

**DOE Sustainability Assistance Network (SAN) Notes**  
**Thursday, May 17, 2012**

**1. Sustainability Performance Office (SPO) Highlights**

Paul Estabrooks, SPO

The nomination deadline for the 2012 DOE Sustainability Awards is extended to June 1, 2012.

Nominations are made through the PPTRS; contact Jerry DiCerbo if you need access to the website.

Additional awards information is available at <http://www1.eere.energy.gov/sustainability/awards.html>.

The 2012 GreenGov awards will be presented during the GreenGov Symposium which will be held in Washington, DC from September 24-25; post-conference meetings and workshops will be conducted on September 26. The DOE 2012 Sustainability Awards ceremony will be held on Thursday, September 27, 2012 in Washington, DC.

The 2012 Strategic Sustainability Performance Plan (SSPP) is being developed by the SPO with the cooperation of the Headquarters' corporate offices. The SSPP is due to the Office of Management and Budget for its approval by June 29, 2012 and will likely be available in fall of 2012.

Section 432 of the Energy Independence and Security Act requires that, on an annual basis, 25 percent of covered facilities undergo comprehensive energy and water evaluations. Thus, over a four-year period, all covered facilities will be evaluated. The SPO can assist sites in meeting this requirement.

In response to the December 02, 2011 Presidential Memorandum, *Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings*, the Department committed to a goal of \$100 million of energy savings performance contracts (ESPCs) by the end of 2013. Contact Paul with your questions about ESPCs and how they could be used at your site.

**2. Zero Waste: Is it an End-of-Pipe Dream?**

Jane Powers, HS-22

A general definition of "zero waste" is that all discarded materials become resources for others to use.

The Zero Waste Alliance states that achieving zero waste means that products and processes are designed to reduce the volume and toxicity of waste materials and resources are conserved or recovered rather than burned or buried.

Major industries, such as General Motors, have oriented their processes to zero waste for several years; by the end of 2011, more than half of its worldwide manufacturing sites achieved zero waste. More than 97 percent of their materials were reused or recycled and the remainder was converted to energy. One of Proctor and Gamble's manufacturing facilities achieved zero waste in 2010 with a 60 percent recycle rate and the rest converted to energy. Eleven years ago, Honda produced 62.8 pounds of landfill waste per automobile but reduced that to 4.1 pounds in 2011; its 2012 goal is 1.8 pounds.

Ricoh, a producer of cameras, printers, and fax machines, achieved zero waste to landfill at all its North American manufacturing facilities by using their environmental management system (EMS) and emphasizing the following:

- Refusing to buy what becomes waste,
- Returning materials to suppliers,
- Reducing waste at the source,
- Re-using everything possible, and
- Recycling everything possible.

Requirements of DOE Order 436.1, *Departmental Sustainability*, and Executive Orders drive DOE to move to zero waste and several sites have made remarkable progress – most notably in the areas of electronics reuse and recycling and construction and demolition debris recycling.

### **3. Beyond Cost Savings: Using P2 as a Compliance and Risk Reduction Tool** Debbie Bryan-Ricketts, LANL

In the mid-90s Los Alamos National Laboratory (LANL) established its Generator Set Aside Fund (GSAF) which placed a tax on waste as an inducement to minimize waste generation. Income from the GSAF was invested in new projects to reduce waste. Routine hazardous waste generation plummeted and millions of dollars were saved; in the past five years alone, GSAF yielded \$47 million in avoided costs. The tax aspect of the GSAF has been replaced with a \$1.2 million dedicated fund used to finance projects selected on a competitive basis. This last year, 18 of 70 proposals were selected through a peer-review process.

The LANL 50-year Environmental Stewardship Plan has three objectives: clean the past, control the present, and create a sustainable future. Waste minimization is an important key in all three and is being promoted through the E-ALARA (Environmental-As Low As Reasonably Achievable) campaign. The ALARA principle as applied to nuclear activities is familiar to LANL staff so the transition to thinking about minimizing waste to levels as low as reasonably achievable should not be difficult. With E-ALARA, the emphasis is on using the lowest possible amount of resources (energy, water, or materials) and anticipating the by-product of processes and how they can be re-used to produce the least amount of waste possible. An example of E-ALARA was replacing the fluorescent bulbs in radiological areas with LED lights thereby eliminating the generation of mixed low-level radioactive waste. A very beneficial side effect was reducing the number of times workers needed to enter the radiological areas to replace lighting because the LED lights last so much longer.

LANL ensures that its EMS and key mission/business priorities are in alignment. It also emphasizes how E-ALARA supports mission activities and promotes compliance – and in some cases removes the need for compliance. For example, LANL reduced its number of regulated outfalls from 140 to 6 – and is working to lower that to 4 outfalls.

Note: Jane's presentation on zero waste and Debbie's presentation on LANL's P2 program were originally made at the 14<sup>th</sup> Annual DOE/EFCOG Chemical Safety and Life Cycle Management Workshop on March 14, 2012 at DOE Headquarters. Future SAN calls will feature additional presentations from the workshop.

### **4. DOE 2012 Earth Day Presentations**

#### **Pantex**

Julie Chavarria, Pantex

Pantex joined with several Amarillo community organizations to celebrate Earth Day by focusing on revitalizing Thompson Park which had suffered due to the Texas drought. Volunteers planted 250 trees (17 of them planted by Pantex personnel), planted flowers, and completed installation of a children's playground. This was in addition to conducting a science-based Jeopardy game for children, providing children with reusable shopping bags that they could color, and giving them boxes of lady bugs for them to put in gardens and flower beds.

