Exhibit P-40, Budget Line Item Justification: PB 2020 Army Date: March 2019

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 35: Tank

1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types

Ammunition

Program Elements for Code B Items: N/A Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Prior			FY 2020	FY 2020	FY 2020					То	
Resource Summary	Years	FY 2018	FY 2019	Base	oco	Total	FY 2021	FY 2022	FY 2023	FY 2024	Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	3,324.116	163.700	151.901	-	171.284	171.284	229.408	290.321	315.047	341.796	-	4,987.573
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	3,324.116	163.700	151.901	-	171.284	171.284	229.408	290.321	315.047	341.796	-	4,987.573
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	3,324.116	163.700	151.901	-	171.284	171.284	229.408	290.321	315.047	341.796	-	4,987.573
(The following	Resource Sumi	mary rows are fo	or informational p	urposes only. Tl	ne corresponding	budget requests	s are documente	d elsewhere.)	•			
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY 2020 funding totals include \$0.0M for Base and \$171.284M for Overseas Contingency Operations (OCO); of which \$171.284M and quantity of .042 million cartridges is realigned as part of the OCO for Base Requirements. FY 2020 OCO for Base Requirements is OCO funding for base budget requirements in support of the National Defense Strategy. The Budget requests these funds in OCO to comply with the base budget defense caps included in the Budget Control Act of 2011.

This budget line includes CARTRIDGE, TANK, 105MM and 120MM ALL TYPES:

(E22125) M724A2 Cartridge replaces the (E22100) M724A1 Cartridge and provides the Army with a range limited (7,000 meters, maximum) round which can be safely fired at all training sites. The Cartridge, M724A2, 105mm Target Practice Discarding Sabot with Tracer (TPDS-T) is used for gunnery training in the Army's 105mm Stryker Brigade Combat Team (SBCT) Mobile Gun System (MGS). This discarding sabot round is similar in external appearance and is ballistically similar out to 2.000 meters with the M900. Armor Piercing Fin Stabilized Discarding Sabot w/Tracer Cartridge. It is used as a training surrogate for the M900 Cartridge used by the MGS. The M724A2 Cartridge consists of a deep drawn steel cartridge case, electric primer, propellant and a projectile consisting of a sub-projectile (steel core, windshield, fin and tracer) and aluminum sabot. This item is Code A, approved for service use.

(E73201) Cartridge, 120mm, Target Practice Multi Purpose-Tracer (TPMP-T) M1002 is a target practice cartridge that simulates the size, weight, ballistics and the loader's function of setting the nose switch of the High Explosive Multi-Purpose cartridge M830A1. This round is fired from the M256 120mm smoothbore cannon on the M1A1/M1A2 Abrams Tank. The projectile is inert and composed of an aluminum body. steel nose with dummy plastic switch, aluminum tailcone, aluminum sabot, nylon obturators and tracer. The tailcone imparts spin to the projectile in flight for stabilization and provides the mechanism to limit the projectile's maximum range. The M1002 replaces the M831A1 cartridge. Tank crews will conduct live fire training with the cartridge to achieve and maintain gunnery proficiency. This item is Code A, approved for service use.

(E73400) 120mm M865A1 (Longer Length) Target Practice Cone-Stabilized Discarding Sabot with Tracer (TPCSDS-T) is the follow on to the M865 TPCSDS-T. The M865A1 is a target practice round that simulates the ballistics of the 120mm M829 Series Armor Piercing Fin-Stabilized Discarding Sabot with Tracer (APFSDS-T) round and is a more accurate representation of the M829, in terms of size and handling, than its predecessor. This round is fired from the M256 120mm smoothbore cannon on the M1A1/M1A2 Abrams Tank. The projectile is inert and is composed of a steel core, aluminum fin, aluminum sabots, nylon obturator and tracer. The fin imparts spin to the projectile in flight for stabilization and provides the mechanism to limit the projectile's maximum range. Tank crews will conduct live fire training with the cartridge to achieve and maintain gunnery proficiency. This item is Code A, approved for service use.

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0 Army		Date: March 2019
ty: munition / BSA 35: Tank	P-1 Line Item N 1120E22203 / 0	Number / Title: Cartridges, Tank, 105MM And 120MM, All Types
Program Elements for Code B	Items: N/A	Other Related Program Elements: N/A
nd airburst. AMP is the material solicannot currently be met with existin battlecarry dilemma by allowing the ode B, not approved for service use a Sabot with Tracer (APFSDS-T) can non on the M1A1/M1A2 Abrams Talements in propulsion, using a temper	ution for breaching doug stockpiled ammunitien to load a single munt. tridge is the follow on ank. This cartridge has arture insensitive properties.	iber munition under development for the Abrams Main Battle Tank. It has three uble reinforced concrete walls and defeating Anti Tank Guided Missile (ATGM) teams on. In addition to added capability, AMP will also consolidate the capabilities of four nition that is capable of defeating multiple targets including ATGM teams, reinforced to the M829A3 APFSDS-T cartridge. The M829A4 is the most effective anti-armor is been designed to defeat advances in armor protection, specifically advancement in bellant, novel penetrator design, and an advanced composite sabot. The projectile I secured for launch with a composite sabot. The M829A4 captures several new
T 3D3-1 cartinges, but incorporate	is technology advance	ments to yield significant improvement in periormance over previous neited
	Program Elements for Code B AMP) program is a direct fire line of a dirburst. AMP is the material solicannot currently be met with existin battlecarry dilemma by allowing the ode B, not approved for service use Sabot with Tracer (APFSDS-T) care anon on the M1A1/M1A2 Abrams Tarements in propulsion, using a temper ducing windshield and flight stabilizer.	P-1 Line Item N 1120E22203 / C Program Elements for Code B Items: N/A AMP) program is a direct fire line of sight 120mm large cal and airburst. AMP is the material solution for breaching doc annot currently be met with existing stockpiled ammunitie battlecarry dilemma by allowing them to load a single mun battlecarry dilemma by allowing them to load a single m

