



# *About* BEP



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Welcome to the Bureau of Engraving and Printing.

As the 24th Director of the Bureau of Engraving and Printing (Bureau), I have the distinct pleasure of administering the production of the next generation of paper currency for the United States Government. In 1996, the Department of the Treasury and the Federal Reserve System made a decision to redesign paper currency every 7 to 10 years in order to stay ahead of advancing reprographic technologies that could be used to counterfeit paper money. Headquartered in Washington, DC, with a second facility in Fort Worth, Texas, high-speed printing presses run at the Bureau 24 hours a day, 5 days a week, producing a currency that is used worldwide. The Bureau has evolved into one of the most state-of-the-art security printing facilities in the world.

Under 31 USC 5114, the Secretary of the Treasury is authorized to print U.S. currency, bonds, and other security documents. This authority is delegated to the Bureau, which designs and produces the nation's paper currency for the Federal Reserve System as well as other security documents for various Government agencies. Since its inception, the Bureau has produced paper currency using intaglio printing presses. Throughout the years, the Bureau's primary objective has been to produce paper currency notes that cannot be duplicated. Officials from the Federal Reserve System, Treasury, the United States Secret Service, and this Bureau, work in a concerted effort to introduce security features in paper currency to deter counterfeiting.

The Bureau's public tour at the Washington, DC, plant is one of the most popular visitor attractions in the Nation's Capital. The public can also tour the Western Currency Facility in Fort Worth, Texas. Unique and highly collectable currency-related products are available for sale at both visitor centers, via the Internet at [www.moneyfactory.com](http://www.moneyfactory.com) or by telephoning our toll-free number 1-800-456-3408.

On behalf of all Bureau employees, I would like to thank you for your interest in our agency. I hope you find the enclosed materials interesting and informative. If you have any questions or need additional information about the Bureau, please visit our website at [www.moneyfactory.com](http://www.moneyfactory.com).

Thomas A. Ferguson  
*Director*

# INTRODUCTION

The Department of the Treasury's Bureau of Engraving and Printing (Bureau/BEP), serves as the Federal Government's most secure and efficient source of vital Government securities.

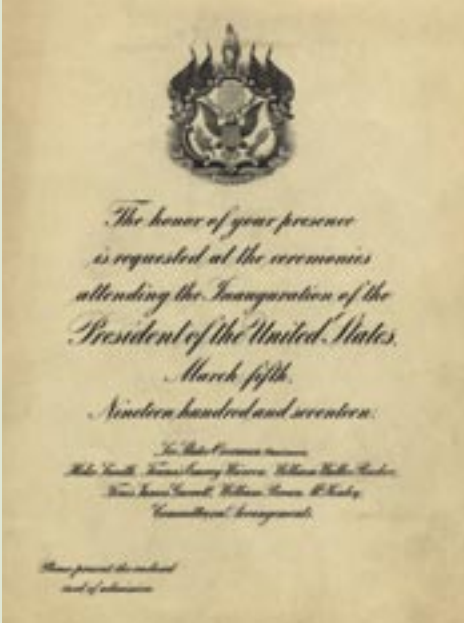
The Bureau designs and produces a variety of security products. As the Government's only source for paper currency production, the Bureau prints billions of Federal Reserve Notes for delivery to the Federal Reserve System each year (the Bureau does not produce coins; all coinage is produced by the United States Mint). In addition, the Bureau produces Treasury securities; military commissions and award certificates; invitations and admission cards; and many different types of identification cards, forms, and other special security documents for a variety of Government agencies. With production facilities in Washington, DC, and Fort Worth, Texas, the Bureau is the largest producer of Government security documents in the United States.

The Bureau's research and development efforts focus on the continued use of automation in the production process and on counterfeit deterrent technologies for use in security documents, especially U.S. currency. The Bureau also advises other Federal agencies on document security matters.

# HISTORY

The Bureau of Engraving and Printing has its origins in legislation enacted to help fund the Civil War. In July 1861, Congress authorized the Secretary of the Treasury to issue paper currency in lieu of coin due to the lack of funds needed to support the conflict. The paper notes were essentially Government IOUs and were called Demand Notes because they were payable "on demand" in coin at certain Treasury facilities. At this time the Government had no facility for the production of paper money so a private firm produced the Demand Notes in sheets of four. These sheets were then sent to the Treasury Department where dozens of clerks signed the notes and scores of female workers cut the sheets and trimmed the notes by hand. Gradually, more and more work involving currency and Government obligations, including engraving and printing, devolved to the Treasury.

