

# Bureau of Engraving and Printing

FY 2017  
President's Budget

February 9, 2016

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## Section 1 – Purpose

### 1A – Mission Statement

To develop and produce United States currency notes trusted worldwide.

### 1.1 – Resource Detail Table

Dollars in Thousands

Bureau of Engraving and Printing	FY 2015		FY 2016		FY 2017		FY 2016 to FY 2017			
Budgetary Resources	Actual		Estimated		Estimated		\$ Change		% Change	
	FTE	AMOUNT	FTE	AMOUNT	FTE	AMOUNT	FTE	AMOUNT	FTE	AMOUNT
<b>Revenue/Offsetting Collections</b>										
Other Income										
Federal Reserve Notes	0	617,364	0	848,940	0	836,335	0	(12,605)	.00	-1.48%
Other Security Products	0	3,000	0	5,000	0	5,000	0	0	.00	N/A
Currency Reader Program	0	16,125	0	10,000	0	5,000	0	(5,000)	.00	-50.00%
<b>Total Revenue/Offsetting Collections</b>		<b>636,489</b>		<b>863,940</b>		<b>846,335</b>		<b>(17,605)</b>		<b>-2.04%</b>
<b>Expenses/Obligations</b>										
Manufacturing										
Direct Manufacturing	576	374,092	764	521,624	764	512,124	0	(9,500)	N/A	-1.82%
Indirect Manufacturing	1,224	262,397	1,160	342,316	1,160	334,211	0	(8,105)	N/A	-2.37%
<b>Total Expenses/Obligations</b>	<b>1,800</b>	<b>636,489</b>	<b>1,924</b>	<b>863,940</b>	<b>1,924</b>	<b>846,335</b>	<b>0</b>	<b>(17,605)</b>	<b>N/A</b>	<b>-2.04%</b>
<b>Net Results</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>0</b>		<b>N/A</b>

### 1B – Vision, Priorities and Context

The Bureau of Engraving and Printing produces US currency notes ordered by the Federal Reserve Board. The Bureau began printing currency in 1862 and operates on the basis of authority conferred upon the Secretary of the Treasury by 31 U.S.C. 321(a) (4) to engrave and print currency and other security documents. Operations are financed through a revolving fund established in 1950 in accordance with Public Law 81-656. This fund is reimbursed for direct and indirect costs of operations, including administrative expenses, through product sales. In 1977, Public Law 95-81 authorized the Bureau to include an amount sufficient to fund capital investment and to meet working capital requirements in the prices charged for products, eliminating the need for appropriations from Congress.

The Bureau also provides technical assistance and advice to other Federal agencies in the design and production of documents which require counterfeit deterrent features, due to their innate value or other characteristics. Other activities at the Bureau include engraving plates and dies; manufacturing inks used to print security products; purchasing materials, supplies and equipment; and storing and delivering products in accordance with customer requirements.

The mission of the BEP is to develop and produce United States currency notes, trusted worldwide, in support of Treasury’s strategic objective of “Facilitate commerce by providing trusted U.S. currency, services, and products for the American public and enterprises.”

United States currency is used globally and as its designer and manufacturer BEP needs to achieve and maintain best in class practices in order for it to be accepted worldwide.

After years of research and development of cutting edge technologies, BEP is producing a new \$100 note that includes some of the most advanced counterfeit design features found anywhere in the world. This achievement requires the focus and determination of the entire agency and is indicative of the challenges that lie ahead, reconfirming the BEP's in its commitment to stay ahead of increasingly sophisticated counterfeiters.

### ***FY 2017 Priorities***

#### **Banknote Design and Development:**

There are two main components of currency redesign: Technical and Aesthetic. The primary technical goals in the redesign of U.S. currency are to: Ensure that U.S. currency employs unique and technologically advanced features to deter counterfeiting; facilitate the public's use and authentication; provide accessibility and usability and maintain public confidence. The aesthetic goals in the redesign of U.S. currency are to institutionalize our American history by depicting people, monuments, symbols and concepts that reflect the past and reinforce a theme for that particular era of currency design.