LI 1120E22203 - Cartridges, Tank, 105MM And 120MM, All T... Army

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Exhibit P-40, Budget Line Item Justification: PB 2020 Army

Date: March 2019

Appropriation / Budget Activity / Budget Sub Activity:

P-1 Line Item Number / Title:

2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 35: Tank

1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types

Ammunition

Program Elements for Code B Items: N/A

Other Related Program Elements: N/A

Line Item MDAP/MAIS Code: N/A

ID Code (A=Service Ready, B=Not Service Ready):

	Exhibits Schedule				Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/ MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) I (\$ M)				
P-5	E22125 / CTG, 105mm Tank TPDS-T, M724A2 (Short Rg KE Trnr) [CA58]	P-5a	Α		- / 26.827	- /8.500	- /8.719	- / -	- / -	- / -
P-5	E73201 / CTG, 120mm Tank, M1002 TP MULTI PUR-TRACE (TPMP-T) [CA31]	P-5a, P-21	Α		- / 455.015	- /53.400	- /47.882	- / -	- / 59.652	- / 59.652
P-5	E73400 / CTG, 120mm Tank TPCSDS-T, M865 [C785]	P-5a, P-21	Α		- / 2,677.704	- / 32.800	- / 34.279	- / -	- /41.893	- /41.893
P-5	E88105 / CTG, 120MM TANK, HEMP-T, XM1147	P-5a, P-21	Α		- / -	- / -	- / 16.398	- / -	- / 15.002	- / 15.002
P-5	E88106 / CTG, 120mm Tank APFSDS-T, M829A4 [CA64]	P-5a, P-21	Α		- / 164.570	- / 69.000	- / 44.623	- / -	- / 54.737	- / 54.737
P-40	Total Gross/Weapon System Cost				- / 3,324.116	- / 163.700	- / 151.901	- 1 -	- / 171.284	- / 171.284

^{*}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.

LI 1120E22203 - Cartridges, Tank, 105MM And 120MM, All T...

Justification:

The FY 2020 Budget supports critical Army Title 10 war reserve/operational, training, and test requirements in accordance with Department of Defense Instruction 3000.04 (Munitions Requirements Process) and Army Regulation 5-13 (Total Army Munitions Requirements Process and Prioritization System). War reserve requirements support Office of the Secretary of Defense (OSD) approved Combatant Commander Operational Plans, Homeland Defense, and other OSD-directed missions. Training requirements support individual and collective training of Active and Reserve Component forces at Army schools, home station, and the combined training centers. Test requirements support the development, fielding, safety, and quality assurance of Army munitions and equipment throughout their life-cycle.

In accordance with Section 1815 of the FY 2008 National Defense Authorization Act (P.L. 110-181), this item is necessary for use by the active and reserve components of the Armed Forces for homeland defense missions, domestic emergency responses, and providing military support to civil authorities.

FY 2020 funding totals include \$0.0 million for Base and \$171.284 for Overseas Contingency Operations, with a quantity of .042 million cartridges for \$171.284 million realigned as part of the OCO for Base Requirements funding which reflects the Department's compliance with the Budget Control Act of 2011.

(E22125) M724A2 - This is a training unique item not used in combat. The request supports annual training and builds a depot level in accordance with the Army's procurement goals.

TYPE CLASSIFICATION DATE: 2016

(E73201) M1002 (TPMP-T) - This is a training unique item not used in combat. The FY 2020 request supports annual training and builds a depot level in accordance with the Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$59.652 million supports the procurement of .021 million M1002 cartridges.

TYPE CLASSIFICATION DATE: 2006

(E73400) M865 (TPCSDS-T) - This is a training unique item not used in combat. FY 2020 request supports annual training and builds a depot level in accordance with the Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$41.893 million supports the procurement of .017 million M865 cartridges.

TYPE CLASSIFICATION DATE: 1984

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Exhibit P-40, Budget Line Item Justification	ı: PB 2020 Army		Date: March 2019	
Appropriation / Budget Activity / Budget Su 2034A: Procurement of Ammunition, Army / B Ammunition		P-1 Line Item No 1120E22203 / Ca	umber / Title: artridges, Tank, 105MM And 120MM, All Types	
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code E	Items: N/A	Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A				
(E88105) XM1147 (HEMP-T) Advanced Multi Purpose (A 2020 OCO for Base Requirements procurement dollars in			st builds a war reserve inventory in accordance with Army's procurement goals. Fon XM1147 AMP cartridges.	Y
TYPE CLASSIFICATION DATE: 2020				
(E88106) M829A4 (APFSDS-T) - This is a war reserve ite Requirementsprocurement dollars in the amount of \$54.7			ry in accordance with Army's procurement goals. FY 2020 OCO for Base s.	
TYPE CLASSIFICATION DATE: 2015				

LI 1120E22203 - Cartridges, Tank, 105MM And 120MM, All T... Army

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Date: March 2019

Item Number / Title [DODIC]:
E22125 / CTG, 105mm Tank TPDS-T,
M724A2 (Short Rg KE Trnr) [CA58]

ID Code (A=Service Ready, B=Not Service Ready): A		ME	AP/MAIS Code:			
Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	26.827	8.500	8.719	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	26.827	8.500	8.719	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	26.827	8.500	8.719	-	-	-
(The following Resource Summary rows are for information	onal purposes only. The corr	esponding budget requests	are documented elsewher	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-

