

UNCLASSIFIED

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

Appropriation / Budget Activity / Budget Sub Activity: 2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 37: Artillery Ammunition	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
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ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 123

Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,173.976	279.449	300.842	-	266.037	266.037	302.096	233.669	285.493	301.582	-	3,143.144
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,173.976	279.449	300.842	-	266.037	266.037	302.096	233.669	285.493	301.582	-	3,143.144
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,173.976	279.449	300.842	-	266.037	266.037	302.096	233.669	285.493	301.582	-	3,143.144

(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>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

FY 2020 funding totals include \$0.0M for Base and \$266.037M for Overseas Contingency Operations (OCO); of which \$266.037M and quantity of 194,617 projectiles 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.

(E89500) ARTILLERY PROJECTILE, 155MM, ALL TYPES

This budget line includes Projectiles, Artillery, 155mm, All Types.

(E26904) PROJ, ARTY, 155MM IR ILLUM M1123

The 155mm M1123 Infrared (IR) Illumination Projectile is used with night vision devices to illuminate a designated target area to a maximum range of 22.5 kilometers. The M1123 utilizes projectile bodies generated from an on-going M483 Dual Purpose Improved Conventional Munition (DPICM) demilitarization program and leverages the payload contained in the M1066 IR Illuminating Projectile. The M1123 contains a Canister Loading Assembly, Expulsion Charge, and numerous spacers. The Canister Loading Assembly consists of an IR Illuminating Candle, Main Parachute, Drogue Parachute, Delay, and Secondary Expulsion Charge. The outer shell of the canister is fitted with three longitudinal fins. The projectile uses an M762 series Electronic Time Fuze. When the fuze functions, the primary expelling charge ignites, forcing the drogue parachute and canister assembly against the base plate, rupturing the base pins and expelling the canister and parachute. The drogue parachute deploys and the canister fins extend. The expelling charge also ignites the Delay in the canister nose. The Delay ignites the secondary expelling charge within the canister after 6.5 - 9 seconds, igniting the candle and expelling the main parachute. With the main parachute open, the illuminate candle descends at 15 feet per second and burns for 120 seconds minimum. The M1123 provides Infrared battlefield illumination that is 2.4x larger in diameter than the M1124 Visible Light Illumination projectile. This item is Code A, approved for service use.

(E67800) PROJ, ARTY, 155MM WP SMOKE M825

The 155mm WP M825A1 is an improved artillery projectile which produces a ground screening smoke cloud 125-150 meters wide for 5-10 minutes. This smoke screen is produced by burning multiple wedge-shaped pieces of felt saturated with White Phosphorous (WP). The system consists principally of a projectile carrier and canister containing 116 WP felt wedges and a center core burster. Projectile carrier is comprised of an ogive, expulsion charge, modified all steel body, and a one-piece steel dome shaped base. Upon M762/M762A1 ET fuze function, the Expulsion Charge is initiated which simultaneously dispenses the canister and ignites a short delay. This delay provides ample time for canister and projectile body separation prior to functioning of the center core Burster which ruptures the canister and disperses

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Appropriation / Budget Activity / Budget Sub Activity: 2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 37: Artillery Ammunition		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 123		
<p>116 WP felt wedges. In less than 45 seconds, a dense and uniform smoke screen is created by burning of the WP. This projectile is shipped with a fusible lifting plug which protects the item during shipping, handling, and storage. This item is Code A, approved for service use.</p> <p>(E26900) PROJ, ARTY, 155MM VL ILLUM M1124 The 155mm M1124 Visual Light (VL) Illumination Projectile is fired from 155mm howitzers and is used to illuminate the battlefield to a maximum range of 22.5 kilometers. The M1124 utilizes projectile bodies generated from an on-going M483 Dual Purpose Improved Conventional Munition (DPICM) demilitarization program and leverages the payload contained in the M485A2 VL Illuminating Projectile. The M1124 contains a Canister Loading Assembly, Expulsion Charge, and numerous spacers. The Canister Loading Assembly consists of a VL Illuminating Candle, Main Parachute, Drogue Parachute, Delay, and Secondary Expulsion Charge. The outer shell of the canister is fitted with three longitudinal fins. The projectile uses an M762 series Electronic Time Fuze. When the fuze functions, the primary expelling charge ignites, forcing the drogue parachute and canister assembly against the base plate, rupturing the base pins and expelling the canister and parachute. The drogue parachute then deploys and the canister fins extend. The expelling charge also ignites the delay element in the canister nose. The delay element ignites the secondary expelling charge within the canister after 6.5 - 9 seconds, igniting the candle and expelling the main parachute. With the main parachute open, the illumination candle descends at 15 feet per second and burns for 75 seconds minimum producing approximately 1,000,000 candlepower. This item is Code A, approved for service use.</p> <p>(E66800) PROJ, ARTY, 155MM HE, M795 The M795 High Explosive (HE) Projectile is the primary HE round used for combat operations with maximum range of 22.5 kilometers. The M795 incorporates Insensitive Munitions (IM) technologies that reduces vulnerability from unplanned stimuli e.g. fire/heat, shock and impact, while maintaining or exceeding the same level of effectiveness in combat. The 155mm M795 has a high fragmentation steel (HF1) body projectile filled with 23.8 pounds of IMX101 Explosive fill, PBXN-9 Supplementary Charge, and Meltable Fuze Plug. The projectile can use several different fuzes (impact, mechanical time, electronic time and short intrusion proximity). It is used for conventional fire support for harassment and interdiction, fragmentation and blast effect. The M795 projectile is employed against personnel, trucks, electronic surveillance and target acquisition devices, supply points, command and control and communications (C3) installations, and mechanized and armored forces. This item is Code A, approved for service use.</p> <p>(E27603) PROJ, ARTY, 155MM HE IM TRAINING M1122 The 155mm M1122/E1 High Explosive (HE) Projectile will be the primary HE round used for training. The FY2018 and FY2019 buy utilized M483A1 DPICM metal parts from an ongoing M483A1 demil effort, is filled with high density concrete to simulate the weight of the M795 HE Projectile, and incorporates several Insensitive Munitions (IM) technologies to increase survivability and safety. FY2020 there are no available M483A1 DPICM bodies to re-use and therefore the buy will be for the M1122E1 which utilizes a one-piece projectile body with a flat base, and is filled with low density concrete to simulate the weight of the M795 HE Projectile. [Winkler, Jeffery M CIV JPEO A&A] Similarly to the M1122, the M1122E1 incorporates several Insensitive Munitions (IM) technologies, including IMX-104 explosive fill, PBXN-9 Supplementary Charge, Plastic Fuze Well Liner and Meltable Fuze Plug. Both the M1122 and the M1122E1 will replicate the flight characteristics of the wartime M795 HE Projectile with a maximum range of 22.5 kilometers. M1122 is Code A, approved for service use. M1122E1 is Code B, not approved for service use.</p> <p>(E66501) PROJ, ARTY, 155MM HE RAP XM1113 The XM113 High Explosive (HE), Rocket Assisted Projectile (RAP) is an extended range munition for warfare operations with maximum range of 40 kilometers in 39 caliber weapon systems and 70 kilometers in 58 caliber weapon systems. The XM1113 projectile is a critical munition that supports the Army's modernization priorities in support the National Defense Strategies. The XM1113 projectile incorporates Insensitive Munitions (IM) technologies that reduces vulnerability from unplanned stimuli e.g. fire/heat, shock and impact, while maintaining or exceeding the same level of effectiveness in combat. The XM1113 projectile has a high fragmentation steel (HF1) body projectile filled with 12 pounds of IMX104 Explosive fill, PBXN-9 Supplementary Charge, and Meltable Fuze Plug. Extended ranges are achieved with 12 pounds of rocket grain propellant. The projectile can use several different conventional fuzes (impact, mechanical time, electronic time and short intrusion proximity) as well as Precision Guidance Kit (PGK). It is used for conventional fire support for harassment and interdiction, fragmentation and blast effect. The XM1113 projectile is employed against personnel, trucks, electronic warfare surveillance, target acquisition, supply points, command and control and communications (C3), indirect fire capabilities, air defense artillery, and light armored vehicles. This item is Code B, not approved for service use.</p> <p>(E27001) PROJ, ARTY, 155MM HC SMOKE M116 Series</p>		

