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**Department of Defense  
Fiscal Year (FY) 2015 Budget Estimates**

March 2014



**Office of Secretary Of Defense**

*Defense Wide Justification Book Volume 1 of 2*

***Defense Production Act Purchases***

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**Table of Volumes**

Chemical Biological Defense Program..... Volume 1

Defense Contract Audit Agency..... Volume 1

Defense Contract Management Agency..... Volume 1

Defense Human Resources Activity.....Volume 1

Defense Information Systems Agency.....Volume 1

Defense Logistics Agency.....Volume 1

Defense Media Activity..... Volume 1

Defense Security Cooperation Agency.....Volume 1

Defense Security Service..... Volume 1

Defense Threat Reduction Agency.....Volume 1

Department of Defense Dependent Education Activity.....Volume 1

Office of the Secretary of Defense.....Volume 1

The Joint Staff..... Volume 1

United States Special Operations Command.....Volume 1

Washington Headquarters Service..... Volume 1

Defense Production Act.....Volume 1

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Office of Secretary Of Defense • Budget Estimates FY 2015 • Procurement

**Joint Urgent Operational Needs Fund..... Volume 1**  
**Missile Defense Agency..... Volume 2**

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Office of Secretary Of Defense • Budget Estimates FY 2015 • Procurement

**Volume 1 Table of Contents**

**Comptroller Exhibit P-1.....Volume 1 - v**  
**Master Line Item Table of Contents (by Appropriation then Line Number).....Volume 1 - vii**  
**Master Line Item Table of Contents (Alphabetically by Line Item Title)..... Volume 1 - ix**  
**Exhibit P-40's..... Volume 1 - 1**

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Defense-Wide  
 FY 2015 President's Budget  
 Exhibit P-1 FY 2015 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

18 Feb 2014

Appropriation: 0360D Defense Production Act Purchases

Line No	Item Nomenclature	Ident Code	FY 2013 (Base & OCO)		FY 2014 Base Enacted		FY 2014 OCO Enacted		FY 2014 Total Enacted		FY 2015 Base		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Defense Production Act Purchases													
-----													
Defense Production Act Purchases													
1	Defense Production Act Purchases	A	202,140		60,135				60,135			21,638	U
Total Defense Production Act Purchases			202,140		60,135				60,135			21,638	
Total Defense Production Act Purchases			202,140		60,135				60,135			21,638	

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**Master Line Item Table of Contents (by Appropriation then Line Number)**

*Appropriation 0360D: Defense Production Act Purchases*

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<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Line Item Number</b>	<b>Line Item Title</b>	<b>Page</b>
1	01	10	TitleIII	Defense Production Act Purchases.....	Volume 1 - 1

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**Master Line Item Table of Contents (Alphabetically by Line Item Title)**

<b>Line Item Title</b>	<b>Line Item Number</b>	<b>Line #</b>	<b>BA</b>	<b>BSA</b>	<b>Page</b>
Defense Production Act Purchases	TitleIII	1	01	10.....	Volume 1 - 1

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**Exhibit P-40, Budget Line Item Justification:** PB 2015 Office of Secretary Of Defense **Date:** March 2014

**Appropriation / Budget Activity / Budget Sub Activity:**  
0360D: Defense Production Act Purchases / BA 01: Defense Production Act Purchases / BSA 10: Defense Production Act Purchases

**P-1 Line Item Number / Title:**  
TitleIII / Defense Production Act Purchases

**ID Code** (A=Service Ready, B=Not Service Ready) : **Program Elements for Code B Items:** 0902199D8Z **Other Related Program Elements:**

Resource Summary	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	To Complete	Total
	Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,194.835	202.140	60.135	21.638	-	21.638	22.937	18.408	19.452	21.026	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) (\$ in Millions)	1,194.835	202.140	60.135	21.638	-	21.638	22.937	18.408	19.452	21.026	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,194.835</b>	<b>202.140</b>	<b>60.135</b>	<b>21.638</b>	<b>-</b>	<b>21.638</b>	<b>22.937</b>	<b>18.408</b>	<b>19.452</b>	<b>21.026</b>	<b>Continuing</b>	<b>Continuing</b>

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

Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-

<sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

**Description:**

Title III of the Defense Production Act (DPA) provides the Department of Defense (DoD) with a powerful tool to ensure the timely creation and availability of domestic production capabilities for technologies that have the potential for wide-ranging impact on the operational capabilities and technological superiority of U.S. defense systems. DPA Title III is unique in that it is the sole DoD program focused on creating, maintaining, protecting, expanding or restoring domestic production capacity to strengthen domestic industry and to establish the industrial base capacity for essential national defense capabilities.