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

	P	rior Years	3		FY 2018			FY 2019		F۱	/ 2020 Bas	se	FY	2020 OC	0	FY	2020 Tot	tal
Cost Elements	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																		
COMPLETE ROUND ^(†)	2,528.22	8,591	21.720	2,044.00	2,600	5.314	2,095.00	3,077	6.446	-	-	-	-	-	-	-	-	
Subtotal: Recurring Cost	-	-	21.720	-	-	5.314	-	-	6.446	-	-	-	-	-	-	-	-	
Subtotal: Hardware Cost	-	-	21.720	-	-	5.314	-	-	6.446	-	-	-	-	-	-	-	-	
Support - Acceptance Testing	g Cost																	
First Article Test	-	-	0.238	-	-	0.634	-	-	0.498	-	-	-	-	-	-	-	-	
Acceptance Test	-	-	-	-	-	-	-	-	0.251	-	-	-	-	-	-	-	-	
Subtotal: Support - Acceptance Testing Cost	-	-	0.238	-	-	0.634	-	-	0.749	-	-	-	-	-	-	-	-	
Support - Product Improveme	ent Cost																	
Production Qualification Test	-	-	1.018	-	-	0.650	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: Support - Product Improvement Cost	-	-	1.018	-	-	0.650	-	-	-	-	-	-	-	-	-	-	-	
Support - Production Enginee	ering Cost																	
Production Engineering	-	-	3.022	-	-	1.902	-	-	1.523	-	-	-	-	-	-	-	-	
Subtotal: Support - Production Engineering Cost	-	-	3.022	-	-	1.902	-	-	1.523	-	-	-	-	-	-	-	-	
Support - Study & Analysis C	ost	,		'	,	'		'		'								
Study & Analysis	-	- 1	0.829	-	-	-	-	-	-	-		-	-	-	-	-	-	

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Types

Date: March 2019

Item Number / Title [DODIC]:
E22125 / CTG, 105mm Tank TPDS-T,
M724A2 (Short Rg KE Trnr) [CA58]

ID Code (A=Service Ready, B=Not Service Ready): A MDAP/MAIS Code:

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

	Р	rior Years	S		FY 2018			FY 2019		FY	2020 Bas	se	F`	Y 2020 OC	0	FY 2020 Total		
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)												
Subtotal: Support - Study & Analysis Cost	-	-	0.829	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	•	26.827	-	•	8.500	•	-	8.719	-	•	-	-	-	-	-	-	-

^(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2020 A	Army	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35		Item Number / Title [DODIC]: E22125 / CTG, 105mm Tank TPDS-T, M724A2 (Short Rg KE Trnr) [CA58]

Cost Elements	0 0	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost	Specs Avail Now?	 RFP Issue Date
COMPLETE ROUND		2018	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	C / FFP	PICATINNY ARSENAL, NJ	Feb 2018	Nov 2019	2,600	2,044.00	Y	
COMPLETE ROUND		2019	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	C / FFP	PICATINNY ARSENAL, NJ	Mar 2019	Mar 2020	3,077	2,095.00	Υ	

Remarks:

FY 2018 - FY 2019 complete round is awarded as an option to an existing contract. This is a training standard item. Procurement supports annual training and builds a depot level in accordance with Army's procurement goals.

Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Date: March 2019

Item Number / Title [DODIC]:
E73201 / CTG, 120mm Tank, M1002 TP
MULTI PUR-TRACE (TPMP-T) [CA31]

ID Code (A=Service Ready, B=Not Service Ready): A		M	DAP/MAIS Code:			
Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	455.015	53.400	47.882	-	59.652	59.652
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	455.015	53.400	47.882	-	59.652	59.652
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	455.015	53.400	47.882	-	59.652	59.652
(The following Resource Summary rows are for informati	ional purposes only. The cor	responding budget reques	s are documented elsewhe	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-

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

	P	rior Years	;		FY 2018			FY 2019		FY	/ 2020 Ba	se	FY	2020 OC	0	F۱	2020 Tot	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)															
Hardware Cost														,				
Recurring Cost																		
COMPLETE ROUND ^(†)	2,115.71	191,507	405.173	2,423.19	17,933	43.455	2,509.17	16,701	41.906	-	-	-	2,572.12	21,087	54.238	2,572.12	21,087	54.23
Subtotal: Recurring Cost	-	-	405.173	-	-	43.455	-	-	41.906	-	-	0.000	-	-	54.238	-	-	54.23
Subtotal: Hardware Cost	-	-	405.173	-	-	43.455	-	-	41.906	-	-	0.000	-	-	54.238	-	-	54.23
Support - Acceptance Testing	Cost																	
Acceptance Test	-	-	0.848	-	-	0.641	-	-	0.555	-	-	-	-	-	0.579	-	-	0.57
Subtotal: Support - Acceptance Testing Cost	-	-	0.848	-	-	0.641	-	-	0.555	-	-	0.000	-	-	0.579	-	-	0.57
Support - Product Improveme	nt Cost																	
Safety	-	-	4.073	-	-	1.267	-	-	0.968	-	-	-	-	-	-	-	-	-
Reliability	-	-	-	-	-	0.650	-	-	-	-	-	-	-	-	-	-	-	-
Production Verification Test	-	-	-	-	-	2.572	-	-	0.782	-	-	-	-	-	0.552	-	-	0.55
Subtotal: Support - Product Improvement Cost	-	-	4.073	-	-	4.489	-	-	1.750	-	-	0.000	-	-	0.552	-	-	0.55
Support - Production Enginee	ring Cost	,					·	,					,	,				
Production Engineering	-	-	13.528	-	-	4.810	-	-	3.666	-	-	-	-	-	4.279	-	-	4.27
Subtotal: Support - Production Engineering Cost	-	-	13.528	-	-	4.810	-	-	3.666	-	-	0.000	-	-	4.279	-	-	4.27
Support - Quality Assurance (Cost													,				

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
E73201 / CTG, 120mm Tank, M1002

1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types

E73201 / CTG, 120mm Tank, M1002 TP MULTI PUR-TRACE (TPMP-T) [CA31]

ID Code (A=Service Ready, B=Not Service Ready): A MDAP/MAIS Code:

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

	F	Prior Years	\$		FY 2018			FY 2019		F	Y 2020 Ba	se	F	Y 2020 OC	:0	FY 2020 Total		
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)	Unit Cost	Qty (Each)	Total Cost (\$ M)												
Quality Assurance	-	-	0.017	-	-	0.005	-	-	0.005	-	-	-	-	-	0.003	-	-	0.003
Subtotal: Support - Quality Assurance Cost	-	-	0.017	-	-	0.005	-	-	0.005	-	-	0.000	-	-	0.003	-	-	0.003
Support - Recapitalization Co	st																	
Recapitalization	-	-	31.376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Recapitalization Cost	-	-	31.376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	455.015	-	-	53.400	-	-	47.882	-	-	-	-	-	59.652	-	-	59.652

Remarks:

FY 2020 increase in quantity due to anticipated ramp up in usage increase for training.