In 2017, BEP will continue working with the Advanced Counterfeit Deterrent (ACD) Steering Committee to research and develop future currency designs for the next family of redesigned notes that will enhance and protect U.S. currency notes.

#### **Meaningful Access:**

Work continues in FY 2017 on the goal of enabling the Nation's currency to better serve domestic and international users. BEP is following two project paths to provide meaningful access for the blind and visually impaired, a Currency Reader (A currency reader is an electronic assistive device that can identify a note's value and communicate it to the user) as well as a Raised Tactile Feature (RTF) that will be on future notes.

A U.S. Currency Reader pilot program was concluded on Dec. 31, 2014, with more than 17,000 currency readers ordered under the pilot program. On January 2, 2015, a national rollout of the program was launched. To date, more than 34,000 Currency Readers have been ordered. BEP is working with the Library of Congress' National Library Services (NLS) for distribution of the readers. Additionally, a questionnaire was developed and cleared by OMB that enables BEP to gather user data on the currency readers. BEP's Voice of the Customer Questionnaire includes questions on: habits before and after use in various situations; frequency of use; convenience; use of other devices; suggested improvements; as well as plans for continued use. The questionnaire was initially disseminated during the American Council of the Blind (ACB) and National Federation of the Blind (NFB) conferences in July 2015.

In addition to the reader program, the Bureau will be incorporating raised tactile features (RTF) into the next redesign of currency that will enable users to denominate US currency by touch, assisting every American to better denominate currency. BEP expects to begin issuing a new \$10 note in 2020 that will include a tactile feature that increases accessibility for the visually impaired. The \$10 note was selected for redesign based on a number of factors and with guidance from the Advanced Counterfeit Deterrence (ACD) Steering Committee, an inter-agency group established to monitor and communicate counterfeit deterrence issues and

dedicated to maintaining and ensuring the integrity of U.S. currency. While many factors were taken into consideration, the primary reason for redesigning currency is to address current and potential counterfeiting threats. In addition to the tactile feature, the new the new \$10 note will feature new design aspects and a portrait of a woman. Throughout 2017, testing and refinement of features will continue to determine which processes and potential features work best at the production volumes needed for U.S. currency. BEP will also continue its efforts to research and develop features that will enhance future note designs, working with National and Federal Laboratories and Research Centers to expand our outreach to identify new technologies that may be used in feature development.

### **Retooling:**

BEP is in the process of a multi-year effort to retool BEP's manufacturing processes with state-of-the-art intaglio printing presses, electronic inspection systems, and finishing equipment. The successful implementation of this advanced technology will improve productivity, reduce environmental impact, and enhance counterfeit deterrence of U.S. currency. During 2016 and 2017 plans include:

In millions	<u>2016</u>	<u>2017</u>
Intaglio Presses (4) WCF*	\$60	\$20
Large Examining and Printing Equipment (LEPE) systems (3) WCF	\$49	\$28
Cutting and Packaging Systems for sheet reclamation (1) DCF* (1) WCF	\$0	\$12
Plating line and Plasterota (1) WCF	\$0	\$10
Cash Pak Machine (1) DCF (1) WCF	\$0	\$4
QED 2 Phase 1 and follow on (3) DCF (4) WCF	\$0	\$12
Currency Sheet Accountability System (1) WCF	\$0	\$9
Online Inspection machines (3) DCF (4) WCF	\$13	\$16
	\$122	\$111

\* Western Currency Facility (WCF) Washington, DC Facility (DCF)

### **BEP Workforce:**

Throughout 2017, the Bureau will continue to develop, execute, and communicate the results of Employee Engagement Plans and the FEVS annual survey results. In addition to implementing BEP Human Capital Plan initiatives, efforts will continue to fill gaps in needed STEM skill sets to support our Currency Quality Assurance (CQA) efforts in addition to adding resources in technology development and feature testing areas.