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Appropriation / Budget Activity / Budget Sub Activity: 2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 37: Artillery Ammunition		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 123		
<p>The M116 Series base ejection projectile has a hollow steel casing containing four canisters filled with HC (white) smoke composition. These smoke canisters are stacked within the projectile and separated by felt spacers. Upon fuze function, an expelling charge consisting of 0.34 pounds of black powder flashes through the central tube to ignite the smoke canisters, blow off the base and dispenses all smoke canisters. An effective smoke cloud is produced within 30 seconds, and continues for approximately 1.5 minutes. This item is Code A, approved for service use.</p> <p>(E68510) PROJ, ARTY, 155MM BONUS, MK2 The 155mm Bonus, MK2, is a projectile solution to address the current munition capability gap against medium to heavy armor threats. The capability gap was identified during the analysis to determine a replacement for Dual Purpose Improved Conventional Munition (DPICM) capability, a cluster munition that must be replaced in accordance with current Department of Defense Cluster Munitions policy. The 155mm Bonus, MK2, is a Swedish sensor fuzed projectile which provides lethal effects against disbursed and poorly located light, medium and heavy armored targets. The procurement of the Swedish Bonus is an effective bridging strategy to address critical capability gaps from the loss of DPICM and mitigates risks until the planned program of record is completed. This bridging strategy supports the Army's modernization priorities in support of the National Defense Strategy. This item is Code A, approved for service use.</p> <p>(E67802) PROJ, ARTY, 155MM, HE W/ BASEBLEED XM1128 The XM1128 Extended Range High Explosive (HE) projectile is intended as a replacement for the M795 projectile as the primary HE round for warfare operations utilizing current 39 caliber weapon systems. The XM1128 will have a maximum range of 30km compared to 22.5km with current M795 and incorporate Insensitive Munitions (IM) technologies that reduces vulnerability from unplanned stimuli e.g. fire/heat, shock and impact, while maintaining or exceeding the same level of effectiveness in combat. The 155mm XM1128 consists of a high fragmentation (HF-1) steel body with a streamlined ogive and a base bleed to reduce drag and extend range. The main payload is 20 pounds of IMX-104. The projectile will be compatible with our conventional fuzes (impact, mechanical time, electronic time, proximity) and Precision Guidance Kit. It will be used for conventional fire support for harassment and interdiction, fragmentation, and blast effect. The XM1128 can be employed against personnel, trucks, electronic surveillance and target acquisition devices, supply points, command and control and communications (C3) installations, and mechanized and armored forces. This item is Code B and not approved for service use.</p> <p>(E21618) PROJ, ARTY, 155mm Extended Range Spotting, M1121 The 155mm Extended Range Spotting, M1121 Artillery Round utilizes projectile bodies generated from an on-going M483 Dual Purpose Improved Conventional Munition (DPICM) demilitarization program and incorporates a more producible WP Bulk-filled Canister with 11.0 lbs of WP that provides smoke spotting capability to a maximum range of 22.5 kilometers providing increased operational effectiveness and improved training. This item is Code A, approved for service use.</p>		

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

Appropriation / Budget Activity / Budget Sub Activity:
2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 37: Artillery Ammunition

P-1 Line Item Number / Title:
3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types

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

Line Item MDAP/MAIS Code: 123

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) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	E21618 / PROJ, ARTY, 155mm Extended Range Spotting, M1121 [DA66]	P-5a	A		- / 10.363	- / -	- / 5.000	- / -	- / -	- / -
P-5	E26900 / PROJ, 155mm ARTY VL ILLUM, M485 / M1124 Series [DA57]	P-5a	A		- / 301.046	- / -	- / 19.344	- / -	- / -	- / -
P-5	E26904 / PROJ, 155mm ARTY IR ILLUM, M1066 / M1123 Series [DA56]	P-5a	A		- / 63.337	- / 13.300	- / -	- / -	- / -	- / -
P-5	E27001 / PROJ, 155mm ARTY Smoke, M116 Series [D506]		A		- / -	1,970 / 5.000	- / -	- / -	1,050 / 2.978	1,050 / 2.978
P-5	E27603 / PROJ, 155mm ARTY HE IM Training, M1122	P-5a, P-21	A		- / 157.144	- / 63.900	- / 63.153	- / -	- / 114.427	- / 114.427
P-5	E66501 / PROJ, 155mm ARTY HE RAP, XM1113 [DZ12]		B		- / -	- / -	- / -	- / -	1,636 / 30.000	1,636 / 30.000
P-5	E66800 / PROJ, 155mm ARTY HE, M795 [DA54]	P-5a	A		- / 405.872	- / 157.300	- / 170.876	- / -	- / 29.538	- / 29.538
P-5	E67800 / PROJ, 155mm ARTY WP Smoke, M825 / M825A1 [D528]		A		- / 236.214	- / -	- / 9.469	- / -	- / -	- / -
P-5	E67802 / PROJ, 155mm ARTY HE-BB, XM1128 [DA70]	P-5a	B		- / -	- / -	- / -	- / -	- / 14.994	- / 14.994
P-5	E68510 / PROJ, ARTY, 155MM BONUS, MK2	P-5a, P-21	A		- / -	- / 39.949	- / 33.000	- / -	- / 74.100	- / 74.100
P-40	Total Gross/Weapon System Cost				- / 1,173.976	- / 279.449	- / 300.842	- / -	- / 266.037	- / 266.037

*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:
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 \$266.037 million for Overseas Contingency Operations, with a quantity of 194,617 projectiles for \$266.037 million realigned as part of the OCO for Base Requirements funding which reflects the Department's compliance with the Budget Control Act of 2011.

(E26904) PROJ, ARTY, 155MM IR ILLUM M1066 / M1123
This item is a training standard item used in both training and combat. Request supports annual training and builds a war reserve inventory in accordance with the Army's procurement goals.
TYPE CLASSIFICATION: 2010

(E67800) PROJ, ARTY, 155MM WP SMOKE M825
This items is a training standard item used in training and combat. Request supports annual training and builds a war reserve inventory in accordance with the Army's procurement goals. TYPE CLASSIFICATION DATE: 1982