(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020	Army	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E73201 / CTG, 120mm Tank, M1002 TP MULTI PUR-TRACE (TPMP-T) [CA31]

	0			Method/Type or		Award	Date of First	Qty	Unit Cost	Specs Avail	Date Revision	RFP Issue
Cost Elements	0	FY	Contractor and Location	Funding Vehicle	Location of PCO	Date	Delivery	(Each)	(\$)	Now?	Available	Date
COMPLETE ROUND ^(†)		2018	GENERAL DYNAMICS ORD AND TACT / ST PETERSBURG, FL	SS / FFP	ROCK ISLAND ARSENAL, IL	Feb 2018	Sep 2019	4,648	2,423.19	Y		
COMPLETE ROUND ^(†)		2018	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	SS / FFP	ROCK ISLAND ARSENAL, IL	Feb 2018	Feb 2020	13,285	2,423.19	Y		
COMPLETE ROUND ^(†)		2019	GENERAL DYNAMICS ORD AND TACT / ST PETERSBURG, FL	SS / FFP	ROCK ISLAND ARSENAL, IL	Mar 2019	Feb 2020	9,186	2,509.17	Y		
COMPLETE ROUND ^(†)		2019	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	SS / FFP	ROCK ISLAND ARSENAL, IL	Mar 2019	Feb 2020	7,515	2,509.17	Y		
COMPLETE ROUND ^(†)	1	2020	GENERAL DYNAMICS ORD AND TACT / ST PETERSBURG, FL	SS / FFP	ROCK ISLAND ARSENAL, IL	Mar 2020	Feb 2021	11,598	2,572.12	Y		
COMPLETE ROUND ^(†)	1	2020	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	SS / FFP	ROCK ISLAND ARSENAL, IL	Mar 2020	Feb 2021	9,489	2,572.12	Y		

^(†) indicates the presence of a P-21

Remarks:

Hardware unit prices are an average unit price for multiple producers. FY 2019 will be part of the FY 2017 systems contract for FY 2017 - FY 2021.

Exh	ibi	it P-	21, Pro	ducti	on Sc	hedul	le: PE	3 202	0 Arn	าy														Date	e: Ma	rch 20)19				
			ition / E 1 / 35	Budge	et Acti	vity /	Budg	get Su	ub Ao	ctivity	:	1	20E22	Item 2203 /				k, 105	SMM A	And 1	20MN	Л, All		E73	Num 201 / _TI Pl	CTG,	120n	nm Ta	ank, N		
			Cost El (Units in T)							Fiscal Y	ear 2018	1										Fiscal Y	ear 2019						B A
					ACCEPT PRIOR	DAL									alendar	Year 201	18					ļ.,			Caler	dar Yea	2019		,		L
) F R) #	F	-Y	SERVICE	PROC QTY	TO 1 OCT 2017	BAL DUE AS OF 1 OCT	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	N C E
OMF	PLE.	TE RO	UND																			, ,									
rior \	Year	rs Deliv	veries: 1915	07																											
1	20)18 A	ARMY	4.648	.000	4.648					Α -	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	1.850	2.79
2	20)18 A	ARMY	13.285	.000	13.285					Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.28
1	20)19 A	ARMY	9.186	.000	9.186																		Α -	-	-	-	-	-	-	9.18
2	20)19 A	ARMY	7.515	.000	7.515		-																Α -	-	-	-	-	-	-	7.5
1	20)20 A	ARMY	11.598	.000	11.598																									11.59
2	20)20 A	ARMY	9.489	.000	9.489																									9.48
							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	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	U L	A U G	S E P	

Ex	hik	oit P	-21, Pro	oducti	on Sc	hedul	e: PE	3 202	0 Arm	ıy														Date	: Mar	ch 20	19				
•	•	•	ation / 1 1 / 35	Budge	et Acti	vity /	Budg	jet Sı	ıb Ac	tivity	:	1	Line 0E222 es					k, 105	MM A	and 12	20MN	l, All		E732	201/		120m	m Ta	IIC]: ink, M IP-T)		
			Cost E (Units in 7	lements Thousands)							Fiscal Ye	ear 2020										ı	Fiscal Ye	ar 2021						В
					ACCEPT				,					Ca	alendar `	ear 202	0								Calen	dar Year	2021				L
0 C 0	R	TO 1 DUE O N D J PROC OCT AS OF C O E A										M A R	A P R	M A Y	J U N	J 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	N C E
СО	MPL	11 OLIVIOL Q11 2010 1001 1 V 0 W D W W 1 W L 0 1 T V 0 W D W W 1 W L 0 T L																													
Pri	or Ye	ears Del	liveries: 1915	507																											
	1	2018	ARMY	4.648	1.850	2.798	1.768	1.030																							.00
	2	2018	ARMY	13.285	.000	13.285	-	-	-	-	3.740	3.740	5.805	_																	.00
	1 :	2019	ARMY	9.186	.000	9.186	-	-	-	-	.771	.765	.765	.765	.765	.765	.765	.765	.765	.765	.765	.765									.00
	2	2019	ARMY	7.515	.000	7.515	-	-	-	-	.629	.626	.626	.626	.626	.626	.626	.626	.626	.626	.626	.626						,			.00
✓	1	2020	ARMY	11.598	.000	11.598						Α -	-	-	-	-	-	-	-	-	-	-	.972	.966	.966	.966	.966	.966	.966	.966	3.864
✓	2	2020	ARMY	9.489	.000	9.489			ī	T	,	Α -	-	-	-	-	-	-	-	-	-	-	.799	.790	.790	.790	.790	.790	.790	.790	3.160
							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	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	N N J	J L	A U G	S E P	