### **Currency Quality Assurance (CQA) Program:**

BEP has partnered with the Federal Reserve Board to reinvent its quality management program based on best practices of leading manufacturers. The Bureau, in collaboration with its stakeholders, developed a robust CQA program that began in 2014 and will continue to mature in 2017. This re-invention has moved BEP to a proactive approach of building quality into production processes. Every BEP work activity was aligned and will be resourced to support this integrated, collaborative, and rigorous quality assurance program that focuses on every step of the supply chain from raw material, through the manufacturing process steps to final packaging and delivery. CQA reaches into nearly every "corner" of the BEP organization and its effectiveness depends on a strong cadre of process and production engineers, quality assurance specialists and other specialists in related science and engineering disciplines.

**Replacement Production Facility:**

Work on the replacement production facility is going forward; in May 2015 a site selection evaluation contract was awarded. In 2016 BEP will award both a construction management administrative support contract and a facility design programming contract. Efforts are also underway in FY 2016 to narrow down the possible site selections to the top 3 for further evaluation. The new production facility building is projected to be completed in the 2022 timeframe, with the new facility fully operational by 2025; however this is subject to change as the project evolves. BEP plans to be transparent and communicate activity and resulting changes to the workforce on a regular basis.

**FY 2016 Priorities**

The importance of producing and delivering currency of consistently high quality, note after note, cannot be overstated. Throughout 2016, testing and refinement of proposed raised tactile features are priorities to determine which processes and potential features work best at full production speed and volumes needed to produce U.S. currency.

BEP's Currency Quality Assurance (CQA) program successfully implemented a risk-based, operationally focused internal quality auditing program in addition to improving product and procedural plant-to-plant consistency.

**Key Accomplishments**

During 2016, BEP acquired equipment that will enable the addition of tactile features to U.S. currency as well as continue the multi-year effort to retool BEP's manufacturing processes with state-of-the-art intaglio printing press, electronic inspection systems, and finishing equipment. The successful implementation of this advanced technology will improve productivity, reduce environmental impact, and enhance counterfeit deterrence of U.S. currency.

BEP disseminated a Voice of the Customer survey to over 300 individuals who received an iBill currency reader. The questionnaire included questions on: habits before and after use in various situations; frequency of use; convenience; use of other devices; suggested improvements; as well as plans for continued use. Approximately 90% of respondents believe the iBill currency reader they received is easy, convenient, useful, and successfully meets their needs. Metrics show that most prefer to use the reader at home. Based on customer feedback, BEP believes that the U.S. Currency Reader program has proven to be a successful initiative in providing visually impaired persons with a means to independently denominate U.S. currency.

BEP continued to make progress on enhancing its cybersecurity posture. The bureau reduced the number of Personal Identity Verification privileged users, and focused on implementing least privileged access i.e., further restricted privileged access based on individual's role and the specific access required.

## Section 2 – Budget Adjustments and Appropriation Language

### 2.1 – Budget Adjustments Table

Dollars in Thousands

Bureau of Engraving and Printing	FTE	Materials	Operating & Capital	Total
<b>FY 2016 Estimate</b>	<b>1,924</b>	<b>\$292,250</b>	<b>\$571,690</b>	<b>\$863,940</b>
<b>Changes to Base</b>				
Maintaining Current Levels (MCLs)	0	\$0	\$9,395	\$9,395
Pay-Raise	0	\$0	\$2,404	\$2,404
Pay Annualization	0	\$0	\$799	\$799
Non-Pay	0	\$0	\$6,192	\$6,192
Efficiency Savings	0	\$0	(\$2,000)	(\$2,000)
Reduction in Overtime	0	\$0	(\$2,000)	(\$2,000)
Subtotal Changes to Base	0	\$0	\$7,395	\$7,395
<b>Total FY 2017 Base</b>	<b>1,924</b>	<b>\$292,250</b>	<b>\$579,085</b>	<b>\$871,335</b>
<b>Program Changes</b>				
Program Decreases	0	\$0	(\$25,000)	(\$25,000)
Currency Reader	0	\$0	(\$5,000)	(\$5,000)
DCF Production Facility Replacement	0	\$0	(\$10,000)	(\$10,000)
Reduction in Retooling	0	\$0	(\$10,000)	(\$10,000)
Subtotal Program Changes	0	\$0	(\$25,000)	(\$25,000)
<b>Total FY 2017 Request</b>	<b>1,924</b>	<b>\$292,250</b>	<b>\$554,085</b>	<b>\$846,335</b>