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Exhibit P-40, Budget Line Item Justification: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A: Procurement of Ammunition, Army / BA 01: Ammunition / BSA 37: Artillery Ammunition		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
ID Code (A=Service Ready, B=Not Service Ready):	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 123		
<p>(E26900) PROJ, ARTY, 155MM VL ILLUM, M485 / M1124 This is a training standard item used in training and combat. Request supports annual training and builds a war reserve inventory in accordance with the Army's procurement goals. TYPE CLASSIFICATION DATE: 1970</p> <p>(E66800) PROJ, ARTY, 155MM HE, M795 This is a war reserve item used in combat. FY 2020 request builds a war reserve inventory in accordance with Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$29.538 million supports the procurement of 21,159 projectiles. TYPE CLASSIFICATION DATE: 1982</p> <p>(E27603) PROJ, ARTY, 155MM HE IM TRAINING M1122 This is a training unique item not used in combat. FY 2020 request supports annual training and builds a depot level inventory in accordance with the Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$114.427 million supports the procurement of 167,620 projectiles. TYPE CLASSIFICATION DATE: M1122 is 2010; M1122E1 is 2QFY20</p> <p>(E66501) PROJ, ARTY, 155MM HE RAP XM1113 This is a war reserve item used in combat. FY 2020 request builds a war reserve inventory in accordance with the Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$30.000 million supports the procurement of 1,636 projectiles to support the Long Range Precision Fires, Cross Functional Team (LRPF CFT) directive to deliver an operational capability by April 2021. E66501 is a new start in FY 2020. TYPE CLASSIFICATION: 4QFY22</p> <p>(E27001) PROJ, ARTY, 155MM HC SMOKE M116 Series This item is a training standard item used in both training and combat. The 155mm Smoke M116 Artillery requirement was initiated based upon REF 10 Liner which required annual delivery of 1,000 M116A1 HC Smoke Projectiles (D506) to support training. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$2.978 million supports the procurement of 1,050 projectiles.</p> <p>(E68510) PROJ, ARTY, 155MM BONUS, MK2 This is a war reserve item used in combat. FY 2020 request builds a war reserve inventory in accordance with the Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$74.100 million supports the procurement of 1266 Swedish Bonus projectiles.</p> <p>(E67802) PROJ, ARTY, 155MM, HE W/ BASEBLED XM1128 This is a war reserve item used in combat. FY 2020 request builds a war reserve inventory in accordance with Army's procurement goals. FY 2020 OCO for Base Requirements procurement dollars in the amount of \$14.994 million supports the procurement of 1,886 projectiles. E67802 is a new start in FY 2020. TYPE CLASSIFICATION DATE: 1QFY21</p> <p>(E21618) PROJ, ARTY, 155mm Extended Range Spotting, M1121 This is a training standard item used in training and combat. Request supports annual training and builds a war reserve inventory in accordance with the Army's procurement goals. TYPE CLASSIFICATION DATE: 3QFY17</p>		

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E21618 / PROJ, ARTY, 155mm Extended Range Spotting, M1121 [DA66]

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	10.363	-	5.000	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	10.363	-	5.000	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	10.363	-	5.000	-	-	-

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

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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
LOAD, ASSEMBLE, PACK (LAP) ^(†)	-	-	-	-	-	-	472.00	3,010	1.421	-	-	-	-	-	-	-	-	-
MELTABLE FUZE PLUG ^(†)	-	-	-	-	-	-	10.20	3,070	0.031	-	-	-	-	-	-	-	-	-
CANNISTER METAL PART SET ^(†)	-	-	-	-	-	-	588.01	3,070	1.805	-	-	-	-	-	-	-	-	-
MODIFIED SUPPLEMENTAL CHARGE, PBXN9 ^(†)	-	-	-	-	-	-	49.99	3,070	0.153	-	-	-	-	-	-	-	-	-
WOODEN PALLET, IMX ^(†)	-	-	-	-	-	-	120.00	391	0.047	-	-	-	-	-	-	-	-	-
MODIFIED PROJECTILE BODY ^(†)	-	-	-	-	-	-	236.48	3,070	0.726	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	4.184	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	4.184	-	-	-	-	-	-	-	-	-
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	-	-	-	-	-	-	0.110	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	-	-	-	0.110	-	-	-	-	-	-	-	-	-
Support - Engineering Change Proposals Cost																		

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E21618 / PROJ, ARTY, 155mm Extended Range Spotting, M1121 [DA66]
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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
Engineering Change Proposals	-	-	1.201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Engineering Change Proposals Cost</i>	-	-	1.201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Production Engineering Cost																		
Production Engineering	-	-	9.162	-	-	-	-	-	0.706	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	9.162	-	-	-	-	-	0.706	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	10.363	-	-	-	-	-	5.000	-	-	-	-	-	-	-	-	-

(†) 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 / 37			P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types				Item Number / Title [DODIC]: E21618 / PROJ, ARTY, 155mm Extended Range Spotting, M1121 [DA66]					

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
LOAD, ASSEMBLE, PACK (LAP)		2019	PINE BLUFF ARSENAL / PINE BLUFF, AR	PO	PICATINNY ARSENAL, NJ	Mar 2019	Sep 2021	3,010	472.00	Y		
MELTABLE FUZE PLUG		2019	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Mar 2019	Sep 2020	3,070	10.20	Y		
CANNISTER METAL PART SET		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Mar 2019	Sep 2020	3,070	588.01	Y		
MODIFIED SUPPLEMENTAL CHARGE, PBXN9		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Mar 2019	Sep 2020	3,070	49.99	Y		
WOODEN PALLET, IMX		2019	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Aug 2019	Aug 2020	391	120.00	Y		
MODIFIED PROJECTILE BODY		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Mar 2019	Aug 2020	3,070	236.48	Y		

Remarks:

Melttable Lift Plug: IDIQ contract awarded (FY19) to multiple contractors. Requirements competed among the following contractors: RTI Technologies, Columbia, CT & Polymer Technologies Inc., Clifton, NJ.

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Exhibit P-5, Cost Analysis: PB 2020 Army						Date: March 2019		
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37			P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types			Item Number / Title [DODIC]: E26900 / PROJ, 155mm ARTY VL ILLUM, M485 / M1124 Series [DA57]		
ID Code (A=Service Ready, B=Not Service Ready) : A						MDAP/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)			301.046	-	19.344	-	-	-
Less PY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)			301.046	-	19.344	-	-	-
Plus CY Advance Procurement (\$ in Millions)			-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)			301.046	-	19.344	-	-	-
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>								
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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
LOAD, ASSEMBLE, PACK (LAP) ^(†)	334.60	7,864	2.631	-	-	-	314.69	13,431	4.227	-	-	-	-	-	-	-	-	-
METAL PARTS SETS ^(†)	301.47	8,021	2.418	-	-	-	287.01	13,431	3.855	-	-	-	-	-	-	-	-	-
VL ILLUM CANNISTER ^(†)	312.60	8,021	2.507	-	-	-	358.76	13,700	4.915	-	-	-	-	-	-	-	-	-
CANISTER MPTS ASSY, 155MM ILLUM ^(†)	53.82	8,021	0.432	-	-	-	60.91	13,700	0.834	-	-	-	-	-	-	-	-	-
CANISTER BASE ASSY, 155MM ILLUM ^(†)	17.74	8,021	0.142	-	-	-	24.93	13,700	0.342	-	-	-	-	-	-	-	-	-
M10 EXPULSION CHARGE ASSEMBLY ^(†)	16.28	8,021	0.131	-	-	-	22.09	13,700	0.303	-	-	-	-	-	-	-	-	-
PARACHUTE MAIN, 155MM ILLUM ^(†)	37.80	8,021	0.303	-	-	-	39.72	13,700	0.544	-	-	-	-	-	-	-	-	-
PARACHUTE MAIN SUPPORTS, 155MM ILLUM ^(†)	5.05	32,085	0.162	-	-	-	5.25	54,798	0.288	-	-	-	-	-	-	-	-	-
PARACHUTE DROGUE	16.90	8,021	0.136	-	-	-	17.90	13,700	0.245	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
ID Code (A=Service Ready, B=Not Service Ready) : A		MDAP/MAIS Code:
Item Number / Title [DODIC]: E26900 / PROJ, 155mm ARTY VL ILLUM, M485 / M1124 Series [DA57]		

