

ELM

Environmental Life-Cycle Management

*Sandia National Laboratories
Summer 2011 ELM Newsletter*



Sandia's LTES Program Becomes ELM

The Long-term Environmental Stewardship (LTES) Program is now the Environmental Life-Cycle Management (ELM) Program. Sandia's ELM Program involves stewardship activities for past, present and future activities. The ELM program "promotes the long term stewardship of a site's natural and cultural resources throughout its operational, closure, and post closure life cycle."

Sandia's ELM Program is responsible for providing corporate-wide processes for minimizing adverse environmental impacts from Sandia operations, including new, active and legacy sites. These processes will identify and manage cumulative environmental impacts.

ELM also supports the long-term stewardship (LTS) of legacy waste sites (i.e., former Environmental Restoration sites). LTS for the legacy sites is defined as the physical controls, institutions, information, monitoring activities, and other mechanisms necessary to ensure the protection of human health and the environment at those legacy sites that have undergone remediation.

The ELM Program continues to work to improve our ability to better represent concerned citizens. We have a website that offers user-friendly access to information on events and projects within the ELM Program. The public can also access fact sheets relating to Sandia's environmental programs and meeting announcements.

For more information on Sandia's ELM Program,
please visit our website at:

<http://elm.sandia.gov>





Café's food waste composting program keeps leftovers out of the landfill

By Stephanie Holinka

FROM FORK TO FARM - Misch Lehrer, Soilutions manager, examines the soil that is the final product of approximately a year and a half of composting. Leftovers from Sandia's café now become topsoil as part of a composting program (above). Boxes full of food that has been trucked to the facility to decompose (below).

Photos by Darrick Hurst

At Sandia's Thunderbird Café, a leftover lunch burrito can find its way into a fertile soil for a backyard garden. When someone leaves that leftover sandwich on a lunch plate, Thunderbird Café employees send it out for composting.

The composting program began in March of last year as a pilot to divert food preparation waste and leftovers from the regular waste stream that is sent to Rio Rancho's landfill.

With the exception of only a few initial bumps, the program has been a success. "We had problems at first with getting non-compostables separated, but it's gotten better over time," says Café supervisor Steven Lassiter.

The composting program won Sandia's internal 2011 Environmental Management Systems (EMS) Excellence Award for the Risk Mitigation/Environmental Protection category.



for diners to sort their biodegradable materials for composting. Because the Tech Area 4 café requires less variety in its food packaging, that location will be able to begin using special compostable plates and utensils, Sam says.

Harnessing leftovers

In the cafeteria's dishwashing and prep areas, café staff dispose of any plastic items in the regular trash. They then put food scraps and leftovers from dishes into bins that are about the size of an average large kitchen wastebasket and are lined with bags made from a compostable plant resin.

As the bags are filled up, they are deposited in larger green bins located in the parking lot at the rear of the café. These bins are only slightly smaller than the trash bins used by the City of Albuquerque for residential trash pickup, in order to accommodate food waste that tends to be heavier. Even the bins themselves are recycled and still bear "Madison, Wisconsin" logos on them - a leftover from where they began their life as residential trash bins.

Representatives from Soilutions pick up the bins twice a week (more if needed). The collected food goes to the Soilutions facility on Albuquerque's far South side where it begins its metamorphosis.

Transforming food to organic compost
When the bins arrive at Soilutions, all of the materials are spread out on absorbent material to remove standing moisture. The materials are then combined in a large pile where workers mix them with drier, ground-up materials such as wood chips and straw.

"Soilutions picks up anything that has been alive," says Misch Lehrer, Soilutions manager. They accept food waste from area businesses and organizations, such as Whole Foods Market Inc., the Hyatt Regency Tamaya Resort and Spa, the University of New Mexico, Central New Mexico Community College, and many others, Lehrer says. Soilutions also accepts waste from area farms, such as manure and straw, as well as dead and wilted flowers from local flower shops.

Additionally, Soilutions works with events planners to harvest scraps from one-time events like the annual Pork 'N Brew event in Rio Rancho.

"We're basically microbe farmers," Lehrer says. "We provide ideal microbe conditions. We give microbes food, water and air and they do the work." Lehrer says the compost's microbes double in number about every half hour. As they eat, they create carbon dioxide and heat.

Due to the scale of its operation, Soilutions composts items that home composters are typically told not to add to their piles. "Home composters should avoid [composting] meat and dairy items," Lehrer says. "There's nothing wrong with composting these things, but they do tend to attract scavengers and they take a long time to compost in smaller piles that don't get as hot as the larger piles can get."

When the initial compost pile reaches a certain point, Soilutions stops adding new materials to the pile, so it can begin to fully decompose. "Within a week, the piles heat up to around 160 degrees in their center," Lehrer says. "The materials get broken down into smaller and smaller particles as microbes eat the food materials and form humic acids, which plants are able to use."

As the pile ages and decomposes, the materials become more dense and Soilutions staff aerate the compost by turning it every few months, both adding moisture to the pile's exterior materials and assuring that the compost's materials break down evenly.

Soilutions staff must regularly screen the piles' contents for hidden plastics that may have found their way into the compost piles. "Plastics are forever," Lehrer says. "Plastics do not decompose, so they must be removed manually and shipped off to a landfill; they are a waste product for us."

When the pile is nearly ready, the Soilutions staff screen-sort the resulting compost for size. The largest pieces will go back into compost piles at earlier

stages in the process, while the smaller pieces are sorted into compost, topsoil, and various types of mulch that are sold to landscape companies and home gardeners.

According to Lehrer, the composting process takes quite a bit of time. "It takes a year to a year-and-a-half for food waste to break down completely into organic compost," he says. "Food waste from the beginning of the pilot program is almost ready to help things grow this spring and summer."

While Lehrer may be the expert when it comes to composting, he says his gardening expertise is limited to making dirt. "My wife is in charge of our home garden - my specialty is dead plants."



Workers at the Cafe putting leftover food in the compost bins.
Photo by Darrick Hurst

ELM Mission

The ELM mission ensures long-term protection of human health and the environment and proactive management toward sustainable use and protection of natural and cultural resources affected by Sandia's operation and operational legacies. This mission will be accomplished by working with the line and support organizations in proactively identifying potential environmental impacts and applying environmental processes and guidance.

Next Event

What: DOE/DoD Semi-Annual Public Meeting

When: Tuesday, October 18 6:00 PM - 8:00 PM

Where: Cesar Chavez Community Center

7505 Kathryn SE, Albuquerque, NM 87108

For more information, go to

<http://elm.sandia.gov>

If you do not wish to receive future ELM newsletters, please e-mail Katrina Wagner at kmwagne@sandia.gov or call Dave Rast at 505-845-5349.



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National Nuclear Security Administration

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