

UNITED STATES MINT

“Environmental Management System (EMS)
Implementation in the United States Mint”

By

Roger Swarup, Environmental Officer, 801
9th Street, N.W. Washington D.C., 20220
Tel: (202) 354-7473

United States Mint – Who We Are

- Self-funded Bureau of Department of Treasury
- United States Mint has about 2000 employees
- Mission: Produce circulating coinage
- Mission: Produce numismatic products such as proof sets and official commemorative coins
- Mission: Produce official medals such as the Congressional Gold Medal
- Mission: Produce gold, silver and platinum bullion coins for investors

United States Mint – Facilities

- Headquarters, 801 9th Street, N.W., Washington DC
- United States Mint at Philadelphia, Philadelphia, PA
- United States Mint at Denver, Denver, CO
- United States Mint at West Point, West Point , NY
- United States Mint at San Francisco, San Francisco, CA
- United States Bullion Depository, Fort Knox, KY

United States Mint - Vision

“We at the United States Mint believe that being environmentally responsible is not only an obligation we have to the public but also a practice that makes good business sense”

- Former United States Mint Deputy Director David A. Lebryk

Environmental Program Background

- Prior to 1998, United States Mint had no organized environmental program
- One engineer at the United States Mint at Philadelphia acted as the United States Mint's Environmental Manager (collateral duty)
- Responsible for all facilities
- Conducted informal compliance audits of facilities
- Irregular timeframe for audits

Environmental Program Background – Contd.

- No designated environmental staff in plants
- No environmental training in plants
- In 1998 the United States Mint reorganized
- Mint hired an Environmental Manager at HQ Washington DC
- Responsibilities included Environmental Program Management for the United States Mint

How EMS was Implemented in the United States Mint

- First EMS Reference Manual in 1997-98
- Used as initial resource to establish EMS
- Environmental staff designated in each plant
- Completed third party compliance audit 1999-2000
- Implement self Inspection, waste management, pollution prevention programs

How EMS was Implemented in the Mint – Contd.

- Self-inspection program was developed and implemented
- United States Mints at San Francisco and Philadelphia got new state-of-the-art Chrome scrubber system
- United States Mint at Philadelphia received a Title V Permit
- New procedures developed for NEPA

How EMS was Implemented in the Mint – Contd.

- Signing of EO 13148 lead to realignment of the United States Mint's environmental program
- The Mint designated four facilities for implementing EMS by Dec 2005
- The four facilities are Philadelphia, Denver, San Francisco, and West Point
- In 2003 the Mint decides to base EMS on ISO 14001 standards

United States Mint – Who We Are Contd.

- The United States Mint applies world class business practices in manufacturing, sales and marketing and protection. These practices enhance revenues and profit
- All funded programs must advance the United States Mint's mission
- Fully committed to environmental stewardship

Early EMS Success at United States Mint at West Point

- Final EMS audit – Jan 2005
- ISO 14001:1996 registration Audit – Mar 2005
- ISO 14001:1996 certification – March 18, 2005
- ISO 14001:2004 Upgrade Audit – Sept 2005

Major Project Completed in the West Point Mint for EMS, CY 2000-05

- Compliance Audit, 2000
- Building Renovation, 2000
- Recycling and Waste Management
- Asbestos and Lead Paint
- Process improvements
- Implement E-waste Management

EMS Success at United States Mint at Denver

- Final EMS audit – Jan 2005
- ISO 14001:1996 registration Audit – April 2005
- ISO 14001:1996 certification – April 27, 2005
- Surveillance Upgrade Audit ISO 14001:2004 – Oct 2005

Major Project Completed in United States Mint at Denver for EMS, CY 2000-05

- Expanded recycling and waste management efforts
- Reduced oil consumption by 80 percent
- Hazardous Material Pharmacy
- Close-Loop wastewater treatment process
- Mint police converted to lead-free ammunition
- Continuing environmental performance