### 2A – Budget Increases and Decreases Description

**Maintaining Current Levels (MCLs)** ..... +\$9,395,000 / +0 FTE

Pay-Raise +\$2,404,000 / +0 FTE

Funds are required for the proposed January 2017 pay-raise and the annualization of the 2016 pay-raise.

Pay Annualization +\$799,000 / +0 FTE

Funds are required for annualization of the January 2016 pay-raise.

Non-Pay +\$6,192,000 / +0 FTE

Funds are required for non-labor costs such as travel, contracts, rent, and equipment.

**Efficiency Savings** ..... -\$2,000,000 / +0 FTE

Reduction in Overtime -\$2,000,000 / +0 FTE

As out of date equipment is replaced with equipment that is more efficient, less down time, and new technology, reliance on overtime will be reduced.

**Program Decreases** ..... -\$25,000,000 / +0 FTE

Currency Reader -\$5,000,000 / +0 FTE

As the Currency Reader distribution program continues to evolve from its 2015 release and downloadable applications (apps) and image recognition technology becomes more commonplace, BEP expects demand for currency readers to be reduced in FY 2017.

DCF Production Facility Replacement -\$10,000,000 / +0 FTE

The initiative was requested in 2016 to fund a Project Management contract(s) to develop site surveys, environmental impact analysis, local infrastructure assessment, local economic

development, architectural renderings. Additional follow on contractual activities, i.e., facility design are expected in FY 2017.

*Reduction in Retooling -\$10,000,000 / +0 FTE*

BEP's retooling needs for FY 2017 are not as large as FY 2016 therefore 2017 funds for this initiative are reduced. Retooling is a multi-year project that replaces older, fully depreciated production equipment. Replacing out of date equipment on a regular basis allows BEP to be more quality and cost effective and efficient in meeting customer requirements for the production of currency notes. New equipment is typically more energy efficient, eco-friendly and machine down time is reduced. In addition, new equipment acquired by BEP has the technical capability of producing the next generation of advanced counterfeit deterrence features for future design enhancements.



## 2.2 – Operating Levels Table

Dollars in Thousands

Bureau of Engraving and Printing Object Classification	FY 2015 Actual	FY 2016 Estimated	FY 2017 Estimated
11.1 - Full-time permanent	174,100	175,357	177,560
11.3 - Other than full-time permanent	210	200	150
11.5 - Other personnel compensation	2,450	2,250	2,050
11.6 - Overtime	16,700	17,000	15,000
<b>11.9 - Personnel Compensation (Total)</b>	<b>193,460</b>	<b>194,807</b>	<b>194,760</b>
12.0 - Personnel benefits	54,957	51,000	51,500
<b>Total Personnel Compensation and Benefits</b>	<b>\$248,417</b>	<b>\$245,807</b>	<b>\$246,260</b>
21.0 - Travel and transportation of persons	1,000	1,450	1,450
22.0 - Transportation of things	250	250	250
23.1 - Rental payments to GSA	2,000	2,000	2,000
23.2 - Rental payments to others	1,000	1,000	1,000
23.3 - Communication, utilities, and misc charges	9,050	14,350	14,350
24.0 - Printing and reproduction	150	250	250
25.1 - Advisory and assistance services	2,250	3,500	3,500
25.2 - Other services	25,222	121,673	110,865
25.4 - Operation and maintenance of facilities	5,500	8,500	8,500
25.5 - Research and development contracts	3,700	7,000	7,000
25.7 - Operation and maintenance of equip	6,250	11,900	11,900
26.0 - Supplies and materials	294,400	292,250	300,000
31.0 - Equipment	37,125	153,750	138,750
42.0 - Insurance claims and indemnities	175	260	260
<b>Total Non-Personnel</b>	<b>388,072</b>	<b>618,133</b>	<b>600,075</b>
<b>Total Budgetary Resources</b>	<b>\$636,489</b>	<b>\$863,940</b>	<b>\$846,335</b>
<b>Budget Activities:</b>			
Manufacturing	636,489	863,940	846,335
<b>Total Budgetary Resources</b>	<b>\$636,489</b>	<b>\$863,940</b>	<b>\$846,335</b>
<b>FTE</b>	<b>1,800</b>	<b>1,924</b>	<b>1,924</b>

