

LANL Won Eight NNSA Pollution Prevention Awards

Laboratory organizations received eight 2009 Pollution Prevention (P2) awards from the National Nuclear Security Administration (NNSA). The awards are based on a NNSA-wide competition that acknowledges pollution prevention, recycling and affirmative procurement accomplishments.

The Laboratory also received a Department of Energy "E Star" award for its Environmental Management System project, based on a complex-wide competition.

"These projects represent another example of the commitment of Lab staff to eliminate waste and invoke cost-effective process improvements," said Denny Hjeresen of the Risk Reduction Office (ENV-RRO).

The Lab received five P2 Environmental Stewardship awards and three Best-in-Class awards from NNSA. Employees on the winning project teams will be recognized at a ceremony later this year. The employees will be verbally recognized at the Lab's Pollution Prevention Awards ceremony April 22 in the Physics Building Auditorium.

NNSA Environmental Stewardship Pollution Prevention Awards

Downsizing and right-sizing the Laboratory's vehicle fleet project, in the category of Alternative Fuel and Fuel Conservation in Transportation. The project was sponsored by the Business Services Directorate, Acquisition Services



Management Division, Property Management Group and also consisted of employees from various organizations across the Lab. The objective of the Fleet Management Process Improvement Project was to reduce fleet costs by \$50,000 a month or \$600,000 per year. The PIP Team investigated the underlying causes of increased fleet costs and created a strategy for downsizing and “rightsizing” the Lab fleet. Cost savings for fiscal year 2008 was \$156,000, and the projected cost saving for fiscal year 2009 is an additional \$224,000. The potential costs savings of and estimated average annual savings for each vehicle turned is approximately \$4,000. The estimated average annual savings for each vehicle downsized is approximately \$1,800.



Monica Andersen	Arlene Estevan
Jennifer Lucero	Marcos Martinez
Dale Osborn	Leroy Padilla
Gerald Tafoya	John Tapia
Jen Nisengard	

A Green Synthesis Path to the Explosive
Diaminoazoxyfurazan (DAAF) project, in

the Waste/Pollution Prevention category.

The Weapons Engineering Directorate,

Hydrodynamic Experiments Division, High

Explosive Science and Technology Group

conducted this research. High explosive

synthesis is often unable to benefit from a

greener synthesis path due to constraints on purity, yield and the

types of impurities. However, this team was able to replace the

original synthesis path to diaminoazoxyfurazan, with an

environmentally friendly alternative. This method has improved

process time by 90 percent and purity of the final product. It also

maintains a high yield and generates zero hazardous waste. An

industrial partner plans to adopt the new process and scale it up for

manufacturing.



David Chavez Elizabeth Francois

LED Replacement Lights for Glove Boxes are Safe and Cost Effective project, in the Waste/Pollution Prevention category. The Stockpile Manufacturing and Stewardship Directorate sponsored the project with support from Environment, Safety, Health and Quality and Environmental Programs



directorates. This team replaced about 90 fluorescent light fixtures in glove boxes with LED lights each year. LED lights consume less electricity, and have an extended life span up to 10 times longer than fluorescent fixtures. LED lights also contain zero hazardous components and can be disposed of at a lower cost than fluorescent fixtures. The expected annual savings is more than \$32,600, which includes energy costs, purchasing, and waste disposal. These bulbs have a much longer life span than traditional bulbs and significant additional cost avoidance will be realized through reduced labor and materials costs associated with replacement.

Kevin Bailey

Harvey Decker

Paul Lewis

Tom McNaughton

David Paulson

Marilyn Peabody

Missy Trujillo

**Extending Reuse Period of Anti-C
Lab coats at CMR project in the
Waste/Pollution Prevention**

category. The project was sponsored by the Chemistry, Life Sciences, and Environmental Science Directorate with support from Environment,



Safety, Health and Quality Directorate and several employees from across the Laboratory. After careful review and evaluation of Chemistry and Metallurgy Research (CMR) lab coats it was determined that the lab coat change frequency could be extended from one day to one week. Time and effort saved by extending the wear time of lab coats is about the equivalent of one full-time employee per year. This improvement allowed radiological control technician support to be dedicated to another priority project and avoided additional materials management costs associated with the laundry.