The Defense Production Act is authorized by 50 U.S.C. App. 2061 et seq. This budget includes essential transformational initiatives using the authorities of Title III of the DPA. FY 2015 requested funding will be used for continuation of eight projects. These are multi-year projects that will incentivize domestic sources to establish, strengthen, and expand domestic industrial base capabilities for key technologies that support transformational initiatives and maintain the technological superiority of U.S. defense systems. Brief descriptions of these projects are provided below.

In accordance with the provisions of the Defense Production Act of 1950, as amended, (50 U.S.C. App. 2061 et seq.), notification to Congress of the intent of the DoD to execute any of the projects described in this exhibit to correct domestic industrial base shortfalls for technologies and/or materials essential for the execution of the national security strategy of the United States will be provided via letter notification before the referenced projects are initiated.

Exhibits Schedule		ID CD	Prior Years			FY 2013			FY 2014			FY 2015 Base			FY 2015 OCO			FY 2015 Total		
Title*	Exhibits		Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Item - 1 / Defense Production Act Purchases	P-5		-	-	1,194.835	-	-	202.140	-	-	60.135	-	-	21.638	-	-	-	-	-	21.638
<b>Total Gross/Weapon System Cost</b>			-	-	<b>1,194.835</b>	-	-	<b>202.140</b>	-	-	<b>60.135</b>	-	-	<b>21.638</b>	-	-	-	-	-	<b>21.638</b>

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**Exhibit P-40, Budget Line Item Justification:** PB 2015 Office of Secretary Of Defense **Date:** March 2014

<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0360D: Defense Production Act Purchases / BA 01: Defense Production Act Purchases / BSA 10: Defense Production Act Purchases	<b>P-1 Line Item Number / Title:</b> TitleIII / Defense Production Act Purchases
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<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>Program Elements for Code B Items:</b> 0902199D8Z	<b>Other Related Program Elements:</b>
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Exhibits Schedule		FY 2016			FY 2017			FY 2018			FY 2019			To Complete			Total			
Title*	Exhibits	ID CD	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Item - 1 / Defense Production Act Purchases	P-5		-	-	22.937	-	-	18.408	-	-	19.452	-	-	21.026	Continuing			Continuing		
<b>Total Gross/Weapon System Cost</b>			-	-	<b>22.937</b>	-	-	<b>18.408</b>	-	-	<b>19.452</b>	-	-	<b>21.026</b>	<b>Continuing</b>			<b>Continuing</b>		

\*For Items, Title represents the Item Number / Title [DODIC].

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

**Justification:**

FY 2015 resources:

Ten projects to be executed within FY 2015 resources are identified below. The multi-year cost phasing of each of these projects is addressed in the P5 exhibit. The first six of these projects, continuing from prior years, are part of the National Security Space (NSS) Industrial & Supply Base (ISB) Risk Mitigation Program described below.

- (1) NSS ISB: Next Generation Star Tracker System \$4.305 million
- (2) NSS ISB: Read Out Integrated Circuit (ROIC) Foundry Improvement and Sustainability \$2.639 million
- (3) NSS ISB: Space Qualified Solar Cell Supply Chain \$1.5 million
- (4) NSS ISB: Complementary Metal Oxide Semiconductor (CMOS) Focal Plane Arrays (FPA) for Visible Sensors for Star Trackers \$1.69 million
- (5) NSS ISB: Cadmium Zinc Telluride Substrates \$1.591 million
- (6) NSS ISB: Additive Manufacturing for Liquid Rocket Engines \$0.7 million
- (7) Modernization of Steel Plate Production \$2 million
- (8) Activated Carbon Capacity Expansion \$4.213 million
- (9) Scale Up of Green Energetics \$2 million
- (10) Transparent Ceramics Initiative \$1 million

The NSS ISB Risk Mitigation Program was developed by the DoD to formulate a systematic process to fund mitigation efforts to rectify shortcomings in the space industrial and supply base. The objective is to ensure access to critical technologies and capabilities in the quality, quantity, and timeframes required to support U.S. Government space programs. Projects in this program are addressing cross-platform, multi-agency/Service requirements using the authorities of DPA Title III. To date, six multi-year project technologies have been identified for funding through FY 2016.

