



Summary of 2005 DOE Pollution Prevention Performance

AVOIDING WASTE / AVOIDING COST

Twenty-two DOE sites reported on 196 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These sites *avoided*:

29,462 metric tons of solid waste

956 metric tons of hazardous waste

2,789 cubic meters of low-level radioactive waste
and

>\$41.8 million in waste management/disposal costs

RECYCLING

Forty-three DOE sites reported recycling over **93,900** metric tons of material, an increase of over 35% since 2000.

POLLUTION PREVENTION AWARDS

DOE sites nominated 68 activities for P2 award consideration. The PSOs selected 33 activities for EH submission to the White House "Closing the Circle" competition.

An independent panel selected activities from the following sites as DOE P2 Star Award winners:

Federal Energy Management Program
Fermi National Accelerator Laboratory
National Renewable Energy Laboratory
Los Alamos National Laboratory

Pacific Northwest National Laboratory
Sandia National Laboratory (2)
Savannah River Site

DOE P2 Best-in-Class Awards

- 29 Best-in-Class Designations

Federal Electronics Challenge

- 14 DOE sites are Federal Electronic Challenge Partners.
- 5 sites won individual awards: Lawrence Livermore National Laboratory, Kansas City Plant, Pacific Northwest National Laboratory, Bonneville Power Administration, and DOE Headquarters.

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

>\$32.1 million in purchases of recycled-content products at eleven DOE sites.

Forty-one sites reported EPP information in 2005. Twenty-one sites achieved a 100% EPP purchase score:

EE - Golden Field Office
EE - National Renewable Energy Laboratory
EM - East Tennessee Technology Park
EM - Richland-Fluor Hanford
EM - Santa Susanna
EM - West Valley
EM - Waste Isolation Pilot Plant

FE - National Energy Technology Laboratory
DOE Headquarters
NE - Idaho National Laboratory
NNSA - Bettis Atomic Power Laboratory
NNSA - Kansas City Plant
NNSA - Knolls Atomic Power Laboratory
NNSA - Lawrence Livermore National Laboratory

NNSA - Los Alamos National Laboratory
SC - Ames Laboratory
SC - Argonne National Laboratory
SC - Brookhaven National Laboratory
SC - Fermi National Accelerator Laboratory
SC - Lawrence Berkeley National Laboratory
SC - Oak Ridge Institute for Science and Education



Office Of Environmental Management (EM)

AVOIDING WASTE / AVOIDING COST

Five EM sites reported on 30 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These activities *avoided*:

- 1149** metric tons of solid waste
- 739** metric tons of hazardous waste
- 2298** cubic meters of low-level radioactive waste and
- >\$25.4 million** in waste management/disposal costs

RECYCLING

Eleven EM sites reported recycling over **14,835** metric tons of material. EM is responsible for over 15% of material recycled at all DOE sites.

POLLUTION PREVENTION AWARDS

Four EM sites nominated eight activities for P2 award consideration. EM selected five for EH submission to the White House "Closing the Circle" competition, one of which received an Honorable Mention.

DOE P2 Star Award and Closing the Circle Honorable Mention

- Savannah River Site – *Savannah River's Recycle Opportunities Expand*

DOE P2 Best-in-Class Awards

- Five (5) EM Best-in-Class Designations

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

Five sites achieved a 100% EPP purchase score:

- East Tennessee Technology Park
- Richland-Fluor Hanford
- Santa Susanna
- West Valley
- Waste Isolation Pilot Plant

> \$3.9 million in purchases of recycled-content products at seven EM sites.

Highlights:

Fernald incorporated used equipment in building a new Radium Treatment Facility, avoiding \$1.5 million in waste management and equipment costs.

Highlights:

SRS recycled 2836 metric tons of iron in 2005, accounting for over 19% of all material recycled by EM.

Highlights:

The "Savannah River's Recycle Opportunities Expand" project received an Honorable Mention recognition in the White House Closing the Circle Awards.

Highlights:

EM accounted for 12% of DOE's \$32 million in purchases of recycled-content products.