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
ASSEMBLY, 155MM ILLUM ^(†)																		
DELAY ELEMENT, 155MM ILLUM ^(†)	32.94	8,021	0.264	-	-	-	81.88	13,700	1.122	-	-	-	-	-	-	-	-	-
WOODEN PALLET, IMX ^(†)	95.58	1,022	0.098	-	-	-	120.00	1,746	0.210	-	-	-	-	-	-	-	-	-
DOWNLOAD, CLEAN AND INSPECT ^(†)	81.22	8,257	0.671	-	-	-	71.33	14,103	1.006	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	9.895	-	-	-	-	-	17.889	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	9.895	-	-	-	-	-	17.889	-	-	-	-	-	-	-	-	-
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	0.058	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	0.058	-	-	-	-	-	0.100	-	-	-	-	-	-	-	-	-
Support - Production Engineering Cost																		
Production Engineering	-	-	291.093	-	-	-	-	-	1.355	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	291.093	-	-	-	-	-	1.355	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	301.046	-	-	-	-	-	19.344	-	-	-	-	-	-	-	-	-

^(†) 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 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E26900 / PROJ, 155mm ARTY VL ILLUM, M485 / M1124 Series [DA57]
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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
LOAD, ASSEMBLE, PACK (LAP)		2019	PINE BLUFF ARSENAL / PINE BLUFF, AR	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jan 2021	13,431	314.69	Y		
METAL PARTS SETS		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	13,431	287.01	Y		
VL ILLUM CANNISTER		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	13,700	358.76	Y		
CANISTER MPTS ASSY, 155MM ILLUM		2019	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	May 2019	Nov 2020	13,700	60.91	Y		
CANISTER BASE ASSY, 155MM ILLUM		2019	TO BE SELECTED / TBS01	C / IDIQ	ROCK ISLAND ARSENAL, IL	May 2019	Nov 2020	13,700	24.93	Y		
M10 EXPULSION CHARGE ASSEMBLY		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	13,700	22.09	Y		
PARACHUTE MAIN, 155MM ILLUM		2019	YOLAND CORPORATION / BROOKLYN, NY	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Dec 2018	Jun 2020	13,700	39.72	Y		
PARACHUTE MAIN SUPPORTS, 155MM ILLUM		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	54,798	5.25	Y		
PARACHUTE DROGUE ASSEMBLY, 155MM ILLUM		2019	YOLAND CORPORATION / BROOKLYN, NY	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Dec 2018	Jun 2020	13,700	17.90	Y		
DELAY ELEMENT, 155MM ILLUM		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	13,700	81.88	Y		
WOODEN PALLET, IMX		2019	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Aug 2019	Aug 2020	1,746	120.00	Y		
DOWNLOAD, CLEAN AND INSPECT		2019	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	14,103	71.33	Y		

Remarks:
 Canister Base / MPTS Assembly: IDIQ contract awarded to multiple contractors. Requirements competed among the following contractors: Woodlawn MFG INC., Marshall, TX and Bailey Tooling and MFG CO., Lancaster, TX.
 Parachute Main: IDIQ contract awarded (FY 2016) to Yoland Corp INC., Brooklyn, NY.
 Parachute Drogue Assembly: IDIQ contract awarded (FY 2016) to Yoland Corp INC., Brooklyn, NY.

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E26904 / PROJ, 155mm ARTY IR ILLUM, M1066 / M1123 Series [DA56]

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	63.337	13.300	-	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	63.337	13.300	-	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	63.337	13.300	-	-	-	-

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

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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
LOAD, ASSEMBLE, PACK (LAP) ^(†)	-	-	-	326.82	8,858	2.895	-	-	-	-	-	-	-	-	-	-	-	-
WOODEN PALLET, IMX ^(†)	-	-	-	95.58	1,152	0.110	-	-	-	-	-	-	-	-	-	-	-	-
METAL PARTS SETS ^(†)	-	-	-	278.94	8,858	2.471	-	-	-	-	-	-	-	-	-	-	-	-
IR ILLUM CANNISTER ^(†)	-	-	-	338.12	9,035	3.055	-	-	-	-	-	-	-	-	-	-	-	-
CANISTER BASE ASSY, 155MM ILLUM ^(†)	-	-	-	24.44	9,035	0.221	-	-	-	-	-	-	-	-	-	-	-	-
CANISTER MPTS ASSY, 155MM ILLUM ^(†)	-	-	-	59.71	9,035	0.539	-	-	-	-	-	-	-	-	-	-	-	-
PARACHUTE MAIN SUPPORTS, 155MM ILLUM ^(†)	-	-	-	5.15	36,141	0.186	-	-	-	-	-	-	-	-	-	-	-	-
PARACHUTE MAIN, 155MM ILLUM ^(†)	-	-	-	38.94	9,035	0.352	-	-	-	-	-	-	-	-	-	-	-	-
PARACHUTE DROGUE	-	-	-	17.55	9,035	0.159	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E26904 / PROJ, 155mm ARTY IR ILLUM, M1066 / M1123 Series [DA56]
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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
ASSEMBLY, 155MM ILLUM ^(t)																		
M10 EXPULSION CHARGE ASSEMBLY ^(t)	-	-	-	17.12	9,035	0.155	-	-	-	-	-	-	-	-	-	-	-	-
DELAY ELEMENT, 155MM ILLUM ^(t)	-	-	-	80.27	9,035	0.725	-	-	-	-	-	-	-	-	-	-	-	-
DOWNLOAD, CLEAN AND INSPECT ^(t)	-	-	-	71.33	9,301	0.663	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	11.531	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	11.531	-	-	-	-	-	-	-	-	-	-	-	-
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	-	-	-	0.124	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	0.124	-	-	-	-	-	-	-	-	-	-	-	-
Support - Production Engineering Cost																		
Production Engineering	-	-	63.337	-	-	1.645	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	63.337	-	-	1.645	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	63.337	-	-	13.300	-	-	-	-	-	-	-	-	-	-	-	-

^(t) 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 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E26904 / PROJ, 155mm ARTY IR ILLUM, M1066 / M1123 Series [DA56]
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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
LOAD, ASSEMBLE, PACK (LAP)		2018	PINE BLUFF ARSENAL / PINE BLUFF, AR	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jan 2020	8,858	326.82	Y		
WOODEN PALLET, IMX		2018	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Jun 2018	Jun 2019	1,152	95.58	Y		
METAL PARTS SETS		2018	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jul 2019	8,858	278.94	Y		
IR ILLUM CANNISTER		2018	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jul 2019	9,035	338.12	Y		
CANISTER BASE ASSY, 155MM ILLUM		2018	WOODLAWN MANUFACTURING INC / MARSHALL, TX	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Apr 2018	Oct 2019	9,035	24.44	Y		
CANISTER MPTS ASSY, 155MM ILLUM		2018	WOODLAWN MANUFACTURING INC / MARSHALL, TX	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Apr 2018	Oct 2019	9,035	59.71	Y		
PARACHUTE MAIN SUPPORTS, 155MM ILLUM		2018	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jul 2019	36,141	5.15	Y		
PARACHUTE MAIN, 155MM ILLUM		2018	YOLAND CORPORATION / BROOKLYN, NY	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Dec 2017	Jun 2019	9,035	38.94	Y		
PARACHUTE DROGUE ASSEMBLY, 155MM ILLUM		2018	YOLAND CORPORATION / BROOKLYN, NY	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Dec 2018	Jun 2019	9,035	17.55	Y		
M10 EXPULSION CHARGE ASSEMBLY		2018	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jul 2019	9,035	17.12	Y		
DELAY ELEMENT, 155MM ILLUM		2018	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jul 2019	9,035	80.27	Y		
DOWNLOAD, CLEAN AND INSPECT		2018	MCALISTER ARMY AMMUNITION / MCALISTER, OK	PO	PICATINNY ARSENAL, NJ	Feb 2018	Aug 2019	9,301	71.33	Y		

Remarks:
 Canister Base / MPTS Assembly: IDIQ contract awarded to multiple contractors. Requirements competed among the following contractors: Woodlawn MFG INC., Marshall, TX and Bailey Tooling and MFG CO., Lancaster, TX.
 Parachute Main: IDIQ contract awarded (FY 2016) to Yoland Corp INC., Brooklyn, NY.
 Parachute Drogue Assembly: IDIQ contract awarded (FY 2016) to Yoland Corp INC., Brooklyn, NY.