## 2B - Appropriations Language and Explanation of Changes

The Bureau of Engraving and Printing receives no appropriated funds from Congress.

## 2C – Legislative Proposals

The Bureau of Engraving and Printing has no legislative proposals for FY 2017.

## **Section 3 – Budget and Performance Plan**

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### **3A – Manufacturing**

*(\$846,335,000 from expenses/obligations):*

The BEP has one budget activity: Manufacturing. This budget activity supports all of BEP's strategic goals.

#### **Description of Performance**

Manufacturing Costs for Currency (dollar cost per 1,000 notes produced) is an indicator of manufacturing efficiency and effectiveness of program management. This measure is based on contracted price factors and anticipated productivity improvements, as well as the mix of denominations ordered year to year. As more sophisticated counterfeit deterrent design features are produced, paper and ink costs increase, resulting in increased total manufacturing costs. Actual performance against standard cost depends on BEP's ability to meet annual spoilage, efficiency, and capacity utilization goals. In order to meet this measure, costs and other standard manufacturing performance metrics are tracked at each stage of production and corrections are made on the shop floor. In addition, production and quality metrics are discussed on a monthly basis at the executive level and corrective action plans are developed. In 2015 the cost of manufacturing was lower than anticipated, as the actual result realized for this measure was \$42.35 per 1,000 notes produced against a target of \$54.00. The performance goals for both FY 2016 and FY 2017 will continue to reflect the high cost of redesigned \$100 notes as a proportion of the total annual order; however, due to productivity improvements BEP is able to reduce the target to \$50.00 per 1,000 notes produced for both 2016 and 2017.

Percent of currency notes returned due to defects is an indicator of the Bureau's ability to provide a quality product. All notes delivered to the Federal Reserve go through rigorous quality inspections during the manufacturing process. In addition, notes are inspected a final time using the same inspection systems used at the Federal Reserve Banks. These inspections ensure that all counterfeit deterrent features, both overt and covert, are functioning as designed. BEP's FY 2015 target for this performance metric is .0001 percent, and the actual result realized for this measure was .0000003 percent. BEP's target for this performance metric will be held constant at .0001 percent for FY 2016 and FY 2017.

BEP's Best Places to Work in Federal Government Ranking is based on the results of the Partnership for Public Service data on three questions in the Federal Employee Viewpoint Survey. This survey is sent annually to all Federal employees seeking their opinion on their organization's leadership and programs relating to fairness, employee empowerment and recognition. BEP's 2015 rank was 74 out of 320. The Bureau continues to sponsor activities and encourage employee engagement by contributing ideas and participation in events, which are aimed at improving the work environment for all employees. FY16 metrics are not yet available; however BEP will continue to target achievement of an improvement in rank.