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Ex	hibi	t P	-21, Pro	oducti	ion Sc	hedul	e: PB	202	0 Arm	y															Date	e: Ma	rch 2	2019				
			ation / 01 / 35	Budge	et Acti	vity /	Budg	et Sı	ıb Ac	tivity:	ļ	112	Line 20E22 pes						105MN	/I And	d 120	OMN	1, All		E73	201 <i>/</i>	CTG	3, 120		ank, N	И1002 (САЗ	
			Cost E (Units in 1	lements Thousands	5)							Fiscal \	ear 2022							·					Fiscal Y	ear 2023	3					В
					ACCEPT										Calenda	r Year 20)22									Cale	ndar Ye	ar 2023				L
0 C 0	R	Y	SERVICE	PROC QTY	PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	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 L	A U G		S O E C P 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	A N C E
			OUND				·			,									·		,											
Pric			liveries: 191	1																												
_		\rightarrow	ARMY	4.648																												.0
+		\rightarrow	ARMY	13.285 9.186		.000																										.(
\dashv	_	\rightarrow	ARMY	7.515																											}	.0
1		\rightarrow	ARMY	11.598			.966	.966	.966	.966																					}	.0
\rightarrow	_	-	ARMY	9.489	-		.790	.790		.790																					1	.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	N N	J U L	A U G		S O E C P 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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LI 1120E22203 - Cartridges, Tank, 105MM And 120MM, All T... Army

Exhibit P-21, Production Schedule: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E73201 / CTG, 120mm Tank, M1002 TP MULTI PUR-TRACE (TPMP-T) [CA31]

		Produc	tion Rates (Each /	Month)				Procurement Le	adtime (Months)			
MFF						lni	tial			Reo	rder	
Ref		MSR For 2020	1-8-5 For 2020	MAX For 2020	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
,	GENERAL DYNAMICS ORD AND TACT - ST PETERSBURG, FL	400	2,880	7,800	6	6	11	17	6	6	11	17
2	NORTHROP GRUMMAN INNOVATION - PLYMOUTH, MN	400	2,880	7,800	6	6	11	17	6	6	11	17

[&]quot;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 than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 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).

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Date: March 2019

Item Number / Title [DODIC]:
E73400 / CTG, 120mm Tank TPCSDS-T,
M865 [C785]

ID Code (A=Service Ready, B=Not Service Ready) : A		ME	DAP/MAIS Code:			
Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	2,677.704	32.800	34.279	-	41.893	41.893
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	2,677.704	32.800	34.279	-	41.893	41.893
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	2,677.704	32.800	34.279	-	41.893	41.893
(The following Resource Summary rows are for informati	onal purposes only. The cor	responding budget request	s are documented elsewher	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-

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

	F	Prior Years	3		FY 2018			FY 2019		FY	' 2020 Ba	se	F۱	2020 OC	0	F۱	2020 Tot	:al
Cost Elements	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																		
COMPLETE ROUND ^(†)	715.27	3,649,000	2,610.020	-	-	-	-	-	-	-	-	-	2,232.60	16,505	36.849	2,232.60	16,505	36.8
Subtotal: Recurring Cost	-	-	2,610.020	-	-	-	-	-	-	-	-	0.000	-	-	36.849	-	-	36.8
Subtotal: Hardware Cost	-	-	2,610.020	-	-	-	-	-	-	-	-	0.000	-	-	36.849	-	-	36.8
Support - Acceptance Testing	Cost																	
Acceptance Test	-	-	0.810	-	-	0.824	-	-	0.854	-	-	-	-	-	0.558	-	-	0.5
Subtotal: Support - Acceptance Testing Cost	-	-	0.810	-	-	0.824	-	-	0.854	-	-	0.000	-	-	0.558	-	-	0.5
Support - Product Improveme	ent Cost																	
Safety	-	-	2.297	-	-	0.458	-	-	1.231	-	-	-	-	-	1.349	-	-	1.3
Reliability	-	-	2.620	-	-	4.583	-	-	1.564	-	-	-	-	-	0.847	- 1	-	0.8
Subtotal: Support - Product Improvement Cost	-	-	4.917	-	-	5.041	-	-	2.795	-	-	0.000	-	-	2.196	-	-	2.1
Support - Production Enginee	ering Cost																	
Production Engineering	-	-	14.452	-	-	2.755	-	-	2.224	-	-	-	-	-	2.286	-	-	2.2
Subtotal: Support - Production Engineering Cost	-	-	14.452	-	-	2.755	-	-	2.224	-	-	0.000	-	-	2.286	-	-	2.2
Support - Quality Assurance (Cost			·						,			,			,		
Quality Assurance	-	-	0.010	-	-	-	-	-	0.007	-	_	_	-	-	0.003	_	-	0.0

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Exhibit P-5, Cost Analysis: PB 2020 Army Date: March 2019 Appropriation / Budget Activity / Budget Sub Activity: P-1 Line Item Number / Title: Item Number / Title [DODIC]: 2034A / 01 / 35 1120E22203 / Cartridges, Tank, 105MM And 120MM, All E73400 / CTG, 120mm Tank TPCSDS-T, M865 [C785] Types

MDAP/MAIS Code: ID Code (A=Service Ready, B=Not Service Ready): A

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

					·													
	F	Prior Years	S		FY 2018			FY 2019		F	Y 2020 Ba	se	F	/ 2020 OC	0	F	Y 2020 Tot	al
Cost Elements	Unit Cost	Qty (Each)	Total Cost (\$ M)															
Subtotal: Support - Quality Assurance Cost	-	-	0.010	-	-	-	-	-	0.007	-	-	0.000	-	-	0.003	-	-	0.003
Support - Recapitalization Co	st																	
Recapitalization	-	-	47.494	-	-	24.180	-	-	28.399	-	-	-	-	-	-	-	-	-
Subtotal: Support - Recapitalization Cost	-	-	47.494	-	-	24.180	-	-	28.399	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	2,677.704	-	-	32.800	-	-	34.279	-	-	-	-	-	41.893	-	-	41.893

^(†) indicates the presence of a P-5a

Exhibit P-5a, Procurement History and Planning: PB 2020	Army	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E73400 / CTG, 120mm Tank TPCSDS-T, M865 [C785]