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Exhibit P-5, Cost Analysis: PB 2020 Army													Date: March 2019					
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37						P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types						Item Number / Title [DODIC]: E27001 / PROJ, 155mm ARTY Smoke, M116 Series [D506]						
ID Code (A=Service Ready, B=Not Service Ready) : A									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total				
Procurement Quantity (Units in Each)				-		1,970		-		-		1,050		1,050				
Gross/Weapon System Cost (\$ in Millions)				-		5.000		-		-		2.978		2.978				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				-		5.000		-		-		2.978		2.978				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				-		5.000		-		-		2.978		2.978				
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
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.																		
Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
COMPLETE ROUND	-	-	-	2,215.50	1,953	4.327	-	-	-	-	-	-	2,305.00	1,050	2.420	2,305.00	1,050	2.420
Subtotal: Recurring Cost	-	-	-	-	-	4.327	-	-	-	-	-	0.000	-	-	2.420	-	-	2.420
Subtotal: Hardware Cost	-	-	-	-	-	4.327	-	-	-	-	-	0.000	-	-	2.420	-	-	2.420
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	-	-	-	0.075	-	-	-	-	-	-	-	-	0.075	-	-	0.075
Subtotal: Support - Acceptance Testing Cost	-	-	-	-	-	0.075	-	-	-	-	-	0.000	-	-	0.075	-	-	0.075
Support - Industrial Facilities Cost																		
Equipment Acquisition or Modernization	-	-	-	-	-	0.117	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Industrial Facilities Cost	-	-	-	-	-	0.117	-	-	-	-	-	-	-	-	-	-	-	-
Support - Production Engineering Cost																		
Production Engineering	-	-	-	-	-	0.481	-	-	-	-	-	-	-	-	0.483	-	-	0.483
Subtotal: Support - Production Engineering Cost	-	-	-	-	-	0.481	-	-	-	-	-	0.000	-	-	0.483	-	-	0.483
Gross/Weapon System Cost	-	-	-	-	1,970	5.000	-	-	-	-	-	-	-	1,050	2.978	-	1,050	2.978

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	157.144	63.900	63.153	-	114.427	114.427
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	157.144	63.900	63.153	-	114.427	114.427
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	157.144	63.900	63.153	-	114.427	114.427

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

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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
LOAD, ASSEMBLE, PACK (LAP) ^(†)	305.79	140,069	42.832	263.16	140,309	36.924	244.33	140,040	34.216	-	-	-	150.00	167,620	25.143	150.00	167,620	25.143
METAL PARTS - M1122A1 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	338.13	170,972	57.811	338.13	170,972	57.811
WOODEN PALLET, IMX ^(†)	108.84	18,209	1.982	114.88	18,240	2.095	120.00	18,205	2.185	-	-	-	122.39	21,790	2.667	122.39	21,790	2.667
MELTABLE FUZE PLUG ^(†)	9.59	142,870	1.370	7.90	143,115	1.131	10.20	142,841	1.457	-	-	-	10.40	170,972	1.778	10.40	170,972	1.778
SUPPLEMENTAL CHARGE, PBXN9 ^(†)	18.85	142,870	2.693	18.62	143,115	2.665	18.99	142,841	2.713	-	-	-	19.37	170,972	3.312	19.37	170,972	3.312
EXPLOSIVE FILL IMX-101 ^(†)	19.12	490,242	9.373	14.70	420,927	6.188	16.17	420,120	6.793	-	-	-	-	-	-	-	-	-
EXPLOSIVE FILL IMX-104 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	22.78	670,480	15.274	22.78	670,480	15.274
DOWNLOAD, CLEAN AND INSPECT ^(†)	-	-	-	69.33	140,309	9.728	70.72	140,040	9.904	-	-	-	-	-	-	-	-	-
<i>Subtotal: Recurring Cost</i>	-	-	<i>58.250</i>	-	-	<i>58.730</i>	-	-	<i>57.267</i>	-	-	<i>0.000</i>	-	-	<i>105.984</i>	-	-	<i>105.984</i>
<i>Subtotal: Hardware Cost</i>	-	-	<i>58.250</i>	-	-	<i>58.730</i>	-	-	<i>57.267</i>	-	-	<i>0.000</i>	-	-	<i>105.984</i>	-	-	<i>105.984</i>
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	0.670	-	-	0.650	-	-	0.750	-	-	-	-	-	0.450	-	-	0.450

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122
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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	0.670	-	-	0.650	-	-	0.750	-	-	0.000	-	-	0.450	-	-	0.450
Support - Production Engineering Cost																		
Production Engineering	-	-	98.223	-	-	4.520	-	-	5.136	-	-	-	-	-	7.993	-	-	7.993
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	98.223	-	-	4.520	-	-	5.136	-	-	0.000	-	-	7.993	-	-	7.993
Gross/Weapon System Cost	-	-	157.144	-	-	63.900	-	-	63.153	-	-	-	-	-	114.427	-	-	114.427

Remarks:

The Cost Elements on the P5 for the FY2018 and FY2019 buy differ from the FY2020. Reason is that the FY18 and FY19 is the M1122 (DA51) which utilizes M483A1 DPICM metal parts from an ongoing M483A1 demil effort, is filled with high density concrete. In FY2020, the Army no longer has available M483A1 DPICM metal parts for the re-use, and the M1122E1 (DA68) will require a new metal part.

(t) 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 / 37				P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types				Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122				
Cost Elements	O C O	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
LOAD, ASSEMBLE, PACK (LAP)		2018	CRANE ARMY AMMO ACTIVITY / CRANE, IN	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jan 2021	26,659	263.16	Y		
LOAD, ASSEMBLE, PACK (LAP)		2018	MCALESTER ARMY AMMUNITION / MCALESTER, OK	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jan 2021	113,650	263.16	Y		
LOAD, ASSEMBLE, PACK (LAP)		2019	MCALESTER ARMY AMMUNITION / MCALESTER, OK	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jan 2022	140,040	244.33	Y		
LOAD, ASSEMBLE, PACK (LAP) ^(†)	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	May 2020	Sep 2022	167,620	150.00	Y		
METAL PARTS - M1122A1	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Feb 2020	Aug 2021	170,972	338.13	Y		
WOODEN PALLET, IMX		2018	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Jun 2018	Jun 2019	18,240	114.88	Y		
WOODEN PALLET, IMX		2019	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Aug 2019	Aug 2020	18,205	120.00	Y		
WOODEN PALLET, IMX	✓	2020	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2021	21,790	122.39	Y		
MELTABLE FUZE PLUG		2018	POLYMER TECHNOLOGIES, INC / CLIFTON, NJ	Option / IDIQ	PICATINNY ARSENAL, NJ	Dec 2018	Jun 2020	143,115	7.90	Y		
MELTABLE FUZE PLUG		2019	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Mar 2019	Sep 2020	142,841	10.20	Y		
MELTABLE FUZE PLUG	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Feb 2020	Aug 2021	170,972	10.40	Y		
SUPPLEMENTAL CHARGE, PBXN9		2018	CHEMRING ORDNANCE, INC. / PERRY, FL	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jan 2018	Jul 2019	143,115	18.62	Y		
SUPPLEMENTAL CHARGE, PBXN9		2019	TO BE SELECTED / TBS01	C / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2019	Aug 2019	142,841	18.99	Y		
SUPPLEMENTAL CHARGE, PBXN9	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2021	170,972	19.37	Y		
EXPLOSIVE FILL IMX-101		2018	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jun 2018	Dec 2020	420,927	14.70	Y		
EXPLOSIVE FILL IMX-101		2019	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jun 2019	Dec 2021	420,120	16.17	Y		
EXPLOSIVE FILL IMX-104	✓	2020	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2022	670,480	22.78	Y		
DOWNLOAD, CLEAN AND INSPECT		2018	MCALESTER ARMY AMMUNITION / MCALESTER, OK	PO	PICATINNY ARSENAL, NJ	Jan 2018	Jul 2019	140,309	69.33	Y		
DOWNLOAD, CLEAN AND INSPECT		2019	MCALESTER ARMY AMMUNITION / MCALESTER, OK	PO	PICATINNY ARSENAL, NJ	Jan 2019	Jul 2020	140,040	70.72	Y		