Reduction in Regulated Waste (Pounds of waste per 1000 notes delivered of regulated air emissions, wastewater, and solid waste combined) is a quantitative indicator of the effectiveness of BEP environmental programs, which are assessed through the BEP ISO 14001 certified Environmental Management System (EMS). This reflects the maturation of the EMS as well as

the Bureau's commitment to continually improve its Environmental Health and Safety (EHS) performance, as both of the Bureau's manufacturing facilities received unconditional recertification to the ISO 14001 standard in FY 2015. BEP's FY 2015 performance of 27.3 pounds of regulated waste for this metric was against a target of 30 pounds per 1000 notes delivered. BEP's target for this performance metric will be held constant at 30 pounds per 1000 notes delivered for FY 2016 and FY 2017.

Lost Time Accident Rate per 100 Employees measures the Bureau's ability to reduce injuries and illnesses in the workplace. BEP's key performance indicator is the annual Occupational Safety and Health Administration's (OSHA) reportable lost time case rate and number of lost workdays. In 2015 BEP's lost time case rate was 1.65 against a target of 1.8 cases per 100 employees. The Bureau remains committed to improving the safety of its employees, and conducts an analysis to determine the root cause of any injury and seeks to identify best practices in safety. BEP will continue to allocate resources to have the greatest impact on preventing future injuries. BEP's target for this performance metric will be held constant at 1.8 per 100 employees for FY 2016 and FY 2017.

### 3.1.1 – Manufacturing Budget and Performance Plan

Dollars in Thousands

#### Manufacturing Budget Activity

Resource Level	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimated	FY 2017 Estimated
Expenses/Obligations	\$555,000	\$517,750	\$630,000	\$645,150	\$733,208	\$636,489	\$863,940	\$846,335
<b>Budget Activity Total</b>	<b>\$555,000</b>	<b>\$517,750</b>	<b>\$630,000</b>	<b>\$645,150</b>	<b>\$733,208</b>	<b>\$636,489</b>	<b>\$863,940</b>	<b>\$846,335</b>

Measure	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2015 Target	FY 2016 Target	FY 2017 Target
Best Places to Work in Federal Government Ranking	N/A	174	178	47	51	74	99	99	99
Lost Time Accident Rate per 100 Employees	N/A	1.4	1.9	1.63	1.73	1.65	1.6	1.8	1.8
Manufacturing Costs For Currency (Dollar Costs Per Thousand Notes Produced)	44.85	34.6	43.34	50.45	44.22	42.35	55.0	50.0	50.0
Percent of Currency Notes Delivered Returned Due to Defects	N/A	.0	.0	.466	.00001	.0000003	.0001	.0001	.0001

Key: DISC - Discontinued

## **Section 4 – Supplemental Information**

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### **4A – Summary of Capital Investments**

The Bureau of Engraving and Printing's (BEP) capital investment strategy is comprised of several broad investment categories with more specific smaller projects in each category.

The Bureau's mission to develop and produce U.S. Currency notes, trusted worldwide, demands that BEP continually update and improve its manufacturing processes by investing in new technologies and innovations. The Bureau's retooling project replaces older, fully depreciated production equipment. Replacing out of date equipment allows BEP to be more quality and cost effective and efficient in meeting customer requirements for the production of currency notes. In addition, the Bureau is focused on building the capability to produce new currency designs with tactile features to provide meaningful access to US currency for the blind and visually impaired.

BEP participates as a partner in significant Treasury-wide enterprise level investments such as Homeland Security Presidential Directive-12, HRConnect (a Human Resources Line of Business service provider) and the Treasury Learning Management System (TLMS).

The Bureau's IT portfolio includes a 'cloud first' approach to implementing business systems. The Oracle eBusiness Suite is an integrated manufacturing suite which runs at the Oracle Corporation's "Federal on Demand" Shared Service Center in Austin, Texas.

A summary of capital investment resources, including major information technology and non-technology investments, can be viewed/downloaded here:

<http://www.treasury.gov/about/budget-performance/Pages/summary-of-capital-investments.aspx>

This website also contains a digital copy of this document.