FY 2014 resources:

FY 2014 adjustments (dollars in millions):

- \$ 25.135 FY 2014 request
- + 35.000 Congressional increase
- \$ 60.135 Appropriated

FY 2014 Congressional Add projects:

- (1) Modernization of Steel Plate Production \$18 million
- (2) Activated Carbon Capacity Expansion \$15.5 million (supplemented with \$5.635 from baseline funding for a project total of \$21.135 in FY 2014)
- (3) Advanced Carbon Nanotube Volume Production Facility \$1.5 million

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2015 Office of Secretary Of Defense		<b>Date:</b> March 2014
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0360D: Defense Production Act Purchases / BA 01: Defense Production Act Purchases / BSA 10: Defense Production Act Purchases		<b>P-1 Line Item Number / Title:</b> TitleIII / Defense Production Act Purchases
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>Program Elements for Code B Items:</b> 0902199D8Z	<b>Other Related Program Elements:</b>
<p>FY 2014 Other projects are identified below. The multi-year cost phasing of each of these projects is addressed in the P5 exhibit. Four of these projects, continuing from prior years, are part of the National Security Space Industrial &amp; Supply Base Risk Mitigation Program.</p> <ul style="list-style-type: none"> <li>(1) NSS ISB: Next Generation Star Tracker System \$4.22 million</li> <li>(2) NSS ISB: Space Qualified Solar Cell Supply Chain \$0.947 million</li> <li>(3) NSS ISB: Cadmium Zinc Telluride Substrates \$4.633 million</li> <li>(4) NSS ISB: Additive Manufacturing for Liquid Rocket Engines \$4.7 million</li> <li>(5) Scale Up of Green Energetics \$2 million</li> <li>(6) Transparent Ceramics Initiative \$3 million</li> </ul> <p>FY 2013 resources:</p> <p>FY 2013 adjustments (dollars in millions):            \$ 89.189 FY 2013 request            +134.342 Net Congressional adjustments (+\$150 million increase, -\$10 million and -\$5.658 million decreases)            \$223.531 Appropriated            - .295 Rescissions (Sec. 3001 and 3004)            -\$ 21.096 Sequestration (impact statement provided below)            \$202.140 FY 2013 Revised total</p> <p>Sequestration reduction was \$21.096 million. The DPA program modified the scope of projects within the program. Much of the reduction will affect ordering of long lead-time capital equipment which will push out program schedules, driving up overall costs and potentially delaying realization of program objectives.</p> <p>FY 2013 Congressional Add projects:</p> <ul style="list-style-type: none"> <li>(1) Advanced Carbon Nanotube Volume Production Facility \$17 million</li> <li>(2) Carbon Foam \$5 million</li> <li>(3) Silicon Carbide Fibers for Ceramic Matrix \$25 million (previously titled Ceramic Matrix Composites for Advanced Engines)</li> <li>(4) Flexible Solar Cells \$18 million</li> <li>(5) Lithium Ion Batteries for Military Applications \$6 million</li> <li>(6) Polyhedral Oligomeric Silsesquioxane (POSS) Nanotechnology Engineering Scale-up Initiative \$5 million</li> <li>(7) Solid Rocket Motors Production \$11 million</li> <li>(8) Submarine Valve-Regulated Lead Acid Batteries \$22 million</li> <li>(9) Thermal Battery Industrial Base Infrastructure \$3 million</li> <li>(10) Tungsten Rhenium Wire Production Sustainment \$7.609 million</li> <li>(11) Activated Carbon Capacity Expansion \$5 million</li> </ul> <p>FY2013 Other projects are identified below. The multi-year cost phasing of each of these projects is addressed in the P5 exhibit. Five of these projects are part of the National Security Space (NSS) Industrial &amp; Supply Base (ISB) Risk Mitigation Program described above.</p> <ul style="list-style-type: none"> <li>(1) NSS ISB: Next Generation Star Tracker System \$0.5 million</li> <li>(2) NSS ISB: Read Out Integrated Circuit (ROIC) Foundry Improvement and Sustainability \$3.864 million</li> <li>(3) NSS ISB: Space Qualified Solar Cell Supply Chain \$0.6 million</li> <li>(4) NSS ISB: Complementary Metal Oxide Semiconductor (CMOS) Focal Plane Arrays (FPA) for Visible Sensors for Star Trackers \$2.236 million</li> <li>(5) NSS ISB: Additive Manufacturing for Liquid Rocket Engines \$1.3 million</li> </ul>		