Cost Elements	0 C 0	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost	Specs Avail Now?	Revision	RFP Issue Date
COMPLETE ROUND ^(†)	1	2020	TO BE SELECTED / TBS01	C / FFP	PICATINNY ARSENAL, NJ	May 2020	May 2021	9,903	2,232.60	Y		
COMPLETE ROUND ^(†)	1	2020	TO BE SELECTED / TBS02	C / FFP	PICATINNY ARSENAL, NJ	May 2020	May 2021	6,602	2,232.60	Y		

^(†) indicates the presence of a P-21

Remarks

FY2020 price is an average unit price between two contractors (Northrop Grumman Innovation Systems and General Dynamics and Tactical Systems)

												UN	NCLA	1991	FIEL)													
Exhibit I	P-21, Pro	oduct	ion Sc	hedu	le: P	B 202	0 Arm	ıy														Date	e: Ma	rch 20)19				
Appropr 2034A /		Budg	et Acti	ivity /	Bud	get S	ub Ac	tivity	:	112		e Item 2203 /					5MM /	And 1	20MN	M, All		E73		,		-	DIC]: ank TP	CSD)S-T,
		lements in Each)		1						Fiscal `	Year 202											Fiscal Y							B A
M O F C R O # FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	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	Year 202 J U L	20 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	A N C
COMPLETE I	ROUND																												
Prior Years D	eliveries: 3649	9000																											
√ 1 2020	ARMY	9,903	0	9,903							_	Α -	-	-	-	-	-	-	-	-	-	-	-	828	825	825	825	825	5,77
✓ 2 2020	ARMY	6,602	0	6,602								Α -	-	-	-	-	-	-	-	-	-	-	-	552	550	550	550	550	3,850
					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	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	N U	U L	A U G	S E P	

														UN	ICL/	ASSI	IFIED)													
E	chik	oit F	P-21, Pr	oducti	ion Sc	hedu	le: PB	2020) Arm	ıy														Dat	e: Ma	rch 20)19				
			iation / 01 / 35	Budge	et Acti	vity /	Budg	et Su	ıb Ac	tivity	:		0E22				Title : s, Tan		5ММ	And 1	120MN	M, All		E73	Nun 400 / 55 [C7	CTG,				PCSI	DS-T
	Cost Elements (Units in Each) Fiscal Year 2022 Fiscal Year 2023 ACCEPT PRIOR BAL ACCEPT PRIOR BAL ACCEPT ACCE															В															
	M PRIOR BAL A															Ļ															
0 0 0	F R	FY	SERVICE	PROC QTY	TO 1 OCT 2021	DUE AS OF 1 OCT	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 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	N C E
CC	MPL	ETE F	OUND					,								<u> </u>										-					
Pri	or Ye	ears De	liveries: 364	9000																											
✓	\vdash		ARMY	9,903	-	_	825	825	825		825		825	Į.																	
✓	2	2020	ARMY	6,602	2,752	3,850	550	550	550	550	550	550	550																		
							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	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	
																										,					_

Exhibit P-21, Production Schedule: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E73400 / CTG, 120mm Tank TPCSDS-T, M865 [C785]

		Product	tion Rates (Each /	Month)				Procurement Lea	adtime (Months)			
MFR						In	itial			Reo	rder	
Ref	Manufacturer				ALT	ALT	Manufacturing	Total	ALT	ALT	Manufacturing	Total
#	Name - Location	MSR For 2020	1-8-5 For 2020	MAX For 2020	Prior to Oct 1	After Oct 1	PLT	After Oct 1	Prior to Oct 1	After Oct 1	PLT	After Oct 1
1	TO BE SELECTED - TBS01	250	900	1,800	6	6	12	18	6	6	12	18
2	TO BE SELECTED - TBS02	250	900	1,800	6	6	3 12	18	6	6	12	18

[&]quot;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 than 9,999, all quantities are shown as each. 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).

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Types

Date: March 2019

Item Number / Title [DODIC]:
E88105 / CTG, 120MM TANK, HEMP-T,
XM1147

MDAP/MAIS Code:

ID COUG (A-Service Ready, B-Not Service Ready) . 7 t			DAI AIIAIO GGGG.			
Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	-	-	16.398	-	15.002	15.002
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	16.398	-	15.002	15.002
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	16.398	-	15.002	15.002
(The following Resource Summary rows are for informati	onal purposes only. The cor	responding budget reques	ts are documented elsewher	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-

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

ID Code (A=Service Ready, B=Not Service Ready) : A

	P	rior Years	3		FY 2018			FY 2019		FY	' 2020 Bas	se	F۱	2020 OC	0	F۱	/ 2020 Tot	al
Cost Elements	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																		
COMPLETE ROUND ^(†)	-	-	-	-	-	-	14,206.56	700	9.945	-	-	-	14,206.56	700	9.945	14,206.56	700	9.9
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	9.945	-	-	0.000	-	-	9.945	-	-	9.9
Subtotal: Hardware Cost	-	-	-	-		-	-	-	9.945	-		0.000	-	-	9.945	-	-	9.9
Support - Acceptance Testing	Cost					,	<u>'</u>	'		'				'		'		
Acceptance Test	-	-	-	-	-	-	-	-	1.524	-	-	-	-	-	-	-	-	
First Article Test	-	-	-	-	-	-	- 1	-	1.524	-	-	-	-	-	1.220	-	-	1.
Subtotal: Support - Acceptance Testing Cost	-	-	-	-	-	-	-	-	3.048	-	-	0.000	-	-	1.220	-	-	1.
Support - Production Enginee	ering Cost						,			,		<u>'</u>		,		'		
Production Engineering	-	-	-	-	-	-	-	-	1.636	-	-	-	-	-	2.661	-	-	2.0
Subtotal: Support - Production Engineering Cost	-	-	-	-	-	-	-	-	1.636	-	-	0.000	-	-	2.661	-	-	2.
Support - Study & Analysis C	ost			'			'	'		'				'		'	'	
Study & Analysis	-	-	-	-	-	-	-	-	1.770	-	-	-	-	-	1.177	-	-	1.
Subtotal: Support - Study & Analysis Cost	-	-	-	-	-	-	-	-	1.770	-	-	0.000	-	-	1.177	-	-	1.
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	16.398	-	-	-	-	-	15.002	-	-	15.