EMS Success at United States Mint at Philadelphia

- Final EMS audit – April 2005
- ISO 14001:1996 registration Audit – June 2005
- ISO 14001:1996 certification – June 15, 2005
- Surveillance Upgrade Audit ISO 14001:2004 – December 2005

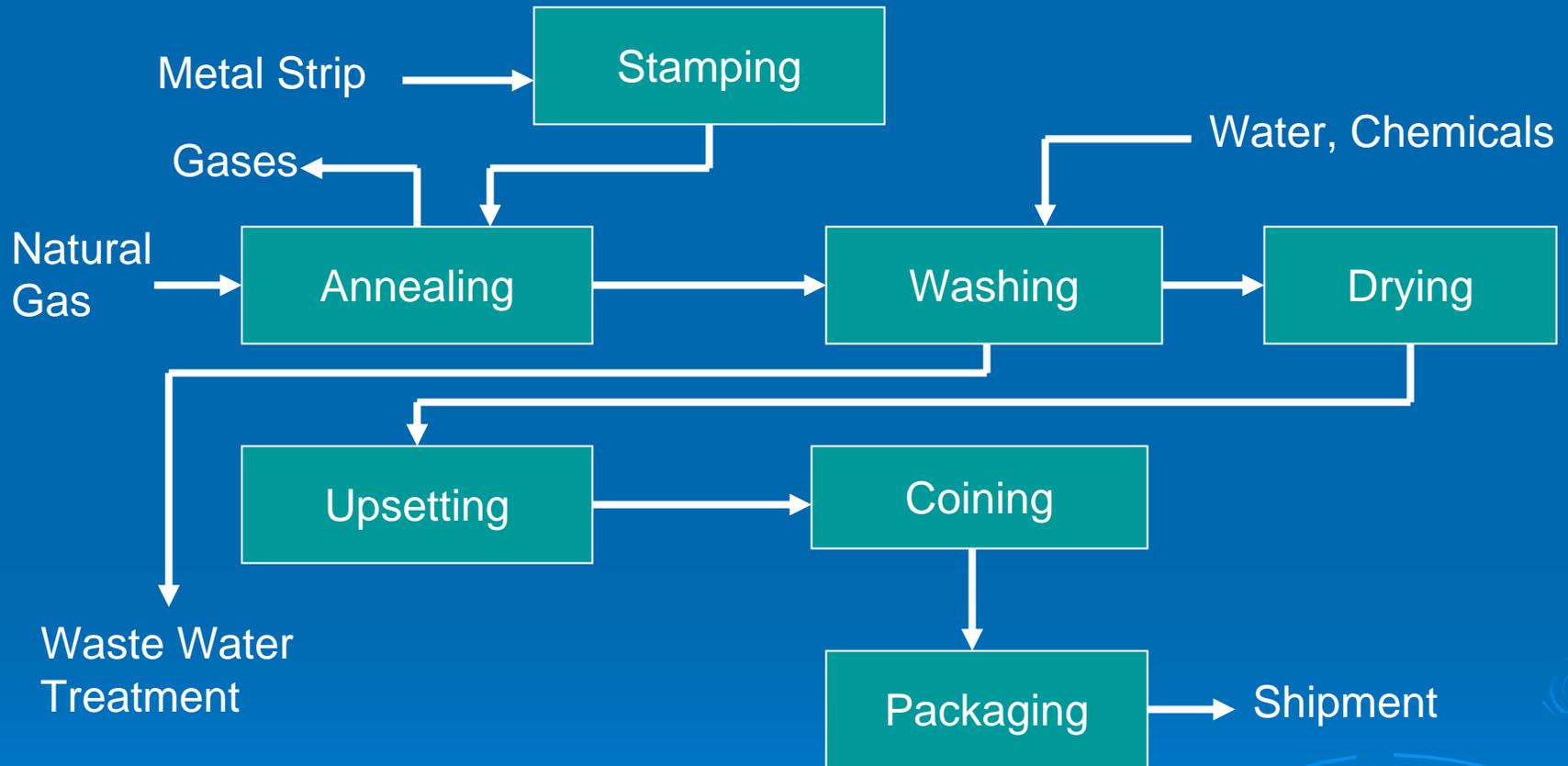
Major Project Completed in Philadelphia for EMS, CY 2000-05