Garth Beers Sharla Dempsey Deann Dierks Gary E. Martin
Beraldo Montoya Charles L. Riebe Conrado D. Sandoval
Lisa Townsend Amy Wong

Remediation Project Minimizes Waste and Saves \$2 million

project, in the Waste/Pollution Prevention category. The project was sponsored by the Environmental Programs Directorate with support from the Environment, Safety, Health, and Quality Directorate. The



Technical Area 21 Delta-Prime Site Aggregate Area project was an environmental remediation project of 22 solid waste management



units (SWMUs) and areas of concern across TA-21. During the project, about 2,420 cubic yards of clean overburden soil was segregated and reused as backfill material. Reuse of the overburden soil eliminated the need for this material to be processed

as low-level waste and avoided \$2,087,970 in storage, transportation, and disposal costs. To control dust and minimize runoff, the overburden stockpiles were originally covered with plastic sheeting. The plastic sheeting was replaced with magnesium chloride, a non-toxic, non-hazardous substance, and resulted in 40 cubic yards of industrial waste avoidance. A large metal tank found to be free of radiological and hazardous constituents was sent to a metal recycler resulting in another 20 cubic yards of industrial waste avoidance.

Roy Bohn

Darrel Blain

Ron Desotel

Duane Parsons

Mark Thacker

Kelly Vanderpoel

NNSA Best-in-Class Pollution Prevention Awards

Server Virtualization Results in Continual Cost and Energy Savings

project in the Electronics Stewardship

category. The Engineering and
Engineering Sciences Directorate

Network Infrastructure Division,

Production Systems Group completed the

project. The Server Administration and Operations Group reduced the

Lab's the overall server computer footprint by leveraging a technology

that "virtualizes" multiple computers on a single consolidated

platform that saves hardware procurement, maintenance, disposal,

and energy. The technology allows for multiple operating systems to

be operated by a single computer. This team reduced the overall

computer server footprint from 200 to 12, saving an estimated

873,000 kilowatt-hours per year in energy savings. This project saved

\$605,000 in the first year and expects to avoid about \$1.4 million

every year after.



Dave Belangia

Anil Karmel

Leon Lopez

Keith Morgan

Chris Olsen

Chris Samora

Theresa Sandoval

Using a Mature EMS for Meaningful Institutional Improvements



project in the Environmental Management Systems category. The Environment, Safety, Health and Quality Directorate, Environmental Protection Division, Risk Reduction Office implemented the program with support from all directorates through the EMS Core Team. The Laboratory is actively using its ISO 14001 certified EMS to systematically improve both local level and institutional environmental performance. The EMS is moving beyond traditional sustainability programs and merging with worker safety, regulatory compliance, and institutional infrastructure programs. The improvements are critical to the credibility of the EMS and the continued willingness of employees at the work level to participate in the improvement process. In fiscal years 2006-2008, overall estimated savings to the Lab from EMS related projects is \$18.4 million.

Dennis Hjeresen

Patricia Gallagher

Ben Poff

Debra Bryan-Ricketts

Jen Nisengard

LANL EMS Core Team

MRAD: Pollution Prevention Plan Avoids Waste and Disposal Costs in the Waste/Pollution Prevention category. The Experimental Physical Sciences Directorate implemented the project with support from Environmental Programs Directorate.



By implementing pollution prevention techniques this team was able to reduce waste at the Muon Tomography Project (MRAD). The MRAD project employs thousands of sensitive drift tubes in an application for threat reduction. Each tube must be cleaned carefully; the initial assumption was that the tubes would be cleaned using a 22-gallon acid waste tank system, which would be a very expensive and time-consuming operation. An alternative non-waste generating cleaning system was developed and implemented. Due to pollution prevention planning prior to the project, 20,000 kilograms of hazardous waste is avoided annually. This effort saved an estimated \$865,977 in waste disposal costs and minimized worker exposure to hazardous chemicals, and reduced labor costs.

Jeffrey D. Bacon Ronnie A. Garcia