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E88105 / CTG, 120MM TANK, HEMP-T, XM1147
ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:	
ID Code (A=Service Ready, B=Not Service Ready): A (†) indicates the presence of a P-5a		XM1147

LI 1120E22203 - Cartridges, Tank, 105MM And 120MM, All T... Army

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Exhibit P-5a, Procurement History and Planning: PB 2020	Army	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E88105 / CTG, 120MM TANK, HEMP-T, XM1147

	0			Method/Type			Date			Specs	Date	
	C			or		Award	of First	Qtv	Unit Cost	Avail	Revision	RFP Issue
Cost Elements	0	FY	Contractor and Location	Funding Vehicle	Location of PCO	Date	Delivery	(Each)	(\$)	Now?	Available	Date
COMPLETE ROUND ^(†)		2019	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	SS / FFP	PICATINNY ARSENAL, NJ	Jul 2019	Mar 2020	700	14,206.56	Y		
COMPLETE ROUND ^(†)	1	2020	NORTHROP GRUMMAN INNOVATION / PLYMOUTH, MN	SS / FFP	PICATINNY ARSENAL, NJ	Mar 2020	Mar 2021	700	14,206.56	Υ		

^(†) indicates the presence of a P-21

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Ex	hi	bit F	P-21, Pr	oduct	ion Sc	hedu	le: PE	3 202	0 Arn	ny														Date	e: Ma	rch 20)19				
			i ation /)1 / 35	Budg	et Acti	ivity /	Budç	get Sı	ub Ad	ctivity	' :	112	1 Line 20E22 pes						5MM .	And 1	20MI	Л, All			1 Num 105 <i>l</i> 1147					HEMI	P-T,
				lements in Each)								Fiscal `	Year 2019)										Fiscal Y	ear 2020						В
					ACCEPT										Calendar	Year 20	19								Caler	ıdar Yeaı	r 2020				L
0 0	R	FY	SERVICE	PROC QTY	PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	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	J 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	J U	A U G	S E P	N C E
СО	MPI	LETE F	OUND		<u>'</u>					,			·										,					,			
	1	2019	ARMY	700	0	700		_								Α -	-	-	-	-	-	-	-	700							
1	1	2020	ARMY	700	0	700																	,	Α -	-	-	-	-	-	-	70
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	N U	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	N N	T U	A U G	S E P	

Ex	hil	bit P	P-21, Pro	oducti	on Sc	hedul	e: PE	3 202	0 Arm	 1y														Date	e: Ma	rch 20)19				
Αŗ	opr	opri	iation / I								:		0E22				Title: s, Tan	k, 105	ММ	And 1	20MN	Л, AII			105 <i>l</i>			[DOI	DIC]: ANK,	HEM	P-T
	Cost Elements																														
	м					BAI								(alendar	Year 20	21				1				Caler	ndar Yea	2022				L
0 0	F R	FY	SERVICE	PROC QTY	TO 1 OCT 2020	DUE AS OF 1 OCT	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 J	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	N C
СО	MPL	LETE R	ROUND																												
	\vdash		ARMY	700		0						700																			
✓	1	2020	ARMY	700	0	700	0 C T	N O V	D E C	J A N	F E B	700 M A R	A P R	M A Y	J U	U J	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	

Exhibit P-21, Production Schedule: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Date: March 2019

Item Number / Title [DODIC]:
E88105 / CTG, 120MM TANK, HEMP-T,
XM1147

		Produc	tion Rates (Each /	Month)				Procurement Le	adtime (Months)			
МЕ	R					lni	tial			Reo	rder	
Re			4055	MAY 5	ALT	ALT	Manufacturing	Total	ALT	ALT	Manufacturing	Total
#	Name - Location	MSR For 2020	1-8-5 For 2020	MAX For 2020	Prior to Oct 1	After Oct 1	PLT	After Oct 1	Prior to Oct 1	After Oct 1	PLT	After Oct 1
	1 NORTHROP GRUMMAN INNOVATION - PLYMOUTH, MN	100	500	2,000	6	9	12	21	6	6	12	18

[&]quot;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 than 9,999, all quantities are shown as each. 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).

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Date: March 2019

Item Number / Title [DODIC]:
E88106 / CTG, 120mm Tank APFSDS-T,
M829A4 [CA64]

ID Code (A=Service Ready, B=Not Service Ready): A						
Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	164.570	69.000	44.623	-	54.737	54.737
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	164.570	69.000	44.623	-	54.737	54.737
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	164.570	69.000	44.623	-	54.737	54.737
(The following Resource Summary rows are for information	onal purposes only. The cor	responding budget reques	ts are documented elsewher	re.)		
Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-

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

	P	rior Years	;	FY 2018				FY 2019		FY	′ 2020 Ba	se	F۱	2020 OC	0	FY 2020 Total			
Cost Elements	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																			
COMPLETE ROUND ^(†)	11,532.93	11,585	133.609	15,500.00	4,167	64.589	16,000.00	2,503	40.048	-	-	-	16,320.00	3,114	50.820	16,320.00	3,114	50.8	
Subtotal: Recurring Cost	-	-	133.609	-	-	64.589	-	-	40.048	-	-	0.000	-	-	50.820	-	-	50.8	
Subtotal: Hardware Cost	-	-	133.609	-	-	64.589	-	-	40.048	-	-	0.000	-	-	50.820	-	-	50.8	
Support - Acceptance Testing	Cost																		
Acceptance Test	-	-	7.507	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
First Article Test	-	-	-	-	-	-	-	-	0.185	-	-	-	-	-	0.155	-	-	0.1	
Subtotal: Support - Acceptance Testing Cost	-	-	7.507	-	-	-	-	-	0.185	-	-	0.000	-	-	0.155	-	-	0.1	
Support - Non-Recurring Sup	port Cost																		
Industrial Stock	-	-	0.053	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Subtotal: Support - Non- Recurring Support Cost	-	-	0.053	-			-	-	-	-	-	_	-	-	-	-	-		
Support - Product Improveme	ent Cost																		
Production Verification Test	-	-	1.670	-		0.823	-	-	0.051	-	-	-	-	-	0.098	-	-	0.0	
Subtotal: Support - Product Improvement Cost	-	-	1.670	-	-	0.823	-	-	0.051	-	-	0.000	-	-	0.098	-	-	0.0	
Support - Production Enginee	ering Cost									,			'			,			
Production Engineering	-	-	21.730	-	-	3.588	-	-	4.339	-	-	_	-	-	3.664	-	-	3.6	