Initially, the currency processing operations in the Treasury were not formally organized. When Congress created the office of Comptroller of the Currency and National Currency Bureau in 1863, currency-processing operations were nominally subordinated to that agency and designated the "First Division, National Currency Bureau." For years,



Invitation to attend inaugural ceremonies for the President of the United States, 1917 (plate proof)

Member's Pass to the Visitor's Gallery, House of Representatives, 1898 (approved plate proof)

Cattlehide Export Ticket for \$1,000, Bureau of International Commerce, Office of Export Control, Department of Commerce, about 1972

however, the currency operations were known by various semi-official labels, such as the “Printing Bureau,” “Small Note Bureau,” “Currency Department,” and “Small Note Room.” It was not until 1874 that the “Bureau of Engraving and Printing” was officially recognized in congressional legislation with a specific allocation of operating funds for fiscal year 1875.

In 1877, Congress mandated that the engraving and printing of notes, bonds, and other securities of the United States be performed solely at the Treasury Department. Up until that time, the Bureau in combination with private bank note companies produced various currency notes that included National Bank Notes and United States Notes. Other currency produced exclusively by the Bureau included Gold Certificates, Silver Certificates, and Treasury (or Coin) Notes. Federal Reserve Notes, originally issued in 1914, are the only currency notes still being issued today. In addition to U.S. currency, the Bureau has designed or produced, in whole or part, currency for the Philippines, the Republic of Cuba, South Korea, the Kingdom of Siam, and Eritrea.

Throughout the course of its operations, the Bureau has designed and printed a variety of products in addition to currency. Other early items produced by the Bureau included various Government debt instruments such as interest-bearing notes, refunding certificates, compound interest Treasury notes, and bonds. In 1866, the Bureau began printing internal revenue stamps and by 1878 it was producing almost all revenue stamps. Postage stamp production began in 1894. The Bureau has also produced invitations for Presidential inaugural ceremonies and memorial services as well as other souvenir items commemorating various events and expositions. During times of crisis the Bureau has printed special products that have included military payment certificates for American armed forces, currency and postage stamps for a number of Allied countries, as well as war bonds.

The first home of the Bureau was at the Treasury Department at 1500 Pennsylvania Avenue, where from 1861 to 1880 work was conducted primarily in the basement and attic of that building. In 1878, due to concerns over safety as well as the disruption the Bureau’s industrial operations brought to other offices within the Treasury Building, Congress appropriated funds for construction of a separate building. A section of land on the southwest corner of 14th and B Streets was purchased that same year, and construction of the first Bureau building was completed in 1880. By 1906, the Bureau had outgrown this facility and the decision was made to construct a building between 14th and 15th Streets, to the south of the original building. The new structure, considered the Main building of the Bureau of Engraving and Printing, was completed in February 1914.

\$1 Silver Certificate, Series 1899, face (approved model with annotations)

Currency examination, 1904

Vignette of 1880 Bureau of Engraving and Printing Building, 1901 (approved plate proof)





Bureau of Engraving and Printing,  
Annex building, 1939

Western Currency Facility,  
circa 1987–1991

Charles R. Chickering, designer,  
early 1950s

By the mid 1920s, the need for another facility became apparent due in part to large Bureau production requirements related to World War I financing operations. In August 1935, Congress granted funds for a building on 14th Street between C and D Streets, opposite the Main building. Construction of the Bureau's Annex building was completed in 1938. In 1985, the Bureau began a site search for an operating facility west of the Mississippi River that would meet increased currency production needs and act as a contingency operation in case of emergencies in the Washington, DC, metropolitan area. In November 1986, Fort Worth, Texas, was chosen to host the Bureau of Engraving and Printing's Western Currency Facility (WCF). Currency production began in December 1990 at the WCF, and the official dedication took place on April 26, 1991.