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<b>Exhibit P-40, Budget Line Item Justification:</b> PB 2015 Office of Secretary Of Defense		<b>Date:</b> March 2014
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0360D: Defense Production Act Purchases / BA 01: Defense Production Act Purchases / BSA 10: Defense Production Act Purchases		<b>P-1 Line Item Number / Title:</b> TitleIII / Defense Production Act Purchases
<b>ID Code</b> (A=Service Ready, B=Not Service Ready) :	<b>Program Elements for Code B Items:</b> 0902199D8Z	<b>Other Related Program Elements:</b>
<p>(6) Gallium Nitride (GaN) Radar and Electronic Warfare Monolithic Microwave Integrated Circuits (MMIC) \$5.031 million (7) Transparent Ceramics Initiative \$4 million (8) Advanced Drop-In Biofuel Production \$60 million</p>		



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<b>Exhibit P-5, Cost Analysis: PB 2015 Office of Secretary Of Defense</b>										<b>Date:</b> March 2014			
<b>Appropriation / Budget Activity / Budget Sub Activity:</b> 0360D / 01 / 10				<b>P-1 Line Item Number / Title:</b> TitleIII / Defense Production Act Purchases						<b>Item Number / Title [DODIC]:</b> 1 / Defense Production Act Purchases			

<b>Resource Summary</b>	<b>Prior Years<sup>(+)</sup></b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO<sup>#</sup></b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>To Complete</b>	<b>Total</b>
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	1,194.835	202.140	60.135	21.638	-	21.638	22.937	18.408	19.452	21.026	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P1) (\$ in Millions)	1,194.835	202.140	60.135	21.638	-	21.638	22.937	18.408	19.452	21.026	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Obligation Authority (\$ in Millions)</b>	<b>1,194.835</b>	<b>202.140</b>	<b>60.135</b>	<b>21.638</b>	<b>-</b>	<b>21.638</b>	<b>22.937</b>	<b>18.408</b>	<b>19.452</b>	<b>21.026</b>	<b>Continuing</b>	<b>Continuing</b>

*(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 Millions)	-	-	-	-	-	-	-	-	-	-	-	-

# The FY 2015 OCO Request will be submitted at a later date.

Budget Years Cost values do not sum to the represented total intentionally:

(+) Prior Years Cost Delta: 1,040.224 million

<b>Cost Elements</b>	<b>ID CD</b>	<b>Prior Years</b>			<b>FY 2013</b>			<b>FY 2014</b>			<b>FY 2015 Base</b>			<b>FY 2015 OCO</b>			<b>FY 2015 Total</b>		
		<b>Unit Cost (\$ M)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ M)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ M)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ M)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ M)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>	<b>Unit Cost (\$ M)</b>	<b>Qty (Each)</b>	<b>Total Cost (\$ M)</b>
Hardware - National Security Space (NSS) Industrial & Supply Base (ISB) Risk Mitigation Program Cost																			
Recurring Cost																			
<i>Subtotal: Recurring Cost</i>		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																			
NSS ISB: Next Generation Star Trackers		-	-	-	-	-	0.500	-	-	4.220	-	-	4.305	-	-	-	-	-	4.305
NSS ISB: Read Out Integrated Circuit (ROIC) Foundry Improvement and Sustainability		-	-	3.700	-	-	3.864	-	-	-	-	-	2.639	-	-	-	-	-	2.639
NSS ISB: Space Qualified Solar Cell Supply Chain		-	-	5.580	-	-	0.600	-	-	0.947	-	-	1.500	-	-	-	-	-	1.500
NSS ISB: Comp Metal Oxide Semiconductor Focal Plane Arrays for Visible Sensors for Star Trackers		-	-	7.180	-	-	2.236	-	-	-	-	-	1.690	-	-	-	-	-	1.690
NSS ISB: Critical Space Industrial Base Investment		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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**Exhibit P-5, Cost Analysis: PB 2015 Office of Secretary Of Defense** **Date:** March 2014

**Appropriation / Budget Activity / Budget Sub Activity:** 0360D / 01 / 10 **P-1 Line Item Number / Title:** TitleIII / Defense Production Act Purchases **Item Number / Title [DODIC]:** 1 / Defense Production Act Purchases