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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 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122

^(†) indicates the presence of a P-21

Remarks:

Supplemental Charge, PBXN9 Is and IDIQ contract awarded to multiple contractors. Requirements will be competed among the following contractors: DZI Lonestar LLC., Texarkana, TX and Chemring Ordnance, INC., Perry FL.; Melttable Lift Plug: IDIQ contract awarded (FY19) to multiple contractors. Requirements competed among the following contractors: RTI Technologies, Columbia, CT & Polymer Technologies Inc., Clifton, NJ; Explosive Fill IMX101 and IMX104 is a requirements contract (IDIQ) awarded to Holston Army Ammunition Plant (HSAAP)

The Cost Elements on the P5A for the FY 2018 and FY 2019 buy differ from the FY 2020. Reason is that the FY18 and FY19 is the M1122 (DA51) which utilizes M483A1 DPICM metal parts from an ongoing M483A1 demil effort, is filled with high density concrete. In FY 2020, the Army no longer has available M483A1 DPICM metal parts for the re-use, and the M1122E1 (DA68) will require a new metal part.

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Exhibit P-21, Production Schedule: PB 2020 Army														Date: March 2019															
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37										P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types										Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122									

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2018												Fiscal Year 2019												B A L A N C E	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018												Calendar Year 2019												
							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

LOAD, ASSEMBLE, PACK (LAP)																														
Prior Years Deliveries: 140069																														
✓	1	2020	ARMY	167.620	.000	167.620																								167.620
✓	1	2020	MC (†)	20.162	.000	20.162																								20.162
✓	1	2020	Total OCO	187.782	.000	187.782																								187.782

							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 2020 Army												Date: March 2019											
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37						P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types						Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122											

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2020												Fiscal Year 2021												B A L A N C E	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEP T P R I O R T O 1 O C T 2 0 1 9	BAL D U E A S O F 1 O C T	Calendar Year 2020												Calendar Year 2021												
							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

LOAD, ASSEMBLE, PACK (LAP)																													
Prior Years Deliveries: 140069																													
✓	1	2020	ARMY	167.620	.000	167.620																							167.620
✓	1	2020	MC (†)	20.162	.000	20.162																							20.162
✓	1	2020	Total OCO	187.782	.000	187.782																							187.782

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 2020 Army															Date: March 2019														
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37										P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types										Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122									

Cost Elements <i>(Units in Thousands)</i>						Fiscal Year 2022												Fiscal Year 2023												B A L A N C E	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022												Calendar Year 2023												
							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

LOAD, ASSEMBLE, PACK (LAP)

Prior Years Deliveries: 140069

✓	1	2020	ARMY	167.620	.000	167.620	-	-	-	-	-	-	-	-	-	-	-	14.000	13.838	24.000	24.000	24.000	24.000	24.000	24.000	19.782							.000
✓	1	2020	MC (†)	20.162	.000	20.162	-	-	-	-	-	-	-	-	-	-	-	10.000	10.162	-	-	-	-	-	-	-							.000
✓	1	2020	Total OCO	187.782	.000	187.782	-	-	-	-	-	-	-	-	-	-	-	24.000	24.000	24.000	24.000	24.000	24.000	24.000	24.000	19.782	-	-	-	-	-	-	.000

							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 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
		Item Number / Title [DODIC]: E27603 / PROJ, 155mm ARTY HE IM Training, M1122

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	TO BE SELECTED - TBS01	6,000	12,000	24,000	8	8	28	36	8	8	24	32

Remarks:
The FY2018 and FY2019 reflect the deliveries for the M1122 (DA51) which utilizes M483A1 DPICM metal parts from an ongoing M483A1 demil effort and the FY2020 deliveries are for the M1122E1 (DA68).

(†) Delivery rows marked with this symbol indicate that they are funded through a separate Line Item. See the respective components' exhibits for details, including the full delivery schedule.

"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 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).

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
		Item Number / Title [DODIC]: E66501 / PROJ, 155mm ARTY HE RAP, XM1113 [DZ12]

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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Resource Summary	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Procurement Quantity (Units in Each)	-	-	-	-	1,636	1,636
Gross/Weapon System Cost (\$ in Millions)	-	-	-	-	30.000	30.000
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	-	30.000	30.000
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	-	-	30.000	30.000

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	18,337.41	18,337.41

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
COMPLETE ROUND	-	-	-	-	-	-	-	-	-	-	-	-	15,000.00	1,636	24.540	15,000.00	1,636	24.540
Subtotal: Recurring Cost	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	24.540	-	-	24.540
Subtotal: Hardware Cost	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	24.540	-	-	24.540
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.750	-	-	0.750
First Article Test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.700	-	-	0.700
Subtotal: Support - Acceptance Testing Cost	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	1.450	-	-	1.450
Support - Non-Recurring Support Cost																		
Facilitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.900	-	-	1.900
Subtotal: Support - Non-Recurring Support Cost	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	1.900	-	-	1.900
Support - Production Engineering Cost																		
Production Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.110	-	-	2.110
Subtotal: Support - Production Engineering Cost	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	2.110	-	-	2.110
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	18,337.41	1,636	30.000	18,337.41	1,636	30.000