National Nuclear Security Administration

AVOIDING WASTE / AVOIDING COST

Eight NNSA sites reported on 55 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These sites *avoided*:

- 28,240** metric tons of solid sanitary waste
- 213** metric tons of hazardous waste
- 492** cubic meters of low-level radioactive waste
and
- >\$7 million** in waste management/disposal costs

RECYCLING

Ten NNSA sites reported recycling over **58,500** metric tons of material

- **19,956** metric tons reported by Y-12 (most of any DOE site)

POLLUTION PREVENTION AWARDS

Seven NNSA sites nominated activities for P2 award consideration. NNSA selected 14 for EH submission to the White House "Closing the Circle" competition, two of which were selected as winners.

DOE P2 Star Awards

- Los Alamos National Laboratory: *Innovative Tools and Approaches for Environmental Management Systems (EMS) Implementation at LANL*
- Sandia National Laboratory: *Comprehensive Environmentally Preferable Purchasing (EPP) Program*
- Sandia National Laboratory: *Creation of a Printer Supply Exchange*

Federal Electronics Challenge Awards

- Lawrence Livermore National Laboratory – Silver Award
- Kansas City Plant – Bronze Award

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

Five NNSA sites achieved a 100% EPP purchase score:

- Bettis Atomic Power Laboratory
- Kansas City Plant
- Knolls Atomic Power Laboratory
- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory

>\$17.9 million in purchases of recycled-content products at eleven NNSA sites.

Highlights:

NNSA met 4 of the 5 of the 2005 DOE waste reduction goals, missing the sanitary waste goal by 0.5%.

Highlights:

NNSA sites have reported a 62% increase in recycling since 2000.

Highlights:

NNSA received two "Closing the Circle" awards, one for Sandia National Laboratory's *Comprehensive Environmentally Preferable Purchasing (EPP) Program* and the other for the Y-12 National Security Complex's *Reduce, Reuse and Recycle Team: Multi-organizational Reduce, Reuse and Recycle*.

5 NNSA sites are Federal Electronics Challenge Partners.

Highlights:

NNSA accounted for over 50% of DOE's \$32 million in purchases of recycled-content products.





Office of Science (SC)

AVOIDING WASTE / AVOIDING COST

Six SC sites reported on 30 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These sites *avoided*:

253 metric tons of solid waste
>\$8.9 million in waste management/disposal costs

RECYCLING

Eleven SC sites reported recycling **8,514** metric tons of material
SC is responsible for over 9% of material recycled at all DOE sites.

POLLUTION PREVENTION AWARDS

Five SC sites nominated 13 activities for P2 award consideration. SC selected 11 for EH submission to the White House “Closing the Circle” competition, one of which was select as a winner.

DOE P2 Star Award and Closing the Circle Award

- Pacific Northwest National Laboratory - *PNNL Stewardship: Conservation Through Reuse*

DOE P2 Star Award

- Fermi National Accelerator Laboratory - *E-Waste Management and Recycling at Fermilab*

Federal Electronics Challenge Awards

- Pacific Northwest National Laboratory – Silver Award

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

Six sites achieved a 100% EPP purchase score:

Ames Laboratory
Argonne National Laboratory
Brookhaven National Laboratory
Fermi National Accelerator Laboratory
Lawrence Berkeley National Laboratory
Oak Ridge Institute for Science and Education

Highlights:

ORNL implemented several new recycling initiatives that diverted 150 tons from landfill disposal and avoided \$3.3 million in associated costs.

Highlights:

Fermilab became a Partner in the Federal Electronics Challenge in 2005.

Highlights:

PNNL won P2 Star and Closing the Circle awards for integrating waste minimization and pollution prevention into its Environmental Management System, saving the site and its partners over \$2 million in 2005.

Highlights:

SLAC implemented a centralized Chemical Procurement System, with a catalog of over 1600 chemicals.





Office of Fossil Energy (FE)

AVOIDING WASTE / AVOIDING COST

The Strategic Petroleum Reserve site reported on 5 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These activities *avoided*:

>**\$250,000** in waste management/disposal costs

RECYCLING

Four FE sites reported recycling over **2,748** metric tons of material

POLLUTION PREVENTION AWARDS

The Strategic Petroleum Reserve submitted a P2 award nomination for *Strategic Petroleum Reserve (SPR) Green Building Charrette Team FY 05*. This nomination was selected as Best-in-class and was nominated for the White House Closing-the-Circle award.