## PRINTING BUREAU PRODUCTS

### DESIGN AND ENGRAVING

Print production begins with the skill and artistry of the Bureau's designers and engravers. Designers create a model of the printed product by combining images, text, and other graphic elements into a visually pleasing format. When products incorporate engraved elements — such as a portrait, vignette, ornament, or lettering — the Bureau's engravers, working from the designer's model, create these components of the design. By meticulously cutting extremely fine dots, dashes, and curved lines of varying depths and widths into a piece of soft steel, known as a master die, the engraver produces a very life-like and three-dimensional image on a two-dimensional surface. The art of engraving not only brings a unique beauty to the Bureau's printed products but also serves a more pragmatic function as an anti-counterfeiting measure. While it is the complexity of engraved lines that give such products a visual richness, it is also this technique that makes them extremely difficult to replicate.

### PLATE-MAKING

When the artwork or engraved master dies are completed and approved, depending on the method of printing, they are then converted into an appropriate format for reproduction. Utilizing various technologies, multiple images of the originals are created and transferred to the master printing plates. From the master plates, working plates are created. From the working plates, the final printed products are generated.

## PRINTING

The Bureau utilizes a number of different printing methods for producing its various products. These include intaglio, gravure, and offset.

In the intaglio process ink is applied to an engraved plate that is wiped clean leaving ink in the lines. The inked plate is pressed against a sheet of paper using heavy pressure, forcing the paper into the grooves of the plate, picking up the ink, and transferring the engraved image onto the paper. The printed surface feels slightly raised, while the reverse side feels slightly indented. Gravure printing consists of a pattern of tiny etched dots on the printing plate; ink held inside the tiny dots is lifted up when paper is pressed against the plate, as in the intaglio method. In offset production, the image is lifted off the printing plate onto a rubber blanket by means of chemical attraction/repulsion and then offset to the paper.

Until recently, intaglio was the primary method used by the Bureau for printing currency. However, with the introduction of subtle background color to Series 2004 notes, a combination of intaglio and offset is employed. Intaglio is used to print the engraved portions of the note and offset is used to print the background color.

## CURRENCY EXAMINATION, OVERPRINTING, AND PACKAGING

Each printed currency sheet containing multiple impressions of notes is examined for defects. If the sheet meets the electronic inspection standards, it is then ready for numbering and processing. Using the Bureau's overprinting and processing equipment, the Federal Reserve Seal, the Treasury Seal, and serial numbers are added to each note. Stacks of 100 sheets are ultimately cut into one-note units and then banded and packaged into bricks of 40 units (or 4,000 notes). The bricks are distributed to one of the 12 Federal Reserve banks, which issues the notes to local banks.

Currency plate inspection

Printing currency on a four-plate flat-bed power press, late 1940s

Harris two-color offset press, 1940s

Currency processing



# COUNTERFEITING, REPRODUCTION, AND ANTI- COUNTERFEITING MEASURES

The law sharply restricts reproductions of paper currency as well as other security documents of the United States. The following actions are in violation of Title 18 of the United States Code:

- Manufacturing counterfeit United States currency or altering genuine currency to increase its value;
- Possession of counterfeit United States obligations with fraudulent intent;
- Forging, altering, or trafficking in United States Government checks, bonds, or other obligations;
- Defacement of currency (generally defined as: Whoever mutilates, cuts, disfigures, perforates, unites or cements together, or does any other thing to any bank bill, draft, note, or other evidence of debt issued by any national banking association, Federal Reserve bank, or Federal Reserve System, with intent to render such item(s) unfit to be reissued);
- Making or distributing business cards, notices, or advertisements in the likeness of United States obligations or securities.

Printed reproductions, including photographs, of paper currency and other securities of the United States and foreign governments are also violations of Title 18 of the United States Code, except under the following conditions:

- The illustration must be of a size less than three-fourths or more than one and one-half, in linear dimension, of each part of any matter so illustrated;
- The illustration must be one sided;
- All negatives, plates, digitized storage media, graphic files, magnetic media, optical storage devices, and any other thing used in the making of the illustration that contain an image of the illustration or any part thereof shall be destroyed and/or deleted or erased after their final use.

The Secret Service has jurisdiction over investigations involving the counterfeiting of United States securities and works closely with state, local, and foreign law enforcement agencies to aggressively pursue counterfeiters. The Secret Service also maintains a working relation-



Currency plates, master die, and transfer roll



ship with the Bureau of Engraving and Printing and the Federal Reserve System to ensure the integrity of our currency.