Cost Elements	ID CD	Prior Years			FY 2013			FY 2014			FY 2015 Base			FY 2015 OCO			FY 2015 Total		
		Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
NSS ISB: Additive Manufacturing for Liquid Rocket Engines		-	-	-	-	-	1.300	-	-	4.700	-	-	0.700	-	-	-	-	-	0.700
NSS ISB: Cadmium Zinc Telluride Substrates		-	-	-	-	-	-	-	-	4.633	-	-	1.591	-	-	-	-	-	1.591
<i>Subtotal: Non Recurring Cost</i>		-	-	16.460	-	-	8.500	-	-	14.500	-	-	12.425	-	-	-	-	-	12.425
<i>Subtotal: Hardware - National Security Space (NSS) Industrial &amp; Supply Base (ISB) Risk Mitigation Program Cost</i>		-	-	16.460	-	-	8.500	-	-	14.500	-	-	12.425	-	-	-	-	-	12.425
Hardware - Other Cost																			
Recurring Cost																			
<i>Subtotal: Recurring Cost</i>		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																			
GaN Radar & Electronic Warfare MMICs		-	-	34.151	-	-	5.031	-	-	-	-	-	-	-	-	-	-	-	-
Activated Carbon Capacity Expansion		-	-	-	-	-	5.000	-	-	21.135	-	-	4.213	-	-	-	-	-	4.213
Advanced Drop-In Biofuel Production - Phases 1 & 2		-	-	100.000	-	-	60.000	-	-	-	-	-	-	-	-	-	-	-	-
Modernization of Steel Plate Production		-	-	-	-	-	-	-	-	18.000	-	-	2.000	-	-	-	-	-	2.000
Scale Up of Green Energetics		-	-	-	-	-	-	-	-	2.000	-	-	2.000	-	-	-	-	-	2.000
Transparent Ceramics Initiative		-	-	-	-	-	4.000	-	-	3.000	-	-	1.000	-	-	-	-	-	1.000
Secure Maritime Shipping Containers		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Temperature Polyimide Material		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rigid Rod Polymer Capacity		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3D Microelectronics for Anti-Tamper		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silicon Carbide Fiber Production for Ceramic Matrix Composites		-	-	-	-	-	25.000	-	-	-	-	-	-	-	-	-	-	-	-

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**Exhibit P-5, Cost Analysis: PB 2015 Office of Secretary Of Defense** **Date:** March 2014

**Appropriation / Budget Activity / Budget Sub Activity:** 0360D / 01 / 10 **P-1 Line Item Number / Title:** TitleIII / Defense Production Act Purchases **Item Number / Title [DODIC]:** 1 / Defense Production Act Purchases

Cost Elements	ID CD	Prior Years			FY 2013			FY 2014			FY 2015 Base			FY 2015 OCO			FY 2015 Total		
		Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Advanced Carbon Nanotube Volume Production Facility		-	-	4.000	-	-	17.000	-	-	1.500	-	-	-	-	-	-	-	-	-
Carbon Foam		-	-	-	-	-	5.000	-	-	-	-	-	-	-	-	-	-	-	-
Flexible Solar Cells		-	-	-	-	-	18.000	-	-	-	-	-	-	-	-	-	-	-	-
Lithium Ion Batteries for Military Applications		-	-	-	-	-	6.000	-	-	-	-	-	-	-	-	-	-	-	-
Polyhedral Oligomeric Silsesquioxane (POSS) Nanotechnology Engineering Scale-up Initiative		-	-	-	-	-	5.000	-	-	-	-	-	-	-	-	-	-	-	-
Tungsten Rhenium Wire Production Sustainment		-	-	-	-	-	7.609	-	-	-	-	-	-	-	-	-	-	-	-
Solid Rocket Motors Production		-	-	-	-	-	11.000	-	-	-	-	-	-	-	-	-	-	-	-
Thermal Battery Industrial Base Infrastructure		-	-	-	-	-	3.000	-	-	-	-	-	-	-	-	-	-	-	-
Submarine Valve-Regulated Lead Acid Batteries		-	-	-	-	-	22.000	-	-	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Non Recurring Cost</i>		-	-	138.151	-	-	193.640	-	-	45.635	-	-	9.213	-	-	-	-	-	9.213
<i>Subtotal: Hardware - Other Cost</i>		-	-	138.151	-	-	193.640	-	-	45.635	-	-	9.213	-	-	-	-	-	9.213
<b>Gross/Weapon System Cost</b>		-	-	1,194.835	-	-	202.140	-	-	60.135	-	-	21.638	-	-	-	-	-	21.638

Cost Elements	ID CD	FY 2016			FY 2017			FY 2018			FY 2019			To Complete			Total Cost		
		Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Hardware - National Security Space (NSS) Industrial & Supply Base (ISB) Risk Mitigation Program Cost																			
Recurring Cost																			
<i>Subtotal: Recurring Cost</i>		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																			
NSS ISB: Next Generation Star Trackers		-	-	11.902	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.927
NSS ISB: Read Out Integrated Circuit		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.203