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LI 1120E22203 - Cartridges, Tank, 105MM And 120MM, All T... Army

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Exhibit P-5, Cost Analysis: PB 2020 Army

Appropriation / Budget Activity / Budget Sub Activity:
2034A / 01 / 35

P-1 Line Item Number / Title:
1120E22203 / Cartridges, Tank, 105MM And 120MM, All
Types

Date: March 2019

Item Number / Title [DODIC]:
E88106 / CTG, 120mm Tank APFSDS-T,
M829A4 [CA64]

ID Code (A=Service Ready, B=Not Service Ready): A MDAP/MAIS Code:

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

	Prior Years			FY 2018			FY 2019			FY 2020 Base			F`	Y 2020 OC	0	FY 2020 Total		
Cost Elements	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)
Subtotal: Support - Production Engineering Cost	-	-	21.730	-	-	3.588	-	-	4.339	-	-	0.000	-	-	3.664	-	-	3.664
Gross/Weapon System Cost	-	•	164.570	-	-	69.000	-	•	44.623	-	-	-	-	-	54.737	-	-	54.737

^(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2020	Army	Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E88106 / CTG, 120mm Tank APFSDS-T, M829A4 [CA64]

Cost Elements	0 0	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost	Specs Avail Now?	Date Revision Available	RFP Issue Date
COMPLETE ROUND ^(†)		2018	TO BE SELECTED / TBS02	SS / FFP	PICATINNY ARSENAL, NJ	Mar 2019	Jun 2020	4,167	15,500.00	Υ		
COMPLETE ROUND ^(†)		2019	TO BE SELECTED / TBS02	SS / FFP	PICATINNY ARSENAL, NJ	Mar 2019	Jun 2020	2,503	16,000.00	Y		
COMPLETE ROUND(†)	1	2020	TO BE SELECTED / TBS02	SS / FFP	PICATINNY ARSENAL, NJ	Mar 2020	Jun 2021	3,114	16,320.00	Y		

^(†) indicates the presence of a P-21

Remarks:

Production is continuous. Deliveries are consolidated to reduce costs.

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Ex	hil	bit F	P-21, Pr	oduct	ion Sc	hedu	le: Pl	3 202	0 Arn	าy														Date	: Mar	rch 20)19				
-	-	-	iation / 01 / 35	Budg	et Acti	vity /	Bud	get Sı	ub Ac	tivity	/ :	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types									E88		CTG,	120m	[DOD nm Ta		'FSD	S-T,			
				lements in Each)								Fiscal Y	ear 2019)										Fiscal Yo	ear 2020						B A
	м				ACCEPT PRIOR	BAL			1			1	1	(Calendar	Year 20	19				1				Calen	dar Year	2020				L A
0 0	R	FY	SERVICE	PROC QTY	TO 1 OCT 2018	AS OF 1 OCT	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	U U	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 L	A U G	S E P	N C E
СО	COMPLETE ROUND Display 1 14505																														
Pric	r Ye	ears De	eliveries: 115											,		_			,												
	-		ARMY	4,167		- ' -		es .			_	Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,785		590		0
	_		ARMY	2,503		2,503		-			_	Α -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	215	208	208	208	1,664
✓	1	2020	ARMY	3,114	0	3,114			1	1	_	_				_		1	T		1		1	Α -	-	-	-	-	-	-	3,114
							O C T	N O V	E C	J A N	F E B	M A R	A P R	M A Y	N U	U U	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	U U	A U G	S E P	

Exhibit P-21, Production Schedule: PB 2020 Army Date: March 2019
2034A / 01 / 35 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types E88106 / CTG, 120mm Tank APF M829A4 [CA64]
Column First Fir
Calendar Year 2021 ACCEPT PRIOR TO 1 DUE O N D J F M A M J J J A S O N D J F M A J U U U U E C O N B R R R Y N N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N L G P T V C N B R R R Y N N L G P T V C N B R R R Y N N L G R T V N L G
O F F V SERVICE O TO 1 DUE AS OF C O N D D D D D D D D D D D D D D D D D D
Prior Years Deliveries: 11585 1 2018 ARMY
1 2018 ARMY 4,167 4,167 0 1 2019 ARMY 2,503 839 1,664 208 259 2
1 2019 ARMY 2,503 839 1,664 208 208 208 208 208 208 208 208 208 208
✓ 1 2020 ARMY 3,114 0 3,114 -
O N D J F M A M J J A S O N D J F M A M J J A
C O E A E A P A U U U E C O E A E A P A U U U U T V C N B R R Y N L G P T V C N B R R Y N L G

Exhibit P-21, Production Schedule: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 35	P-1 Line Item Number / Title: 1120E22203 / Cartridges, Tank, 105MM And 120MM, All Types	Item Number / Title [DODIC]: E88106 / CTG, 120mm Tank APFSDS-T, M829A4 [CA64]

		Produc	tion Rates (Each /	Month)				Procurement Le	adtime (Months)			
MF	R					Init	tial			Red	rder	
Re #	f Manufacturer Name - Location	MSR For 2020	1-8-5 For 2020	MAX For 2020	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 TO BE SELECTED - TBS02	100	300	720	6	6	15	21	6	6	14	20

[&]quot;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 than 9,999, all quantities are shown as each. 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).

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