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Exhibit P-5, Cost Analysis: PB 2020 Army													Date: March 2019					
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37						P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types						Item Number / Title [DODIC]: E66800 / PROJ, 155mm ARTY HE, M795 [DA54]						
ID Code (A=Service Ready, B=Not Service Ready) : A									MDAP/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)				405.872		157.300			170.876			-			29.538		29.538	
Less PY Advance Procurement (\$ in Millions)				-		-			-			-			-		-	
Net Procurement (P-1) (\$ in Millions)				405.872		157.300			170.876			-			29.538		29.538	
Plus CY Advance Procurement (\$ in Millions)				-		-			-			-			-		-	
Total Obligation Authority (\$ in Millions)				405.872		157.300			170.876			-			29.538		29.538	
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>																		
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.																		
Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
LOAD, ASSEMBLE, PACK (LAP) ^(†)	226.60	35,987	8.155	235.07	190,808	44.853	231.11	129,000	29.813	-	-	-	235.73	21,159	4.988	235.73	21,159	4.988
MELTABLE FUZE PLUG ^(†)	12.00	36,708	0.440	5.23	39,584	0.207	10.20	131,580	1.342	-	-	-	10.40	21,582	0.224	10.40	21,582	0.224
EXPLOSIVE FILL IMX-104 ^(†)	23.27	35,987	0.837	21.90	54,331	1.190	22.34	129,000	2.882	-	-	-	22.78	21,159	0.482	22.78	21,159	0.482
SUPPLEMENTAL CHARGE, PBXNg ^(†)	18.85	36,707	0.692	15.56	194,624	3.028	18.99	131,580	2.499	-	-	-	19.37	21,582	0.418	19.37	21,582	0.418
WOODEN PALLET, IMX ^(†)	115.92	4,678	0.542	114.88	24,815	2.851	120.00	16,770	2.012	-	-	-	122.39	2,751	0.337	122.39	2,751	0.337
EXPLOSIVE FILL IMX-101 ^(†)	15.54	1,187,571	18.455	14.70	1,280,664	18.826	16.17	4,257,000	68.836	-	-	-	16.48	698,247	11.507	16.48	698,247	11.507
M795 IM METAL PART ^(†)	372.69	36,708	13.681	420.85	194,624	81.908	436.92	131,580	57.490	-	-	-	437.85	21,582	9.450	437.85	21,582	9.450
<i>Subtotal: Recurring Cost</i>	-	-	42.802	-	-	152.862	-	-	164.874	-	-	0.000	-	-	27.406	-	-	27.406
<i>Subtotal: Hardware Cost</i>	-	-	42.802	-	-	152.862	-	-	164.874	-	-	0.000	-	-	27.406	-	-	27.406
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	0.135	-	-	0.475	-	-	0.621	-	-	-	-	-	0.112	-	-	0.112
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	0.135	-	-	0.475	-	-	0.621	-	-	0.000	-	-	0.112	-	-	0.112

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E66800 / PROJ, 155mm ARTY HE, M795 [DA54]
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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
Support - Production Engineering Cost																		
Production Engineering	-	-	362.935	-	-	3.963	-	-	5.382	-	-	-	-	-	2.020	-	-	2.020
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	362.935	-	-	3.963	-	-	5.382	-	-	0.000	-	-	2.020	-	-	2.020
Gross/Weapon System Cost	-	-	405.872	-	-	157.300	-	-	170.876	-	-	-	-	-	29.538	-	-	29.538

(†) 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 / 37				P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types				Item Number / Title [DODIC]: E66800 / PROJ, 155mm ARTY HE, M795 [DA54]				
Cost Elements	O C O	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
LOAD, ASSEMBLE, PACK (LAP)		2018	AMERICAN ORDNANCE LLC (IAAP) / MIDDLETOWN, IA	Option / FFP	ROCK ISLAND ARSENAL, IL	Apr 2018	Apr 2021	190,808	235.07	Y		
LOAD, ASSEMBLE, PACK (LAP)		2019	AMERICAN ORDNANCE LLC (IAAP) / MIDDLETOWN, IA	Option / FFP	ROCK ISLAND ARSENAL, IL	Mar 2019	Mar 2022	129,000	231.11	Y		
LOAD, ASSEMBLE, PACK (LAP)	✓	2020	AMERICAN ORDNANCE LLC (IAAP) / MIDDLETOWN, IA	Option / FFP	ROCK ISLAND ARSENAL, IL	May 2020	May 2023	21,159	235.73	Y		
MELTABLE FUZE PLUG		2018	RTI TECHNOLOGIES, LLC / COLUMBIA, CT	Option / IDIQ	PICATINNY ARSENAL, NJ	Dec 2018	Jun 2020	39,584	5.23	Y		
MELTABLE FUZE PLUG		2019	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Mar 2019	Sep 2020	131,580	10.20	Y		
MELTABLE FUZE PLUG	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Feb 2020	Aug 2021	21,582	10.40	Y		
EXPLOSIVE FILL IMX-104		2018	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jul 2018	Jan 2021	54,331	21.90	Y		
EXPLOSIVE FILL IMX-104		2019	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jun 2019	Dec 2021	129,000	22.34	Y		
EXPLOSIVE FILL IMX-104	✓	2020	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2022	21,159	22.78	Y		
SUPPLEMENTAL CHARGE, PBXN9		2018	CHEMRING ORDNANCE, INC. / PERRY, FL	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jan 2018	Jul 2019	194,624	15.56	Y		
SUPPLEMENTAL CHARGE, PBXN9		2019	TO BE SELECTED / TBS01	C / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2019	Aug 2020	131,580	18.99	Y		
SUPPLEMENTAL CHARGE, PBXN9	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2021	21,582	19.37	Y		
WOODEN PALLET, IMX		2018	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Jun 2018	Jun 2019	24,815	114.88	Y		
WOODEN PALLET, IMX		2019	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Aug 2019	Aug 2020	16,770	120.00	Y		
WOODEN PALLET, IMX	✓	2020	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Feb 2020	Feb 2021	2,751	122.39	Y		
EXPLOSIVE FILL IMX-101		2018	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jun 2018	Dec 2020	1,280,664	14.70	Y		
EXPLOSIVE FILL IMX-101		2019	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Jun 2019	Dec 2021	4,257,000	16.17	Y		
EXPLOSIVE FILL IMX-101	✓	2020	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	Option / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Jun 2022	698,247	16.48	Y		
M795 IM METAL PART		2018	GENERAL DYNAMICS ORD AND TACT / SCRANTON, PA	Option / FFP	PICATINNY ARSENAL, NJ	Aug 2018	Feb 2020	194,624	420.85	Y		

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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 / 37			P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types					Item Number / Title [DODIC]: E66800 / PROJ, 155mm ARTY HE, M795 [DA54]				
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
M795 IM METAL PART		2019	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Aug 2019	Feb 2021	131,580	436.92	Y		
M795 IM METAL PART	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Feb 2020	Aug 2021	21,582	437.85	Y		

Remarks:
Load, Assemble & Pack (LAP) requirements contract at Iowa Army Ammunition Plant (IAAP) FY 2019 through FY 2023 , Explosive Fill, IMX 101 and 104 are delivery orders with requirements contract at Holston Army Ammunition Plant (HSAAP) FY 2019 to FY 2023. Melttable Fuze Plug is C/IDIQ awarded (FY 2019) to multiple contractors. Requirements competed among the following contractors: RTI Technologies, Columbia, CT and Polymer Technologies Incorporated, Clifton, NJ.

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E67800 / PROJ, 155mm ARTY WP Smoke, M825 / M825A1 [D528]

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	236.214	-	9.469	-	-	-
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	236.214	-	9.469	-	-	-
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	236.214	-	9.469	-	-	-

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

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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
Support - Recapitalization Cost																		
Recapitalization	-	-	236.214	-	-	-	-	-	9.469	-	-	-	-	-	-	-	-	-
Subtotal: Support - Recapitalization Cost	-	-	236.214	-	-	-	-	-	9.469	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	236.214	-	-	-	-	-	9.469	-	-	-	-	-	-	-	-	-

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E67802 / PROJ, 155mm ARTY HE-BB, XM1128 [DA70]

ID Code (A=Service Ready, B=Not Service Ready) : B	MDAP/MAIS Code:
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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)	-	-	-	-	14.994	14.994
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	-	-	-	14.994	14.994
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	-	-	-	14.994	14.994

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

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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
WOODEN PALLETS	-	-	-	-	-	-	-	-	-	-	-	-	103.97	67	0.007	103.97	67	0.007
LOAD, ASSEMBLE, PACK (LAP) ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	2,200.00	1,886	4.149	2,200.00	1,886	4.149
METAL PART, M1128 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	570.00	1,923	1.096	570.00	1,923	1.096
EXPLOSIVE FILL IMX-104 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	22.78	45,264	1.031	22.78	45,264	1.031
WOODEN PALLET, IMX ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	122.39	56	0.007	122.39	56	0.007
MELTABLE FUZE PLUG ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	10.40	1,923	0.020	10.40	1,923	0.020
SUPPLEMENTAL CHARGE, PBXN9 ^(†)	-	-	-	-	-	-	-	-	-	-	-	-	19.37	1,923	0.037	19.37	1,923	0.037
<i>Subtotal: Recurring Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	6.347	-	-	6.347
<i>Subtotal: Hardware Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	6.347	-	-	6.347
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.250	-	-	0.250
First Article Test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.750	-	-	0.750
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	-	-	-	-	-	-	-	-	0.000	-	1.000	-	-	1.000