The Bureau is responsible for producing currency that incorporates counterfeit deterrents. Microprinting (fine lettering that is invisible to the naked eye but readable using low-power magnification and difficult to reproduce on most current copiers) and a translucent security thread were first added to currency in 1991. Later, Series 1996 currency also incorporated color-shifting ink that changes color when viewed from different angles; a watermark; fine-line printing patterns that appear normal to the unaided eye but are difficult for copiers and scanners to replicate; and additional security features to address counterfeiting threats posed by advances in color reproduction equipment and processes. With Series 2004 currency, subtle background colors were introduced, adding complexity to the design and making the note more difficult to counterfeit.

## MUTILATED AND DAMAGED CURRENCY

The Bureau of Engraving and Printing redeems partially destroyed or badly damaged currency as a free public service. The Office of Currency Standards uses experts to examine mutilated currency and approve the issuance of a Treasury check for the value of the currency determined to be redeemable. The amount of time needed to process currency claims varies with the extent of the damage and the workload of the examiner.

**What is mutilated currency?** Currency notes which are clearly less than one-half of the original note and/or in such condition that the value is questionable and special examination is required to determine its value. The most common causes of currency mutilation are fire; water; chemicals; explosives; animal, insect or rodent damage; and petrification or deterioration by burying. Mutilated currency may be mailed or personally delivered to the Bureau of Engraving and Printing and should include a letter stating the estimated value of the currency and an explanation of how the currency became mutilated.

**What is not mutilated currency?** Any badly soiled, dirty, defaced, disintegrated, limp, torn, or worn-out currency note that is clearly more than one-half of the original note, and does not require special examination to determine its value. These notes should be exchanged through your local bank.

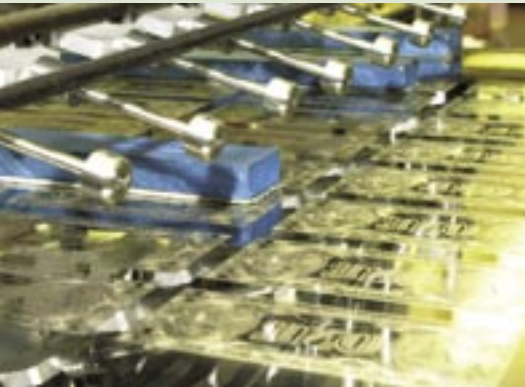
Examples of mutilated and damaged currency





## TOURS

Tours of Bureau facilities feature the various steps of currency production beginning with large blank sheets of paper and ending with wallet-ready bills. Current information about tours may be obtained from the Bureau's website ([www.moneyfactory.com](http://www.moneyfactory.com)) or by telephoning the Bureau at 1-866-874-2330 for Washington, DC, tours and 1-866-865-1194 for Fort Worth, Texas, tours.



## PUBLIC SALES

The Bureau of Engraving and Printing also offers a number of premium products for sale. These include vignettes of historic monuments and sites, Presidential and Chief Justice portraits, as well as note cards featuring the engraved images of some of the Nation's most popular landmarks: the Capitol, the Department of the Treasury, the White House, and the Lincoln and Jefferson Memorials. Uncut sheets of currency, star notes, commemorative posters and more, as well as souvenir cards featuring reprints of exquisite, collectible historic and antique engravings are also available. Products may be purchased online at the Bureau's website ([www.moneyfactory.com](http://www.moneyfactory.com)), in person at a Bureau Visitor Center, or by telephoning the Bureau at 1-800-456-3408. (Please note that the Bureau of Engraving and Printing does not sell old or rare currencies or other security items. The Bureau cannot offer appraisals regarding the value of such items.)



Currency processing

Multi-subject currency plate

Vignette of the Lincoln Memorial

## COVER IMAGES

Bureau of Engraving and Printing horse-drawn wagon taking money to the Treasury, about 1910

Admission card to inauguration of William McKinley, 1897 (approved plate proof)

Salmon P. Chase, 1873 (die proof)

Admission ticket to Woodrow Wilson memorial exercise, 1924 (approved plate proof)

Vignette of the Bureau of Engraving and Printing, Main building, 1950s/1960s

Postage stamp "Western Cattle in Storm," Trans-Mississippi Exposition/"Omaha" Series, 1898

DEPARTMENT OF THE TREASURY



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