- MSDS data base developed to manage chemicals
- Reduced HW generation by 90 percent.
- State-of-the-art chrome scrubber system installed
- The wastewater system process modified with use of new polymer
- Installed new resin based treatment to reduce concentration of silver

Projects Completed for EMS at United States Mint at San Francisco

- Final EMS audit completed – Oct 2006
- Compliance audit – 1999 -2000
- Monthly self-inspection program implemented
- Installed state-of-the-art chrome scrubber system to control emissions

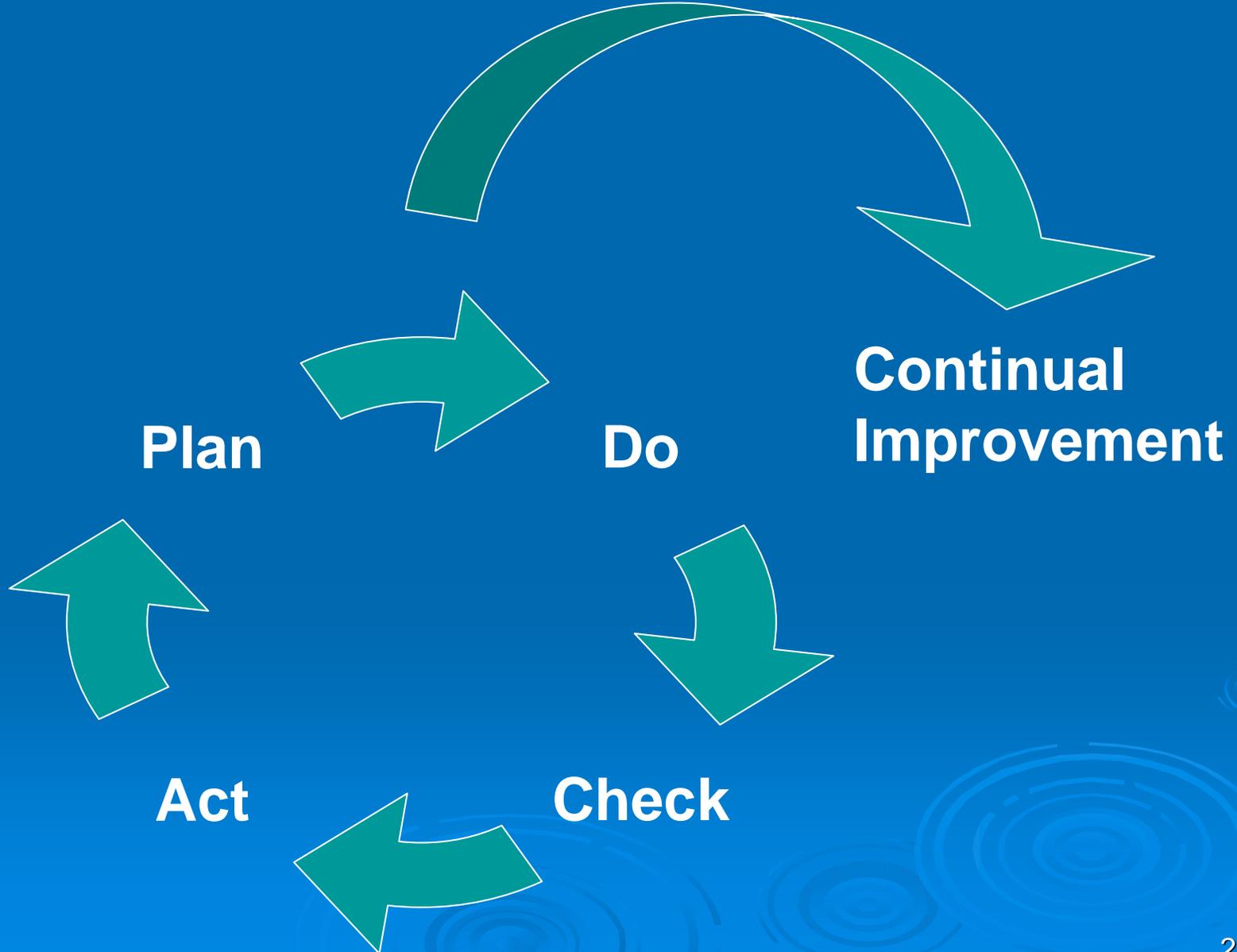
Coin Manufacturing Process



EMS - Methodology

- The United States Mint decided to use ISO 14001:2004 Standards developed based on Plan-Do-Check –Act (**PDCA**) Methodology.
- **Plan:** Establish policy and objectives and identify processes necessary to deliver results
- **Do:** Implement processes
- **Check:** Monitor and Measure processes against policy, objectives and targets, legal and other requirements.
- **Act:** Take actions to continually improve the performance of the EMS

PDCA - Methodology



PDCA - Planning

- General Requirements
- Environmental Policy
- Environmental Aspect
 - [Denver Aspects and Impacts Register Jan 08.xls](#)
- Legal and Other Requirements
- Objectives, Targets and Programs



THE UNITED STATES MINT AT PHILADELPHIA ENVIRONMENTAL POLICY

The Mint will systematically integrate the management of its environmental activities and functions into all missions. We will conduct our activities in a manner that protects human health and the environment, and that meets or exceeds all applicable environmental laws and regulations.

The United States Mint at Philadelphia is committed to pollution prevention and resource conservation, and will strive for continuous improvement in its environmental performance. The Mint will communicate this policy to its employees and stakeholders.

R. R. Robidoux
Former Plant Manager

PDCA DO – Implementation and Operation

- Resources, roles, responsibility and authority.
 - [WPM Roles and Resp Proc.doc](#)