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Exhibit P-5, Cost Analysis: PB 2015 Office of Secretary Of Defense															Date: March 2014				
Appropriation / Budget Activity / Budget Sub Activity:					P-1 Line Item Number / Title:										Item Number / Title [DODIC]:				
0360D / 01 / 10					TitleIII / Defense Production Act Purchases										1 / Defense Production Act Purchases				
Cost Elements	ID CD	FY 2016			FY 2017			FY 2018			FY 2019			To Complete			Total Cost		
		Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
(ROIC) Foundry Improvement and Sustainability																			
NSS ISB: Space Qualified Solar Cell Supply Chain		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.627
NSS ISB: Comp Metal Oxide Semiconductor Focal Plane Arrays for Visible Sensors for Star Trackers		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.106
NSS ISB: Critical Space Industrial Base Investment		-	-	0.148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.148
NSS ISB: Additive Manufacturing for Liquid Rocket Engines		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.700
NSS ISB: Cadmium Zinc Telluride Substrates		-	-	0.452	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.676
<i>Subtotal: Non Recurring Cost</i>		-	-	12.502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.387
<i>Subtotal: Hardware - National Security Space (NSS) Industrial &amp; Supply Base (ISB) Risk Mitigation Program Cost</i>		-	-	12.502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.387
Hardware - Other Cost																			
Recurring Cost																			
<i>Subtotal: Recurring Cost</i>		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Cost																			
GaN Radar & Electronic Warfare MMICs		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.182
Activated Carbon Capacity Expansion		-	-	6.435	-	-	3.208	-	-	-	-	-	-	-	-	-	-	-	39.991
Advanced Drop-In Biofuel Production - Phases 1 & 2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160.000
Modernization of Steel Plate Production		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.000
Scale Up of Green Energetics		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.000
Transparent Ceramics Initiative		-	-	3.000	-	-	4.000	-	-	4.000	-	-	-	-	-	-	-	-	19.000

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**Exhibit P-5, Cost Analysis: PB 2015 Office of Secretary Of Defense** **Date:** March 2014

**Appropriation / Budget Activity / Budget Sub Activity:** 0360D / 01 / 10 **P-1 Line Item Number / Title:** TitleIII / Defense Production Act Purchases **Item Number / Title [DODIC]:** 1 / Defense Production Act Purchases

Cost Elements	ID CD	FY 2016			FY 2017			FY 2018			FY 2019			To Complete			Total Cost		
		Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ M)	Qty (Each)	Total Cost (\$ M)
Secure Maritime Shipping Containers		-	-	1.000	-	-	7.600	-	-	8.200	-	-	-	-	-	-	-	-	16.800
High Temperature Polyimide Material		-	-	-	-	-	-	-	-	-	-	-	4.527	Continuing			Continuing		
Rigid Rod Polymer Capacity		-	-	-	-	-	-	-	-	-	-	-	4.218	Continuing			Continuing		
3D Microelectronics for Anti-Tamper		-	-	-	-	-	3.600	-	-	7.252	-	-	12.281	Continuing			Continuing		
Silicon Carbide Fiber Production for Ceramic Matrix Composites		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.000
Advanced Carbon Nanotube Volume Production Facility		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.500
Carbon Foam		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.000
Flexible Solar Cells		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.000
Lithium Ion Batteries for Military Applications		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.000
Polyhedral Oligomeric Silsesquioxane (POSS) Nanotechnology Engineering Scale-up Initiative		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.000
Tungsten Rhenium Wire Production Sustainment		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.609
Solid Rocket Motors Production		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.000
Thermal Battery Industrial Base Infrastructure		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.000
Submarine Valve-Regulated Lead Acid Batteries		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.000
<i>Subtotal: Non Recurring Cost</i>		-	-	10.435	-	-	18.408	-	-	19.452	-	-	21.026	Continuing			Continuing		
<i>Subtotal: Hardware - Other Cost</i>		-	-	10.435	-	-	18.408	-	-	19.452	-	-	21.026	Continuing			Continuing		
<b>Gross/Weapon System Cost</b>		-	-	<b>22.937</b>	-	-	<b>18.408</b>	-	-	<b>19.452</b>	-	-	<b>21.026</b>	<b>Continuing</b>			<b>Continuing</b>		

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