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E67802 / PROJ, 155mm ARTY HE-BB, XM1128 [DA70]
ID Code (A=Service Ready, B=Not Service Ready) : B		MDAP/MAIS Code:

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

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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)
Support - Non-Recurring Support Cost																		
Facilitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.000	-	-	3.000
<i>Subtotal: Support - Non-Recurring Support Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.000	-	-	3.000
Support - Product Improvement Cost																		
Production Verification Test	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.600	-	-	3.600
<i>Subtotal: Support - Product Improvement Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	3.600	-	-	3.600
Support - Production Engineering Cost																		
Production Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.047	-	-	1.047
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	-	-	-	-	-	-	-	0.000	-	-	1.047	-	-	1.047
Gross/Weapon System Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.994	-	-	14.994

(t) 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 / 37			P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types				Item Number / Title [DODIC]: E67802 / PROJ, 155mm ARTY HE-BB, XM1128 [DA70]					

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
LOAD, ASSEMBLE, PACK (LAP)	✓	2020	TO BE SELECTED / TBS01	C / FFP	PICATINNY ARSENAL, NJ	May 2020	May 2023	1,886	2,200.00	N		
METAL PART, M1128	✓	2020	TO BE SELECTED / TBS01	C / FFP	ROCK ISLAND ARSENAL, IL	May 2020	May 2022	1,923	570.00	N		
EXPLOSIVE FILL IMX-104	✓	2020	BAE SYSTEMS ORDNANCE SYSTEMS / KINGSPORT, TN	C / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2021	45,264	22.78	Y		
WOODEN PALLET, IMX	✓	2020	KNOX COUNTY ARC / VINCENNES, IN	SS / FFP	ROCK ISLAND ARSENAL, IL	Mar 2020	Mar 2021	56	122.39	Y		
MELTABLE FUZE PLUG	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	PICATINNY ARSENAL, NJ	Feb 2020	Aug 2021	1,923	10.40	Y		
SUPPLEMENTAL CHARGE, PBXN9	✓	2020	TO BE SELECTED / TBS01	C / IDIQ	ROCK ISLAND ARSENAL, IL	Feb 2020	Aug 2021	1,923	19.37	Y		

Remarks:
 Supplemental Charge, PBXN9 Is and IDIQ contract awarded to multiple contractors. Requirements will be competed among the following contractors: DZI Lonestar LLC., Texarkana, TX and Chemring Ordnance, INC., Perry FL.
 Melttable Lift Plug: IDIQ contract awarded (FY19) to multiple contractors. Requirements competed among the following contractors: RTI Technologies, Columbia, CT & Polymer Technologies Inc., Clifton, NJ.
 Explosive Fill IMX104 is Requirements contract awarded to Holston Army Ammunition Plant (HSAAP)

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E68510 / PROJ, ARTY, 155MM BONUS, MK2

ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:
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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)	-	39.949	33.000	-	74.100	74.100
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	-	39.949	33.000	-	74.100	74.100
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	-	39.949	33.000	-	74.100	74.100

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

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.

Cost Elements	Prior Years			FY 2018			FY 2019			FY 2020 Base			FY 2020 OCO			FY 2020 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																		
COMPLETE ROUND ^(†)	-	-	64.396.00	528	34.001	65,683.00	480	31.528	-	-	-	56,656.00	1,266	71.726	56,656.00	1,266	71.726	
<i>Subtotal: Recurring Cost</i>	-	-	-	-	34.001	-	-	31.528	-	-	0.000	-	-	71.726	-	-	71.726	
Non Recurring Cost																		
Testing Hardware	-	-	-	-	1.500	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>	-	-	-	-	1.500	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Hardware Cost</i>	-	-	-	-	35.501	-	-	31.528	-	-	0.000	-	-	71.726	-	-	71.726	
Support - Acceptance Testing Cost																		
Acceptance Test	-	-	-	-	-	-	-	0.060	-	-	-	-	-	0.286	-	-	0.286	
First Article Test	-	-	-	-	-	2.382	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Support - Acceptance Testing Cost</i>	-	-	-	-	2.382	-	-	0.060	-	-	0.000	-	-	0.286	-	-	0.286	
Support - Production Engineering Cost																		
Production Engineering	-	-	-	-	2.066	-	-	1.412	-	-	-	-	-	2.088	-	-	2.088	
<i>Subtotal: Support - Production Engineering Cost</i>	-	-	-	-	2.066	-	-	1.412	-	-	0.000	-	-	2.088	-	-	2.088	
Gross/Weapon System Cost	-	-	-	-	39.949	-	-	33.000	-	-	-	-	-	74.100	-	-	74.100	

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Exhibit P-5, Cost Analysis: PB 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37	P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types	Item Number / Title [DODIC]: E68510 / PROJ, ARTY, 155MM BONUS, MK2
ID Code (A=Service Ready, B=Not Service Ready) : A	MDAP/MAIS Code:	

(†) indicates the presence of a P-5a

UNCLASSIFIED

Exhibit P-5a, Procurement History and Planning: PB 2020 Army								Date: March 2019				
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37			P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types					Item Number / Title [DODIC]: E68510 / PROJ, ARTY, 155MM BONUS, MK2				
Cost Elements	O C O	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	BAE SYSTEMS BOFORS AB / KARLSKOGA, SWEDEN	SS / FFP	PICATINNY ARSENAL, NJ	Aug 2018	Feb 2020	528	64,396.00	Y		
COMPLETE ROUND ^(†)		2019	BAE SYSTEMS BOFORS AB / KARLSKOGA, SWEDEN	Option / FFP	PICATINNY ARSENAL, NJ	May 2019	Nov 2020	480	65,683.00	Y		
COMPLETE ROUND ^(†)	✓	2020	BAE SYSTEMS BOFORS AB / KARLSKOGA, SWEDEN	Option / FFP	PICATINNY ARSENAL, NJ	Mar 2020	Sep 2021	1,266	56,656.00	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2020 Army															Date: March 2019														
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37										P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types										Item Number / Title [DODIC]: E68510 / PROJ, ARTY, 155MM BONUS, MK2									

Cost Elements <i>(Units in Each)</i>						Fiscal Year 2022										Fiscal Year 2023										BALANCE				
O C C #	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2021	BAL DUE AS OF 1 OCT	Calendar Year 2022										Calendar Year 2023													
							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
COMPLETE ROUND																														
	1	2018	ARMY	528	528	0																							0	
	1	2019	ARMY	480	480	0																							0	
✓	1	2020	ARMY	1,266	108	1,158	108	108	108	108	108	108	102	102	102	102	102												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 2020 Army		Date: March 2019
Appropriation / Budget Activity / Budget Sub Activity: 2034A / 01 / 37		P-1 Line Item Number / Title: 3102E89500 / ARTILLERY PROJECTILE, 155MM, All Types
		Item Number / Title [DODIC]: E68510 / PROJ, ARTY, 155MM BONUS, MK2

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Month)			Procurement Leadtime (Months)							
		MSR For 2020	1-8-5 For 2020	MAX For 2020	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	BAE SYSTEMS BOFORS AB - KARLSKOGA, SWEDEN	10	118	166	3	11	18	29	3	6	18	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 than 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).