#### **Forrestal and Germantown HQ**

Bev Whitehead, HS-21

Earth Week was held at Forrestal from April 16–20 and Germantown from April 23–27. DOE program offices and green exhibitors displayed posters and brochures at both sites. The films, Tapped and Bag It, dealing with bottled water use and the role of plastics and their environmental and health effects, were shown at both sites. The Community Day at both sites featured green vendors, the program office displays, electronics recycling provided by UNICOR, DOE Bright Horizons children's activities and parade, Environmental Photo contest display and awards, farmers market, and DOE Cafeteria BBQ.

## **5. Elimination of Chlorine Gas to Protect Workers and the Environment** Chris Puroff, Pantex

Pantex used chlorine gas for disinfection of its potable water supply and its wastewater. To avoid the hazards and extensive management responsibilities associated with shipping, handling, and using chlorine gas, Pantex moved to using a MIOX (mixed oxidants) system to produce liquid chlorine for disinfection. In addition to eliminating all manner of possible hazards related to chlorine gas, the MIOX proves to be a better disinfectant – it achieves more rapid and thorough inactivation of a wider range of microbial contaminants than conventional chlorine. Issues being resolved by the switch to the MIOX System include high amp draw on electrolytic cells due to pressure and flow rates, and increased maintenance and electricity and water use.

## **6. Lawrence Livermore National Laboratory 2011 EStar Awards** Heather Ottaway, LLNL **Global Security Paperless eSystems Save Time, Money and the Environment**

Converting the Lawrence Livermore National Laboratory's (LLNL) Global Security Principal Directorate's processes for move requests and travel approvals to paper-less eSystems saved paper, staff time, and money. Before the eSystems were in place, each move request (over 3,000 a year for matters such as changes in office and computer locations, phone service, and door locks) required three different paper forms. Each travel request (about 4,000 a year) required seven approvals and several of the divisions in the directorate had different travel approval processes. The eSystems save 36 reams of paper each year and staff time. The eTravel system is being adopted lab-wide.

## **Site 300 Sulfur Hexafluoride Reduction Project**

Reclaiming and reusing sulfur hexafluoride (SF<sub>6</sub>) and developing monitoring systems that warn of the potential for SF<sub>6</sub> releases allowed LLNL to decrease its annual release of the greenhouse gas at its Flash X-Ray (FXR) facility from 5,000 pounds to 115 pounds. The FXR system is an induction linear accelerator used to produce x-rays for the production of high-speed radiographic images of the explosions (implosions) of high explosives.

## **7. Federal Green Challenge Partner** Heather Ottaway, LLNL

As a Federal Green Challenge Partner, LLNL chose waste and purchasing as the target areas it will pursue. Under the program, Federal facilities select a minimum two of the six target areas —waste, electronics, purchasing, energy, water, or transportation; at least one of the selected target areas must be waste, electronics, or purchasing. Federal Green Challenge partners commit to an improvement goal of at least 5 percent per year in their selected target areas.

The lab's Pollution Prevention/Sustainability (P2S) program incorporates field analysts, property management, and procurement to meet its targets. The field analysts are connected to LLNL programs and identify recycling and reuse opportunities in their areas. Property management identifies recycling vendors and reuse possibilities such as the Second Time Around Store where lab personnel can shop for unused or un-needed office furniture and supplies and electronics. Procurement focuses on purchasing products with recycled or biobased content or otherwise green or EPEAT-certified. The P2S program conducts opportunity assessments (such as using refurbished trailers rather than constructing a new facility) and tracks and monitors waste and procurement data. Quarterly reports are generated on recycling rates for composting, paper, scrap metal, cardboard, comingled recycling, glass, green waste, cooking grease, tires, toner cartridges, and wood and are analyzed to identify areas for improvement.

## **8. Sustainability and Compliance Reporting**

### **2012 DOE Sustainability and GreenGov Awards Update** Bev Whitehead, HS-21

The 2012 DOE Sustainability Awards merge the Department's former environmental awards and its energy management awards into 14 award categories. Award nominations made through the PPTRS by June 1 will be forwarded to the respective program secretarial offices for their Best-in-Class selections; those selections will then be sent for final judging to a panel of independent judges.

There are 6 GreenGov Presidential Awards categories: Sustainability Hero; Green Innovation; Lean, Clean, and Green; Good Neighbor; Green Dream Team; and Building the Future. As you complete your nomination for the DOE Sustainability Awards, consider applying for a GreenGov award, or vice-versa. The GreenGov award nomination deadline is June 15, 2012; nominations are made through FedCenter.

**Contact Information:**

Debbie Bryan-Ricketts – (505) 665-9274 – [dbryan-ricketts@lanl.gov](mailto:dbryan-ricketts@lanl.gov)

Julie Chavarria – (806) 477-6533 – [Jchavarr@pantex.com](mailto:Jchavarr@pantex.com)

Paul Estabrooks – (202) 586-2674 – [Paul.Estabrooks@ee.doe.gov](mailto:Paul.Estabrooks@ee.doe.gov)

Heather Ottaway – (925) 422-5459 – [ottaway1@llnl.gov](mailto:ottaway1@llnl.gov)

Jane Powers – (202) 586-7301 – [Jane.Powers@hq.doe.gov](mailto:Jane.Powers@hq.doe.gov)

Chris Puroff – (806) 477-4674 – [Cpuroff@pantex.com](mailto:Cpuroff@pantex.com)

Beverly Whitehead – (202) 586-6073 – [Beverly.Whitehead@hq.doe.gov](mailto:Beverly.Whitehead@hq.doe.gov)

*Next SAN Conference Call: June 21, 2012*

*Contact Beverly Whitehead (HS-21), (202) 586-6073, [Beverly.Whitehead@hq.doe.gov](mailto:Beverly.Whitehead@hq.doe.gov), with issues you would like to raise and/or presentations you would like to make.*