]: 1 / LCS OTH Missile
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Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) LCS OTH Missile ^(†)		2019	Raytheon CO / Tucson AZ	C / FFP	NAVSEA	Dec 2018	Dec 2020	8	2,462K	Y		Feb 2017
1.1.1) LCS OTH Missile ^(†)		2020	Raytheon CO / Tucson AZ	C / FFP	NAVSEA	Feb 2020	Feb 2022	18	1,909K	Y		Feb 2017
1.1.1) LCS OTH Missile ^(†)		2021	Raytheon CO / Tucson AZ	C / FFP	NAVSEA	Dec 2020	Dec 2022	15	1,854K	Y		Feb 2017

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2021 Navy **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2292 / LCS OTH Missile	Item Number / Title [DODIC]: 1 / LCS OTH Missile
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2019												Fiscal Year 2020												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019												Calendar Year 2020												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
1.1.1) LCS OTH Missile ⁽¹⁾																															
1		2019	NAVY	8	0	8				A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8		
1		2020	NAVY	18	0	18																					A -	-	-	18	
1		2021	NAVY	15	0	15																							15		

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Exhibit P-21, Production Schedule: PB 2021 Navy **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2292 / LCS OTH Missile	Item Number / Title [DODIC]: 1 / LCS OTH Missile
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2021												Fiscal Year 2022												BALANCE	
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021												Calendar Year 2022												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
1.1.1) LCS OTH Missile ⁽¹⁾																															
	1	2019	NAVY	8	0	8	-	-	2	-	-	2	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-	0		
	1	2020	NAVY	18	0	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	4	-	-	4	-	6
	1	2021	NAVY	15	0	15			A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Navy **Date:** February 2020

Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2	P-1 Line Item Number / Title: 2292 / LCS OTH Missile	Item Number / Title [DODIC]: 1 / LCS OTH Missile
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Cost Elements <i>(Units in Each)</i>						Fiscal Year 2023												Fiscal Year 2024												BALANCE	
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2022	BAL DUE AS OF 1 OCT	Calendar Year 2023												Calendar Year 2024												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G		S E P
1.1.1) LCS OTH Missile ⁽¹⁾																															
1		2019	NAVY	8	8	0																							0		
1		2020	NAVY	18	12	6	-	6																					0		
1		2021	NAVY	15	0	15	-	-	9	-	-	6																	0		
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	

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Exhibit P-21, Production Schedule: PB 2021 Navy								Date: February 2020				
Appropriation / Budget Activity / Budget Sub Activity: 1507N / 02 / 2				P-1 Line Item Number / Title: 2292 / LCS OTH Missile				Item Number / Title [DODIC]: 1 / LCS OTH Missile				
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2021	1-8-5 For 2021	MAX For 2021	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Raytheon CO - Tucson AZ			TBD	0	0	24	24	0	0	24	24

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).