- Competence training and awareness
- Communication
- Documentation
- Control of documents
- Operation control
- Emergency preparedness

PDCA Check - Checking

- Monitoring and Measurements
 - [WPM Monitoring and Measurements.doc](#)
- Evaluation of compliance
- Nonconformity, corrective actions, and preventive actions
- Control of records
- Internal audits

PDCA Act – Management Review

- Review management's EMS at planned intervals
- Ensure continued suitability and effectiveness
- Assess opportunities for improvement in EMS
- Review policy, objective, and targets consistent with continual improvements
- Document reviews
- Typical Procedure ([WPM Management Review Proc.doc](#))

Challenges

- Labor intensive to establish and implement
- Selling the program to management
- Choice of system for EMS
- Awareness training on EMS and ISO 14001
- Overcome manpower Issues
- Need continuous maintenance and updating
- Too much paper work

How We Plan to Use EMS

- Effective tool for continual improvement
- A established procedure to implement projects
- Aspect/Impact Analysis - an effective way to consider several criteria
- Promotes involvement through out the Mint
- Provides oversight by many – less chance of error

AWARDS

- 2006 Closing the Circle Award for Leadership in Federal Environmental Stewardship to the Environmental Management System Team
- Environmental Excellence Award for making Treasury Department “green” on the Environmental Management Systems metric of the OMB Environmental Stewardship Scorecard.
Earth Day, April 22, 2008




Closing the Circle Award
Leadership in Federal Environmental Stewardship
Department of the Interior
United States Army, Washington, DC
Environmental Management System, Inc.
[Signature]

EEOB

United States Mint - EMS Implementation Team

- Linda Bell, EMS Manager, West Point Mint
- Luigi DiCocco, Plant Engineer, West Point Mint
- Gail Fallon, Environmental Engineer, Denver Mint
- Mike Sweeney, EMS Manager, San Francisco Mint
- Dave Smallwood (Retired), Environmental Engineer, Philadelphia Mint

Questions/Comments