The team overcame accelerated schedules and cost constraints, while filling the reserve with oil, followed by its emergency distribution in response to two major hurricanes to succeed in: 1) scoring one building LEED silver, 2) identifying SPR green specifications, and 3) establishing a sustainable building model for future SPR projects.

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

The National Energy Technology Laboratory achieved a 100% EPP purchase score

> **\$336,000** in purchases of recycled-content products at three Fossil Energy sites.

Highlights:

In 2005, the Big Hill SPR site was successful in degassing 44.7 million barrels of crude oil, avoiding 454 tons of air emissions and recovering \$181,800 in valuable product.

Highlights:

Since 2001, FE sites have reported a five-fold increase in recycling volume. The major driver for this increase has been the SPR concrete recycling program, which recycled 783 tons of concrete in 2005.

Highlights:

The SPR purchased 1,720 megawatts of alternative energy, preventing the generation of fossil fuel emissions estimated at 1,204 tons of CO₂, 6.9 tons of sulfur dioxide, and 3.4 tons of nitrous oxides





Office of Nuclear Energy (NE) Idaho National Laboratory

AVOIDING WASTE / AVOIDING COST

INL reported on 8 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These activities *avoided*:

>**\$26,000** in waste management/disposal costs

Examples of activities that avoided waste are:

- A new ion chromatography (IC) instrument eliminated the need for acetone, a volatile organic compound used in the current procedure, and combined four existing analytical methods into one method. Use of the new IC instrument eliminated the use of acetone, leading to an 84% decrease in hazardous waste generation while reducing analysis time by approximately 75%.
- INL equipped eleven four-cycle diesel-engine buses and six Chevrolet Tahoes with oil bypass filter systems to extend engine oil life by cleaning solid contaminants as small as one micron out of the engine oil. On average, the eleven test buses reduced their oil use by 89% while the six Tahoe vehicles reduced their oil use by 75%.

RECYCLING

INL reported recycling **4,837** metric tons of material.

NE is responsible for over 5% of material recycled at all DOE sites.

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

INL achieved a 100% EPP purchase score.

>INL reported **\$2.6 million** in purchases of recycled-content products.

Highlights:

The INL Green Building Strategy documents the INL's green building standards for newly constructed buildings and major renovations.

Highlights:

NE accounted for 8% of DOE's \$32 million in purchases of recycled-content products.





Office Of Civilian Radioactive Waste (RW) Yucca Mountain Project

AVOIDING WASTE / AVOIDING COST

Yucca Mountain Project reported on 4 activities that eliminated or reduced waste as a result of integrating P2 into site operations.

These activities *avoided*:

>**\$44,000** in waste management/disposal costs

Examples of activities that avoided waste are:

- Over 900 pieces of excess electronic equipment, with a combined asset value of \$1,109,377.00, including cell phones, plotters, and computers, required proper disposition. Instead of managing and disposing of these items as hazardous waste, an EPA- and GSA-approved electronic equipment recycling company was identified in Nevada. Recycling resulted in a cost avoidance of over \$44,000.
- Bechtel SAIC Company, LLC sponsored a project-wide personal cell phone recycling effort in support of Earth Day 2005. Over a three-week period 104 cell phones were collected and sent to a recycling company. Of these, 92 were reused and only 12 were recycled. Proceeds were used to provide care packages to overseas U.S. military personnel.

RECYCLING

Yucca Mountain Project reported recycling **447** metric tons of material
Yucca Mountain Project is a Federal Electronics Challenge Partner

ENVIRONMENTALLY PREFERABLE PURCHASING (EPP)

RW reported **\$187,000** in purchases of recycled-content products.

Highlights:

The Yucca Mountain Project nominated one project for a P2 award, *Reusing and Recycling Electronic Equipment*. This project, designated as Best-in-Class, was submitted to the White House "Closing the Circle" competition.

Highlights:

The recycling of office paper accounts for over 40% of recycled material at Yucca Mountain

