



Department of
**Environment &
Conservation**



Y-12 National Security Complex

Oak Ridge, Tennessee - Consolidated Nuclear Security, LLC

Sitting on 811 acres and consisting of 314 buildings, the Department of Energy Y-12 National Security Complex operated by CNS resembles a small city. The site specializes in weapon component production, surveillance, dismantlement, and storage to make weapon material available for peaceful uses, such as fueling research reactors and producing medical isotopes. With the amount of action that the area sees, one can imagine the quantity of waste that is generated on a daily basis. For this very reason, the Sustainability and Stewardship Program and an associated team were created. The program and team facilitate implementation of pollution prevention initiatives, such as source reduction, reuse, recycling, and chemical and spill material disposition. Through the development of this program, the site has seen tremendous success in waste reduction, diversion, and management.

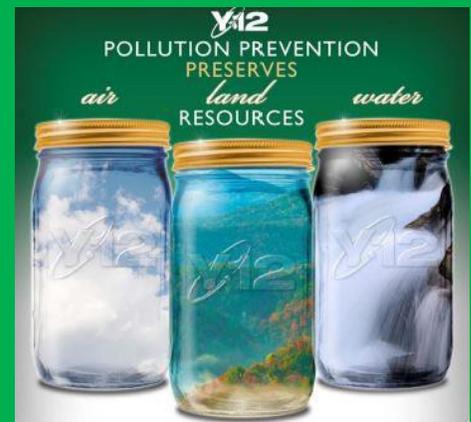
A number of different groups and services comprise the Sustainability and Stewardship Program; each plays a critical role in determining the best practice or solution to a materials management challenge, or end-use for a material. Some of these groups and services include: the Destruction and Recycling Facility (DAR), Generator Services, Clean Sweep, and PrYde.

The DAR facility collects, processes, and ensures that security sensitive media (tapes, hard drives, CDs, disks, and paper) are destroyed according to security guidelines and pollution prevention strategies. During Fiscal Year 2017, the facility received and processed almost 200,000 pounds of material, which is equivalent to the weight of 20 adult elephants. During the fourth quarter, DAR will replace its current paper disintegrating process with a new disintegrator system that contains an inline briquettor. This system will ensure that security sensitive information is destroyed, while also allowing the material to be recycled, unlike before.

The Generator Services group provides turn-key material disposition activities and technical support including characterization, management, and disposal request preparation, for one-time waste streams and excess chemicals. This group currently manages an average of 150 containers of materials per month. These materials could possibly still be used on-site but in a different application. Generator Services employees do a



- Established in 1943
- Employs 4,600+
- Member since 2005



tremendous job organizing the materials and either finding a home for those that can still be used somewhere within the site or preparing disposal requests to get rid of those that cannot.

The Sustainability and Stewardship Team created a mechanism called Clean Sweep (CS) after the clutter and disorganization of the site was brought to leadership’s attention. Having the number of buildings spread out over the acreage of the Y-12 site, it wasn’t uncommon for items such as furniture, obsolete supplies, etc. to be stored in unused areas and rooms, and often forgotten over time. This led to disorganization and loss of item value, and subsequent need for disposal. Routine materials are now dispositioned timely and sustainably via the path of least resistance that CS provides site personnel. Site personnel can simply deliver unneeded materials to CS Sustain Areas and CS takes care of the rest (see steps below). The CS team also supports building cleanouts prior to demolition. On average more than 75% of items dispositioned by CS are reused or recycled in support of landfill diversion goals.



The PrYde Program is a company-wide evaluation and rating system to promote good housekeeping and to improve recycling rates and compliance in facilities using the 5S lean manufacturing process. These are: Sort, Set in order, Shine, Standardize, and Sustain. Every building on the site is rated as Excellent, Very Good, Meets Expectations, Needs Improvement, or Unsatisfactory, with the results posted at the entrance. Aprell Patterson from the Y-12 Pollution Prevention Program stated, “The different facilities use this rating system as a competition. Everyone wants their building to be at least Very Good or higher.”

To further support the site’s responsible materials management, Y-12’s one call number was created. The number (XXX-JUNK) has served as a clearinghouse for how to get rid of junk around the site since November 2011. “Calling this number is great because people get an immediate response,” said Jan Jackson, manager of Sustainability and Stewardship Programs. “There’s no lag time. If the main contact is on vacation or in the field, then somebody else can help.”

It is easy to see the synergistic effect of combining these programs under a single umbrella and how it continues to facilitate compliance with all rules and regulations. The Sustainability and Stewardship Program and other site programs have done a great job improving the appearance of Y-12 while implementing sustainable practices which optimize the utilization of resources and enhance modernization efforts.

The [Tennessee Green Star Partnership](#) is a voluntary environmental leadership program designed to recognize industries in the state that are committed to sustainable practices. If you are interested in joining the Y-12 National Security Complex and other sustainable industries in Tennessee by becoming a member, please contact us.